



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

DEC 22 2014

CERTIFIED MAIL
(Return Receipt Requested)

Kerry Powell, Environmental Engineer
Lake Side Power Plant
1825 North Pioneer Lane
Vineyard, UT 84042

Dear Mr. Powell:

Subject: UPDES Permit UT0025623, Lake Side Power, PacifiCorp Energy

Enclosed is a draft copy of the draft UPDES Permit No. UT0025623, the Fact Sheet Statement of Basis, and Public Notice for your facility. This information will also be made available on-line at <http://www.waterquality.utah.gov/PublicNotices/index.htm>.

If you have any questions with regards to this matter, please contact Dan Griffin at (801) 536-4387 or dgriffin@utah.gov.

Sincerely,

Kim Shelley, Manager
UPDES Engineering Section

KS:DG:ev:ph:mc

- Enclosures: (5)
1. Newspaper Publication Request Letter, (DWQ-2014-014841)
 2. Public Notice, (DWQ-2014-014843)
 3. Draft Fact Sheet Statement of Basis, (DWQ-2014-014840)
 4. Waste Load Analysis
 5. Draft Permit, (DWQ-2014-014842)

cc: Amy Clark, EPA Region VIII (w/ encl by email)
Brett Shakespear, Environmental Analyst, PacifiCorp Energy (w/o encl)
David Lucas, Managing Director, Gas Plants, PacifiCorp Energy (w/o encl)
Bryce Larsen, Utah County Health Department (w/o encl)
Greg Sheehan, Utah Division of Wildlife Resources (w/o encl)
Chris Cline, U.S. Fish & Wildlife Services (w/o encl by email)
Jason Gipson, Chief, Utah Regulatory Office, U.S. Corps Of Engineers (w/o encl)

DWQ-2014-014839

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DEC 19 2014

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Salt Lake City, Utah 84114-4870

If there are any questions, please contact Edith Van Vleet at (801) 536-4397. Thank you for your assistance.

Sincerely,

A handwritten signature in blue ink that reads "Kim Shelley".

Kim Shelley, Manager
UPDES Engineering Section

KS:DG:ev:ph

DWQ-2014-0114814



State of Utah

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DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

December 24, 2014

DIVISION OF WATER QUALITY
UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
PUBLIC NOTICE OF RENEWAL OF A UPDES PERMIT

PURPOSE OF PUBLIC NOTICE

THE PURPOSE OF THIS PUBLIC NOTICE IS TO DECLARE THE STATE OF UTAH'S INTENTION TO REISSUE A UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMIT UNDER AUTHORITY OF THE UTAH WATER QUALITY ACT, SECTION 19-5-106 AND 107, UTAH CODE ANNOTATED 1953, AS AMENDED. SAID "PERMIT" REFERS TO UPDES PERMIT AND THE STATEMENT OF BASIS (INCLUDING THE TOTAL MAXIMUM DAILY LOADS (TMDL'S)) IF APPLICABLE, AS PER SECTION 303 (d) OF THE FEDERAL CLEAN WATER ACT (CWA).

PERMIT INFORMATION

PERMITTEE NAME:	Lake Side Power Plant, PacifiCorp Energy.
MAILING ADDRESS	1825 North Pioneer Lane, Vineyard, UT 84042
TELEPHONE NUMBER:	801-796-1835
FACILITY LOCATION:	1825 North Pioneer Lane, Vineyard, UT
UPDES PERMIT NO.:	UT0025623
OUTFALLS:	002
RECEIVING WATERS:	Lindon Hollow Creek then flows to Utah Lake

BACKGROUND

Lake Side Power Plant (LSPP) is located in Vineyard, Utah. LSPP's Standard Industrial Classification (SIC) code is 4911, and the North American Industry Classification System (NAICS) code is 221111 for Steam Electric Power Generation. The LSPP was completed in 2007 and started discharging in August 2007. The facility has an electric output capacity of 565 MW. The facility utilizes 2 gas-fired combustion turbines with 2 heat recovery steam generators and a steam turbine operating in a combined-cycle mode. The facility utilizes ground water in the cooling cycle and discharges it to Lindon Hollow Creek.

PUBLIC COMMENTS

Public comments are invited any time prior to the deadline of the close of business on January 23, 2015. Written public comments can be submitted to: Dan Griffin, UPDES Engineering Section, Utah Division of Water Quality, P.O. Box 144870, Salt Lake City, Utah 84114-4870 or by email at: dgriffin@utah.gov. After considering public comment, the Division of Water Quality may reissue, revise, or abandon this permit. The permit is available for public review under "Public Notices" at www.waterquality.utah.gov. If internet access is not available, a copy may be obtained by calling Dan Griffin at 801-536-4387.

**FACT SHEET STATEMENT OF BASIS (FSSOB)
LAKE SIDE POWER PLANT PERMIT
UPDES PERMIT NUMBER: UT0025623
MAJOR INDUSTRIAL**

FACILITY CONTACTS

Company Name: Lake Side Power Plant
PacifiCorp Energy
1407 W. North Temple, Suite 330
Salt Lake City, UT 84116

Person Name: David Lucas
Position: Managing Director, Gas Plants
Lakeside Phone 801-796-1911

Person Name: Kerry Powell
Position: Environmental Engineer
Lakeside Phone 801-796-1916

Person Name: Angie Skinner
Position: Plant Manager
Telephone: 801-796-1918

Facility Name: Lake Side Power Plant
Telephone: 24 hour number 801-796-1835
Actual Address: PacifiCorp Energy
Lake Side Power Plant
1825 North Pioneer Lane
Vineyard, UT 84042

Mailing Address: Lake Side Power Plant
1825 North Pioneer Lane
Vineyard, UT 84042

DESCRIPTION OF FACILITY

Lake Side Power Plant (Lake Side) is located in Vineyard, Utah at latitude 40°19'46" and longitude 111°45'17". LSPP's Standard Industrial Classification (SIC) code is 4911, and the North American Industry Classification System (NAICS) code is 221111 for Steam Electric Power Generation.

Lake Side was completed in 2007 and began discharging in August 2007. The facility has an electric output capacity of 565 MW. The facility utilizes 2 gas-fired combustion turbines with 2 heat recovery steam generators and a steam turbine operating in a combined-cycle mode.

The 2005 permit wasteload allocation (WLA) included an $IC_{25} > 19\%$, but the value was not included in the permit. The 2009 permit WLA includes an $IC_{25} > 38\%$, which was included in the permit in accordance with current EPA guidance. IC_{25} is the inhibition concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.

In the 2005 permit, Lake Side was required to sample for ammonia, and had an effluent limit of 12.7 mg/l as a monthly average and 50.5 mg/l as a maximum value. There was no indication of an ammonia issue. The limit and monitoring for ammonia was then eliminated from the permit.

Lake Side decided to relocate the outfall from the facility during the 2009 permit cycle. This change allowed the discharge of effluent to happen on the cold side of the cooling loop rather than the hot side. They also added some de-chlorination treatment for the discharge to maintain compliance with the lower residual chlorine limit. The facility also planned for expansion during the 2009 permit cycle. This expansion increased the flow from the facility. The increased flow would have required an additional outfall, but was combined into the relocated outfall. The relocated outfall was identified as Outfall 002. Outfall 002 was completed and activated in June 2013. At the same time Outfall 001 was deactivated.

The changes proposed would result in three different sequential configurations for the facility during this permit cycle. The existing outfall (001) and flow of 2.0 MGD, the intermediate setup of the new outfall (002) and flow limit of 2.0 MGD, and the final configuration of the new outfall and seasonal flow limits listed in the table below. To manage the changes in flow and outfall locations, as well as streamline the permitting process, the 2009 permit and FSSOB included limits and provisions for all three configurations.

The 2005 permit, limits and WLA were renewed for Outfall 001. Within two years of issuing the 2009 permit, the new outfall would be operational, and the limits for that outfall would be the intermediate limits developed in the new WLA. At least sixty days before the new outfall was to become active, Lake Side was to notify the Director in writing that the facility is ready to change out falls and identify a date for the changeover. From the day the change was made, the Lake Side discharge would need to comply with the intermediate limits. To facilitate this process, the change in limits did not require the re-public notice of the permit and FSSOB.

In 2014 PacifiCorp hoped to have completed expansion of Lake Side and be ready to bring the whole facility online, at which time the effluent limits would automatically change over to the final limits as developed in the final WLA. At least sixty days before the new facility was to become operational, Lake Side was to notify the Director in writing that the facility was ready to increase the discharge from the outfall and identify a date for the startup to commence. From the day the change is made, the Lake Side discharge would need to comply with the final effluent limits.

The increase in flow and relocation of the outfall would result in effluent loading changes. As a result, Lake Side developed a Level II ADR for the discharge at the final limit and conditions. The ADR was public noticed and no comments were received. The Division of Water Quality concurred with the ADR and it was included as an addendum to the 2009 FSSOB for this permit.

The WLA's that were run for the 2010 renewal permit indicated changes in the limits for temperature, total dissolved solids, copper, chromium VI, and total residual chlorine. For some parameters, the limits resulted in seasonal limits. The existing, intermediate, and final limits are indicated in the table below.

Flow Limit, MGD	Existing	Intermediate	Final
Summer (Jul-Sept)	2	2	2.9
Fall (Oct-Dec)	2	2	2.3
Winter (Jan-Mar)	2	2	2.2
Spring (Apr-Jun)	2	2	2.7
Temperature °F	Existing	Intermediate	Final
Summer (Jul-Sept)	104.3	87.2	81.8
Fall (Oct-Dec)	89.9	87	82.9
Winter (Jan-Mar)	75.5	87.7	84.4
Spring (Apr-Jun)	89.9	104.5	93.1
Metals mg/L	Existing	Intermediate	Final
Iron, mg/L	1	1	1
Total Chromium, mg/L	0.2	0.2	0.2
Chromium VI, mg/L	0.04	0.022	0.022
Total Zinc, mg/L	0.6	0.6	0.6
Copper, Mass Loading	Existing	Intermediate	Final
Year (Jan-Dec), lbs/yr		432	
Summer (Jul-Sept), lbs/qtr			167
Fall (Oct-Dec), lbs/qtr			132
Winter (Jan-Mar), lbs/qtr			124
Spring (Apr-Jun), lbs/qtr			154
Copper, mg/L	Existing	Intermediate	Final
Year (Jan-Dec), mg/L	0.14	1	1
Total Residual Chlorine	Existing	Intermediate	Final
TRC, mg/L	0.06	0.03	
Summer (Jul-Sept)			0.03
Fall (Oct-Dec)			0.05
Winter (Jan-Mar)			0.06
Spring (Apr-Jun)			0.06

The copper limit for the facility was set on an annual mass loading with a concentration. The outfall 002 final mass limits were based upon the WLA concentration (0.075 mg/L) and seasonal flow limits as listed above. This calculated out to 167 lbs/Qtr for summer (Jul-Sept), 132 lbs/Qtr for fall (Oct-Dec), 124 lbs/Qtr for winter (Jan-Mar), 154 lbs/Qtr for spring (Apr-Jun) for copper. According to 40 CFR 423.15 there is still a required maximum concentration of 1.0 mg/L for copper. These limits were included in the 2009 renewal permit along with the mass loading limits.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

In May of 2013 PacifiCorp notified the Director that Outfall 002 was completed and that they wished to commence using it. They also indicate that they wished to switch to the seasonal flow limits associated with the final facility configuration. The change was granted in June 2013 and Lake Side commenced discharging from Outfall 002. Outfall 001 was deactivated and will no longer be included in the renewal permit and FSSOB.

The Division of Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. An initial check for metals showed that the full model needed to be run on Selenium, Lead, and Mercury.

The results of the RP Model show that Selenium does not require further investigation, but Lead and Mercury do. However, the analytical results used for both metals were all non-detect. As a result, the model did not produce reliable results. To address this issue, the Division of Water Quality will require the facility to utilize a lower analysis detection level for those parameters, or provide justification to the Director's satisfaction that the analysis is not feasible.

DISCHARGE

DESCRIPTION OF DISCHARGE

The Lake Side Power Plant is a relatively new source and has a short discharge monitoring history. There have been no violations resulting in enforcement action by DWQ.

Plant water is obtained from wells. The water is used in the evaporative cooler, the demineralizer, the combustion turbine, the heat recovery steam generator, and the cooling tower. Waste streams from the evaporative cooler, the demineralizer, the combustion turbine, and the heat recovery steam generator are collected and reused in the cooling tower. Blow down from the cooling tower is discharged to Lindon Hollow Creek. The estimated flow is from 1 to 1.6 MGD. Sanitary flows will be discharged to Lindon City sewer system.

<u>Outfall</u>	<u>Description of Discharge Point</u>
002	Located at latitude 40°19'54.45" and longitude 111°45'47.85" The discharge is through a pipe to Lindon Hollow Creek which flows to Utah Lake.

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge flows into Lindon Hollow Creek then flows to Utah Lake. The receiving stream the effluent discharges to has been classified as 2B, 3B & 4 (Lindon Hollow Creek) according to *Utah Administrative Code (UAC) R317-2-13*.

Class 2B	-Protected for secondary contact recreation such as boating, wading, or similar uses.
Class 3B	-Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
Class 4	-Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

The total suspended solids (TSS) and pH limits are based on current Utah Secondary Treatment Standards, *UAC R317-1-3.2*. Oil and Grease is based on Best Professional Judgment (BPJ). The Iron, Copper, and Chromium limits are based on Best Conventional Pollutant Control Technology (NSPS) for a new source as found in the Code of Federal Regulations, 40 CFR 423.15. Finally, flow, temperature, total dissolved solids, Ammonia, Copper, Chromium VI, Zinc and Total Residual Chlorine (TRC), limits are based on a Wasteload Analysis (WLA attached).

The permittee is expected to be able to comply with these limitations. The Wasteload Analysis indicates that these limitations should be sufficiently protective of water quality, in order to meet State Water Quality Standards in the receiving waters.

The permit limitations for the discharge from Outfall 002 are:

PND DRAFT

Parameter	Final Effluent Limitations				
	Monthly Average Maximum	Weekly Average Maximum	Minimum	Maximum	Maximum Mass Loading
Flow MGD					
Sum (Jul-Sept)	-	-	-	2.9	-
Fall (Oct-Dec)	-	-	-	2.3	-
Winter (Jan-Mar)	-	-	-	2.2	-
Spr (Apr-Jun)	-	-	-	2.7	-
DO, mg/L	-	-	-	5.0	-
TSS, mg/L	25	35	-	-	-
TDS, mg/L					
Sum (Jul-Sept)	-	-	-	2371	-
Fall (Oct-Dec)	-	-	-	2371	-
Winter (Jan-Mar)	-	-	-	2363	-
Spr (Apr-Jun)	-	-	-	2371	-
pH, Standard Units	-	-	6.5	9	-
Iron, mg/L	-	-	-	1	-
Total Chromium, mg/L	-	-	-	0.2	-
Chromium VI, mg/L	-	-	-	0.022	-
Total Zinc, mg/L	-	-	-	0.6	-
Copper, mg/L	-	-	-	1	-
Copper, lbs./Qtr.					
Sum (Jul-Sept)	-	-	-	-	167
Fall (Oct-Dec)	-	-	-	-	132
Winter (Jan-Mar)	-	-	-	-	124
Spr (Apr-Jun)	-	-	-	-	154
TRC, mg/L					
Sum (Jul-Sept)	-	-	-	0.03	-
Fall (Oct-Dec)	-	-	-	0.05	-
Winter (Jan-Mar)	-	-	-	0.06	-
Spr (Apr-Jun)	-	-	-	0.06	-
Oil & Grease, mg/L	-	-	-	10	-
WET Chronic Biomonitoring	-	-	-	IC25 > 38% effluent	-
Temperature °F					
Sum (Jul-Sept)	-	-	-	81.8	-
Fall (Oct-Dec)	-	-	-	82.9	-
Winter (Jan-Mar)	-	-	-	84.4	-
Spr (Apr-Jun)	-	-	-	93.1	-

NA – Not Applicable.

*a The TRC limit developed in the WLA is a more stringent limit than that found in 40 CFR 423.15 and is considered more protective than limiting the times allowed for utilizing and discharging chlorine.

SELF-MONITORING AND REPORTING REQUIREMENTS

The permit will require reports to be submitted monthly and quarterly, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Lab sheets for biomonitoring must be attached to the biomonitoring DMR.

Self-Monitoring & Reporting Requirements					
Parameter	Frequency	Sample Type	Units	MDL *d	
Total Flow	Continuous	Instantaneous	MGD	-	
Temperature, Effluent	2 x Week	Grab	°F	-	
TDS, Effluent			mg/L	-	
TSS, Effluent			mg/L	-	
DO, Effluent			mg/L	-	
pH, Effluent			SU	-	
TRC, Effluent *a			Daily	mg/L	-
Oil & Grease, Effluent *b			Monthly	mg/L	-
Total Phosphorus, Effluent *c	Monthly	mg/L	-		
Total Zinc, Effluent	Weekly	Grab	mg/L	0.67	
Total Chromium, Effluent			mg/L	0.6.	
Chromium VI			mg/L	0.022	
Iron, Effluent			mg/L	1	
Copper, Effluent	Weekly	mg/L	0.075		
WET, Chronic Biomonitoring Ceriodaphnia Dubia and Pimephales Promelas (fathead minnows)	Quarterly	Grab	Pass/Fail	-	
<u>METALS *d</u>			<u>MDL *d</u>		
Cyanide, Effluent	Quarterly	Grab	mg/L	0.0138	
Aluminum Effluent			mg/L	1	
Arsenic Effluent			mg/L	0.26	
Cadmium Effluent			mg/L	0.0018	
Lead Effluent			mg/L	0.04	
Mercury Effluent			mg/L	0.00003	
Nickel Effluent			mg/L	0.42	
Selenium Effluent			mg/L	0.009	
Silver Effluent			mg/L	0.067	

*a The TRC limit developed in the WLA is a more stringent limit than that found in 40 CFR 423.15 and is considered more protective than limiting the times allowed for utilizing and discharging chlorine.

*b Oil & Grease sampled when sheen is present or visible.

- *c Total Phosphorus is being sampled in conjunction with work being done on a TMDL for Utah Lake. Sampling occurred twice monthly for the first year of discharging, reporting the monthly average, and then the sampling dropped to monthly. Sampling will remain monthly until further notice. This sampling was included in an agreement with the Lake Side Power Plant facility team. There is no limit associated with Total Phosphorus for this facility at the present time.
- *d Metals samples should be analyzed using a method that meets MDL requirements. If a test method is not available the permittee must submit documentation to the Director regarding the method that will be used. The sample type (composite or grab) should be performed according to the methods requirements.

TMDL REQUIREMENTS

When completed, Lake Side Power Plant discharges wastewater into Utah Lake, which has been identified as impaired for total dissolved solids (TDS) and total phosphorus (TP) based on the 1998, 303(d) assessment process as defined in the Clean Water Act. As required under federal regulation a total maximum daily load (TMDL) will be developed for all impaired waters. The TMDL will focus on developing limitations for those parameters of concern (POC) that were identified during the 305(b) and 303(d) assessment process. POC's are parameters that are in violation of water quality standards or that contribute to impairment of a beneficial use (a major component of the water quality standards).

Currently, a TMDL evaluation is underway for the Utah Lake. If the results of the TMDL process establish effluent limits for any of the POC's, then it would be required by (40 CFR Part 130) to include these effluent limits in the UPDES permit. Therefore, it is strongly recommended that the facility staff participate in the TMDL development process. The staff at the Division of Water Quality will be responsible for scheduling and notifying appropriate facility personnel regarding TMDL meetings. Please contact your UPDES permit writer for information on scheduled TMDL meetings.

STORM WATER

STORMWATER REQUIREMENTS

The storm water requirements in the permit are based on the UPDES Multi-Sector General Permit for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000 (MSGP).

Steam electric power generating facilities are required to perform analytical monitoring for total recoverable iron with a cut off concentration of 1.0 mg/L per the MSGP. This permit requires monitoring for total recoverable iron quarterly in the 2nd and 4th years of the permit cycle. The samples shall be representative of the runoff from the site and do not need to be taken where storm water leaves the facility confines. Monitoring locations can be designated in the interior of the site where there is the most potential for storm water to be contaminated. The analytical cut off concentration is not an enforceable effluent limitation. If the concentration for total recoverable iron is above the 1.0 mg/L concentration then the permit requires that the facility evaluate the storm water pollution prevention plan and make efforts to reduce the concentrations.

The storm water section in the permit also contains requirements for SWP3 Preparation, Discharge Certification, CWA Section 313, Visual Monitoring and Spill Prevention and Response.

PRETREATMENT REQUIREMENTS

Any process wastewater that the facility may discharge to the sanitary sewer, either as direct discharge or as a hauled waste, is subject to federal, state and local pretreatment regulations. Pursuant to section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR section 403, the State Pretreatment Requirements found in *UAC R317-8-8*, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the waste.

BIOMONITORING REQUIREMENTS

As part of the nationwide effort to control toxics, biomonitoring requirements are being included in all major permits and in minor permits for facilities where effluent toxicity is an existing or potential concern. Authorization for requiring effluent biomonitoring is provided for in *UAC R317-8-4.2* and *R317-8-5.3*. *The Whole Effluent Toxicity (WET) Control Guidance Document*, February 15, 1991, outlines guidance to be used by Utah Division of Water Quality staff and by permittees for implementation of WET control through the UPDES discharge permit program.

Since the permittee is a major discharger, the renewal permit will again require whole effluent toxicity (WET) testing. Chronic quarterly biomonitoring will be again be required as described in the permit with no significant changes from the existing permit provisions. The only change to the biomonitoring provisions is the inclusion of WET limits as required to reflect the Waste Load Analysis (WLA). The previous WLA included an $IC_{25} > 19\%$, but the value was not included in the permit. The new WLA includes an $IC_{25} > 38\%$, which will be added in accordance with current EPA guidance. IC_{25} is the inhibition concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.

During the permit cycle Lakeside failed several WET tests. Upon failure, they retested and failed again. At that time they followed the process set out in the permit and initiated a Toxicity Reduction Evaluation (TRE). During the next year they continued sampling and evaluating to determine if anything could be done to eliminate the Toxicity. Each time something was identified, and actions were taken, the next test would reveal something else.

PacifiCorp utilized national experts in their efforts to identify a possible source, and continued with the TRE until the WET test stopped indicating toxicity on a consistent basis. A final indication of the source was not identified during the testing

Bio-monitoring Results

Month	WET Test, 7 Day Chronic	Result
2009, Qtr 4	Ceriodaphnia Dubia	Pass
	Pimephales Promelas	Pass
2010, Qtr 1	Ceriodaphnia Dubia	Pass
	Pimephales Promelas	Pass
2010, Qtr 2	Ceriodaphnia Dubia	Pass
	Pimephales Promelas	Pass
2010, Qtr 3	Ceriodaphnia Dubia	Pass
	Pimephales Promelas	Pass
2010, Qtr 4	Ceriodaphnia Dubia	Pass
	Pimephales Promelas	Pass
2011, Qtr 1	Ceriodaphnia Dubia	Pass
	Pimephales Promelas	Pass
2011, Qtr 2	Ceriodaphnia Dubia	Pass
	Pimephales Promelas	Pass
2011, Qtr 3	Ceriodaphnia Dubia	Fail
	Pimephales Promelas	Pass
2011, Qtr 4	Ceriodaphnia Dubia	Fail
	Pimephales Promelas	Pass
2012, Qtr 1	Ceriodaphnia Dubia	Fail
	Pimephales Promelas	Pass
2012, Qtr 2	Ceriodaphnia Dubia	Fail
	Pimephales Promelas	Pass
2012, Qtr 3	Ceriodaphnia Dubia	Fail
	Pimephales Promelas	Pass
2012, Qtr 4	Ceriodaphnia Dubia	Fail
	Pimephales Promelas	Pass
2013, Qtr 1	Ceriodaphnia Dubia	Fail
	Pimephales Promelas	Pass
2013, Qtr 2	Ceriodaphnia Dubia	Fail
	Pimephales Promelas	Pass
2013, Qtr 3	Ceriodaphnia Dubia	Pass
	Pimephales Promelas	Pass
2013, Qtr 4	Ceriodaphnia Dubia	Fail
	Pimephales Promelas	Pass
2014, Qtr 1	Ceriodaphnia Dubia	Pass
	Pimephales Promelas	Pass
2014, Qtr 2	Ceriodaphnia Dubia	Pass
	Pimephales Promelas	Pass

During the renewal permit cycle the WET testing will continue with no changes. The WLA did indicate possible seasonal IC₂₅ % WET Limits. These are indicated in the table below. The limit included in the renewal permit is the same one as the previous permit and is more conservative than the seasonal limits

would be. In the event of a chronic test failure the seasonal values from the WLA will be used for evaluating the results of the test.

Seasonal Chronic WET Limits			
Season	Lake Side Flow	Stream Flow	Chronic WET IC25 % Eff.
Summer	4.456	7.4	38
Fall	3.558	13.1	21
Winter	3.403	15.1	18
Spring	4.177	18.7	18

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by
Daniel R Griffin P.E., Discharge
Michael George, Storm Water
Utah Division of Water Quality

ADDENDUM TO FSSOB

A public notice for the draft permit will be published in The Provo Daily Herald Month Date, 2014. The comment period will end on Month Date, 20154. Any comments received by that time will be considered and summarized below. During finalization of the Permit, certain dates, spelling edits and minor language corrections are made. Due to the nature of these changes, they are not considered major modifications and the permit is not required to be re-Public Noticed.

Outfall 002 Discharge Monitoring Results

Month	Flow	O&G	Phosphorus	pH		TSS, mg/L		TDS
	MGD	mg/L	mg/L	Min	Max	Ave	Max	mg/L
Limit=>	2.2	10		6.5	9	25	35	2361
Jun-11	0.43	0	1.56	7.04	8.27	4	4	658
Jul-11	1.4	0.05	0.74	7.02	8.44	4	4	1000
Aug-11	1.13	0	1.68	6.97	8.78	4.2	4.7	954
Sep-11	1.53	0	1.15	7.37	8.8	4.1	4.2	936
Oct-11	0.84	0	1.5	6.84	7.99	4.6	6.7	1040
Nov-11	0.91	0	1.21	7.13	8.14	4	4	828
Dec-11	0.92	0	1.35	7.53	8.42	4	4	1102
Jan-12	1.1	0	1.29	7.28	8.5	4.1	4.6	1042
Feb-12	1.07	NR	1.57	7.45	8.13	4.1	4.2	1022
Mar-12	1.03	0	1.15	7.2	8.12	4	4.1	914
Apr-12	1.08	0	0.83	7.57	8.3	4.8	7.4	1154
May-12	0.99	0	1.1	7.43	8.21	6.6	9.4	1210
Jun-12	1.66	0	1.61	7.02	7.84	5.1	8.5	852
Jul-12	1.7	0	1.6	6.72	7.65	4.1	4.3	861
Aug-12	1.42	0	1.8	7.03	8.59	4	4	826
Sep-12	1.17	0	1.79	6.91	7.47	4	4	864
Oct-12	1.2	0	2.07	6.99	7.74	4.4	5.6	786
Nov-12	1.31	0	1.8	7.19	7.89	4.6	5.6	954
Dec-12	1	0	1.61	7.29	7.8	7.1	10.2	914
Jan-13	1.15	0	1.51	7.28	8.09	4.3	5.1	634
Feb-13	1.21	0	0.94	7.08	7.82	4.1	4.3	660
Mar-13	1.23	0	1.12	7.23	7.75	4.1	4.3	750
Apr-13	1.11	0	1.46	7.26	8.26	4.5	4.9	728
May-13	0.97	0	1.42	7.54	8.15	5.2	9.1	774
Jun-13	0	0	0.12	7.2	8.64	4	4	714
Jul-13	1.27	0	1.8	7.27	8.49	4	4	982
Aug-13	1.37	0	1.71	6.81	8.97	4.1	4.5	1008
Sep-13	1.2	0	1.69	6.87	8.62	4.7	6.3	986
Oct-13	1.16	0	1.18	7.5	8.46	5.2	6.4	940
Nov-13	1.3	0	1.2	6.92	8.43	4	5.3	748
Dec-13	1.07	0	1.9	6.75	8.08	4.3	4.8	824
Jan-14	1.1	0	1.65	7.16	7.98	4	4.2	780
Feb-14	1.02	0	1.14	6.98	8.36	4.6	6.4	838
Mar-14	1.87	0	1.67	7.09	7.62	4	4	1288

Outfall 002 Discharge Monitoring Results

Month	Temp, F	TRC	Chromium	Copper	Zinc	Cr 6	Iron
	Deg. F	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Limit=>		0.03	0.2	1	0.6	0.022	1
Jun-11	69.8	0.042	0.01	0.05	0.05	0.02	0.05
Jul-11	77.6	0.054	0.01	0.05	0.13	0.02	0.13
Aug-11	77	0.041	0.01	0.05	0.05	0.02	0.3
Sep-11	73.5	0.013	0.01	0.069	0.05	0.02	0.29
Oct-11	69.6	0.022	0.01	0.05	0.05	0.02	0.38
Nov-11	69.7	0.02	0.01	0.05	0.05	0.02	0.076
Dec-11	68.7	0.011	0.01	0.05	0.05	0.02	0.13
Jan-12	68.9	0.023	0.01	0.05	0.05	0.02	0.2
Feb-12	70.8	0.01	0.01	0.05	0.05	0.02	0.23
Mar-12	67.5	0.02	0.01	0.05	0.05	0.02	0.18
Apr-12	69.1	0.02	0.01	0.05	0.05	0.02	0.15
May-12	72.7	0.03	0.01	0.05	0.05	0.02	0.59
Jun-12	74.2	0.05	0.01	0.05	0.05	0.02	0.29
Jul-12	72.4	0.05	0.01	0.05	0.05	0.02	0.13
Aug-12	70.2	0.04	0.01	0.05	0.05	0.01	0.075
Sep-12	72.6	0.03	0.01	0.05	0.05	0.01	0.14
Oct-12	65.4	0.05	0.01	0.05	0.05	0.01	0.13
Nov-12	72.9	0.03	0.01	0.05	0.05	0.01	0.27
Dec-12	66.2	0.04	0.01	0.05	0.05	0.01	0.21
Jan-13	68.9	0.037	0.01	0.05	0.05	0.01	0.25
Feb-13	67.8	0.024	0.01	0.05	0.05	0.01	0.084
Mar-13	65.8	0.01	0.01	0.05	0.05	0.01	0.2
Apr-13	68.8	0.016	0.01	0.05	0.05	0.01	0.27
May-13	68	0.01	0.01	0.05	0.05	0.01	0.22
Jun-13	NA	0.02	0.01	0.05	0.05	0.01	0.051
Jul-13	73.3	0.029	0.01	0.05	0.05	0.01	0.085
Aug-13	71.2	0.041	0.01	0.01	0.05	0.01	0.3
Sep-13	71.1	0.02	0.01	0.05	0.05	0.01	0.16
Oct-13	68.9	0.03	0.05	0.05	0.05	0.01	0.32
Nov-13	67.1	NR	ND	ND	ND	ND	0.13
Dec-13	69.5	0.028	0.01	0.05	0.05	ND	0.16
Jan-14	2.2	0.028	ND	ND	ND	ND	0.15
Feb-14	NA	0.017	0.01	0.01	0.05	0.01	0.17
Mar-14	2.2	0.014	ND	ND	ND	ND	0.38

Effluent metals and initial reasonable potential check.

Metal		Cyanide	Arsenic	Cadmium	Lead	Nickel	Silver	Aluminum	Selenium	Mercury
ARP Val	0.0401	0.2649	0.0149	0.2636	2.619	1	1.3666	0.0352	0.000397	
CRP Val	0.0138	0.502	0.0018	0.044	0.422	0.067	1	0.0096	0.000032	
2009	Win	ND	ND	ND	ND	ND	0.077	ND	ND	ND
2010	Spr	ND	ND	ND	ND	ND	0.053	ND	ND	ND
	Sum	ND	ND	ND	ND	ND	0.1	ND	ND	ND
	Fall	ND	0.05	ND	ND	ND	0.05	ND	ND	ND
2011	Win	ND	ND	ND	ND	ND	0.18	ND	ND	ND
	Spr	ND	ND	ND	ND	0.083	ND	ND	ND	ND
	Sum	ND	ND	ND	ND	ND	ND	ND	ND	ND
2012	Fall	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Win	ND	ND	ND	ND	ND	0.16	ND	ND	ND
	Spr	ND	ND	ND	ND	ND	0.08	ND	ND	ND
2013	Sum	ND	ND	ND	ND	ND	0.07	ND	ND	ND
	Fall	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Win	ND	ND	ND	ND	ND	0.077	ND	ND	ND
2014	Spr	ND	ND	ND	ND	ND	0.12	ND	ND	ND
	Sum	ND	ND	ND	ND	ND	0.12	ND	ND	ND
	Fall	ND	ND	ND	ND	ND	0.055	ND	ND	ND
ND Value	Win	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Spr	ND	ND	ND	ND	ND	0.09	ND	ND	ND
	Sum	ND	ND	ND	ND	ND	0.12	ND	ND	ND
Max	0.005	0.05	0.0002	0.05	0.05	0.0005	0.05	0.005	0.0001	
Run A RP?	0.005	0.05	0.0002	0.05	0.083	0.0005	0.18	0.005	0.0001	
Run C RP?	No	No	No	No	No	No	No	No	No	No
	No	No	No	YES	No	No	No	YES	YES	YES

Metals, mg/L

Selenium RP Results.

RP Procedure Output			Effluent Data	
Facility Name:	Lake Side Power		#	
Permit Number:	0		1	ND
Outfall Number:	_002		2	ND
Parameter	Selenium		3	ND
Distribution	Normal		4	ND
Data Units	mg/L		5	ND
Reporting Limit	0.005		6	ND
Significant Figures	2		7	ND
Confidence Interval	95		8	ND
			9	ND
Maximum Reported Effluent Conc.	0.005	mg/L	10	ND
Coefficient of Variation (CV)	0		11	ND
RP Multiplier	1		12	ND
Projected Maximum Effluent Conc. (MEC)	0.005	mg/L	13	ND
Facility Flow	4.486	0	14	ND
Acute Dilution Factor	0		15	ND
Acute Low Flow	7.4	0	16	ND
Background Pollutant Conc. (acute)	0.00106	mg/L	17	ND
Acute Receiving Water Conc. (RWCa)	0.0025	mg/L	18	ND
Acute Criterion	0.0352	mg/L	19	ND
Chronic Dilution Factor	1		20	0
Chronic Low Flow	7.4	0	21	0
Background Pollutant Conc. (chronic)	0.00106	mg/L	22	0
Chronic Receiving Water Conc. (RWCC)	0.005	0	23	0
Chronic Criterion	0.0096	mg/L	24	0
RP for Acute?	NO			
RP for Chronic?	NO			

Lead RP Results.

RP Procedure Output		Effluent Data	
Facility Name:	Lake Side Power	#	
Permit Number:	0	1	ND
Outfall Number:	002	2	ND
Parameter	Lead	3	ND
Distribution	Normal	4	ND
Data Units	mg/L	5	ND
Reporting Limit	0.05	6	ND
Significant Figures	2	7	ND
Confidence Interval	95	8	ND
		9	ND
Maximum Reported Effluent Conc.	0.05	10	ND
Coefficient of Variation (CV)	0	11	ND
RP Multiplier	1 mg/L	12	ND
Projected Maximum Effluent Conc. (MEC)	0.05 0	13	ND
Facility Flow	4.486	14	ND
Acute Dilution Factor	0 0	15	ND
Acute Low Flow	7.4 mg/L	16	ND
Background Pollutant Conc. (acute)	0.00053 mg/L	17	ND
Acute Receiving Water Conc. (RWC _a)	0.019 mg/L	18	ND
Acute Criterion	0.2636	19	ND
Chronic Dilution Factor	1 0	20	0
Chronic Low Flow	7.4 mg/L	21	0
Background Pollutant Conc. (chronic)	0.00053 0	22	0
Chronic Receiving Water Conc. (RWC _c)	0.05 mg/L	23	0
Chronic Criterion	0.044	24	0
RP for Acute?	NO		
RP for Chronic?	YES		

Mercury RP Results,

RP Procedure Output		Effluent Data	
Facility Name:	Lake Side Power	#	
Permit Number:	0	1	ND
Outfall Number:	_002	2	ND
Parameter	Mercury	3	ND
Distribution	Normal	4	ND
Data Units	mg/L	5	ND
Reporting Limit	0.0001	6	ND
Significant Figures	2	7	ND
Confidence Interval	95	8	ND
		9	ND
Maximum Reported Effluent Conc.	0.0001 mg/L	10	ND
Coefficient of Variation (CV)	0	11	ND
RP Multiplier	1	12	ND
Projected Maximum Effluent Conc. (MEC)	0.0001 mg/L	13	ND
Facility Flow	4.486 0	14	ND
Acute Dilution Factor	0	15	ND
Acute Low Flow	7.4 0	16	ND
Background Pollutant Conc. (acute)	0.0000001 mg/L	17	ND
Acute Receiving Water Conc. (RWC _a)	0.000038 mg/L	18	ND
Acute Criterion	0.000397 mg/L	19	ND
Chronic Dilution Factor	1	20	0
Chronic Low Flow	7.4 0	21	0
Background Pollutant Conc. (chronic)	0.0000001 mg/L	22	0
Chronic Receiving Water Conc. (RWC _c)	0.0001 0	23	0
Chronic Criterion	0.000032 mg/L	24	0
RP for Acute?	NO		
RP for Chronic?	YES		

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis
SUMMARY

Discharging Facility: Lake Side Power
UPDES No: UT-0025623
Current Flow: 2.53 MGD
Design Flow: 2.90 MGD

Receiving Water: Lindon Hollow Creek => Utah Lake
Stream Classification: 2B, 3B, 4
Stream Flows [cfs]:
7.4 Summer (July-Sept) 20th Percentile
13.1 Fall (Oct-Dec) 20th Percentile
15.1 Winter (Jan-Mar) 20th Percentile
18.7 Spring (Apr-June) 20th Percentile
22.2 Average
Stream TDS Values:
387.3 Summer (July-Sept) Average
376.5 Fall (Oct-Dec) Average
494.9 Winter (Jan-Mar) Average
392.9 Spring (Apr-June) Average

Effluent Limits:		WQ Standard:
Flow, MGD:	2.90 MGD	Design Flow
BOD, mg/l:	25.0 Summer	5.0 Indicator
Dissolved Oxygen, mg/l	5.0 Summer	5.5 30 Day Average
TNH3, Chronic, mg/l:	7.9 Summer	Varies Function of pH and Temperature
TDS, mg/l:	2540.5 Summer	1200.0

Modeling Parameters:
Acute River Width: 50.0%
Chronic River Width: 100.0%

Level 1 Antidegradation Level Completed: Level II Review not required.

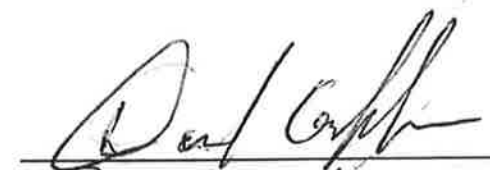
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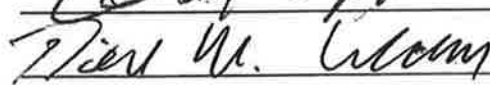
Permit Writer: _____

WLA by: _____

WQM Sec. Approval: _____

TMDL Sec. Approval: _____





11/7/14

10/23/14

**Utah Division of Water Quality
Salt Lake City, Utah**

**WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis**

15-Oct-14
4:00 PM

Facilities: Lake Side Power
Discharging to: Lindon Hollow Creek => Utah Lake

UPDES No: UT-0025623

I. Introduction

Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated in terms of total ammonia), and dissolved oxygen.

Mathematical water quality modeling is employed to determine stream quality response to point source discharges. Models aid in the effort of anticipating stream quality at future effluent flows at critical environmental conditions (e.g., low stream flow, high temperature, high pH, etc).

The numeric criteria in this wasteload analysis may always be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

II. Receiving Water and Stream Classification

Lindon Hollow Creek => Utah Lake : 2B, 3B, 4
Antidegradation Review: Level I review completed. Level II review not required.

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average) 0.019 mg/l (1 Hour Average)
Chronic Dissolved Oxygen (DO)	5.50 mg/l (30 Day Average) 4.00 mg/l (7Day Average) 3.00 mg/l (1 Day Average)
Maximum Total Dissolved Solids	1200.0 mg/l

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Salt Lake City, Utah**

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aluminum	87.00 ug/l**	1.596 lbs/day	750.00	ug/l	13.758 lbs/day
Arsenic	190.00 ug/l	3.485 lbs/day	340.00	ug/l	6.237 lbs/day
Cadmium	0.72 ug/l	0.013 lbs/day	8.18	ug/l	0.150 lbs/day
Chromium III	254.46 ug/l	4.668 lbs/day	5323.89	ug/l	97.663 lbs/day
Chromium VI	11.00 ug/l	0.202 lbs/day	16.00	ug/l	0.294 lbs/day
Copper	28.87 ug/l	0.530 lbs/day	48.65	ug/l	0.892 lbs/day
Iron			1000.00	ug/l	18.344 lbs/day
Lead	17.12 ug/l	0.314 lbs/day	439.35	ug/l	8.060 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.044 lbs/day
Nickel	159.62 ug/l	2.928 lbs/day	1435.68	ug/l	26.337 lbs/day
Selenium	4.60 ug/l	0.084 lbs/day	20.00	ug/l	0.367 lbs/day
Silver	N/A ug/l	N/A lbs/day	36.77	ug/l	0.675 lbs/day
Zinc	367.27 ug/l	6.737 lbs/day	367.27	ug/l	6.737 lbs/day

* Allowed below discharge

**Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as CaCO3

Metals Standards Based upon a Hardness of 375.1 mg/l as CaCO3

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aldrin			1.500	ug/l	0.028 lbs/day
Chlordane	0.004 ug/l	0.275 lbs/day	1.200	ug/l	0.022 lbs/day
DDT, DDE	0.001 ug/l	0.064 lbs/day	0.550	ug/l	0.010 lbs/day
Dieldrin	0.002 ug/l	0.122 lbs/day	1.250	ug/l	0.023 lbs/day
Endosulfan	0.056 ug/l	3.588 lbs/day	0.110	ug/l	0.002 lbs/day
Endrin	0.002 ug/l	0.147 lbs/day	0.090	ug/l	0.002 lbs/day
Guthion			0.010	ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	0.243 lbs/day	0.260	ug/l	0.005 lbs/day
Lindane	0.080 ug/l	5.125 lbs/day	1.000	ug/l	0.018 lbs/day
Methoxychlor			0.030	ug/l	0.001 lbs/day
Mirex			0.010	ug/l	0.000 lbs/day
Parathion			0.040	ug/l	0.001 lbs/day
PCB's	0.014 ug/l	0.897 lbs/day	2.000	ug/l	0.037 lbs/day
Pentachlorophenol	13.00 ug/l	832.873 lbs/day	20.000	ug/l	0.367 lbs/day
Toxephene	0.0002 ug/l	0.013 lbs/day	0.7300	ug/l	0.013 lbs/day

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Salt Lake City, Utah**

IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			100.0 ug/l	lbs/day
Boron			750.0 ug/l	lbs/day
Cadmium			10.0 ug/l	0.09 lbs/day
Chromium			100.0 ug/l	lbs/day
Copper			200.0 ug/l	lbs/day
Lead			100.0 ug/l	lbs/day
Selenium			50.0 ug/l	lbs/day
TDS, Summer			1200.0 mg/l	11.01 tons/day

V. Numeric Stream Standards for Protection of Human Health (Class 1C Waters)

Metals	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			ug/l	lbs/day
Barium			ug/l	lbs/day
Cadmium			ug/l	lbs/day
Chromium			ug/l	lbs/day
Lead			ug/l	lbs/day
Mercury			ug/l	lbs/day
Selenium			ug/l	lbs/day
Silver			ug/l	lbs/day
Fluoride (3)			ug/l	lbs/day
to			ug/l	lbs/day
Nitrates as N			ug/l	lbs/day

Chlorophenoxy Herbicides

2,4-D	ug/l	lbs/day
2,4,5-TP	ug/l	lbs/day
Endrin	ug/l	lbs/day
cyclohexane (Lindane)	ug/l	lbs/day
Methoxychlor	ug/l	lbs/day
Toxaphene	ug/l	lbs/day

VI. Numeric Stream Standards the Protection of Human Health from Water & Fish Consumption [Toxics]

Maximum Conc., ug/l - Acute Standards

Toxic Organics	Class 1C [2 Liters/Day for 70 Kg Person over 70 Yr.]		Class 3A, 3B [6.5 g for 70 Kg Person over 70 Yr.]	
	ug/l	lbs/day	ug/l	lbs/day
Acenaphthene	ug/l	lbs/day	2700.0 ug/l	172.98 lbs/day
Acrolein	ug/l	lbs/day	780.0 ug/l	49.97 lbs/day
Acrylonitrile	ug/l	lbs/day	0.7 ug/l	0.04 lbs/day
Benzene	ug/l	lbs/day	71.0 ug/l	4.55 lbs/day
Benzidine	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachloride	ug/l	lbs/day	4.4 ug/l	0.28 lbs/day
Chlorobenzene	ug/l	lbs/day	21000.0 ug/l	1345.41 lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloroethane	ug/l	lbs/day	99.0 ug/l	6.34 lbs/day

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1,1,1-Trichloroethane				
Hexachloroethane	ug/l	lbs/day	8.9 ug/l	0.57 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	ug/l	lbs/day	42.0 ug/l	2.69 lbs/day
1,1,2,2-Tetrachloroethane	ug/l	lbs/day	11.0 ug/l	0.70 lbs/day
Chloroethane			0.0 ug/l	0.00 lbs/day
Bis(2-chloroethyl) ether	ug/l	lbs/day	1.4 ug/l	0.09 lbs/day
2-Chloroethyl vinyl ether	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2-Chloronaphthalene	ug/l	lbs/day	4300.0 ug/l	275.49 lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day	6.5 ug/l	0.42 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	ug/l	lbs/day	470.0 ug/l	30.11 lbs/day
2-Chlorophenol	ug/l	lbs/day	400.0 ug/l	25.63 lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day	17000.0 ug/l	1089.14 lbs/day
1,3-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	166.57 lbs/day
1,4-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	166.57 lbs/day
3,3'-Dichlorobenzidine	ug/l	lbs/day	0.1 ug/l	0.00 lbs/day
1,1-Dichloroethylene	ug/l	lbs/day	3.2 ug/l	0.21 lbs/day
1,2-trans-Dichloroethylene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dichlorophenol	ug/l	lbs/day	790.0 ug/l	50.61 lbs/day
1,2-Dichloropropane	ug/l	lbs/day	39.0 ug/l	2.50 lbs/day
1,3-Dichloropropylene	ug/l	lbs/day	1700.0 ug/l	108.91 lbs/day
2,4-Dimethylphenol	ug/l	lbs/day	2300.0 ug/l	147.35 lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day	9.1 ug/l	0.58 lbs/day
2,6-Dinitrotoluene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Diphenylhydrazine	ug/l	lbs/day	0.5 ug/l	0.03 lbs/day
Ethylbenzene	ug/l	lbs/day	29000.0 ug/l	1857.95 lbs/day
Fluoranthene	ug/l	lbs/day	370.0 ug/l	23.70 lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) ether	ug/l	lbs/day	170000.0 ug/l	10891.42 lbs/day
Bis(2-chloroethoxy) methane	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Methylene chloride (HM)	ug/l	lbs/day	1600.0 ug/l	102.51 lbs/day
Methyl chloride (HM)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Methyl bromide (HM)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Bromoform (HM)	ug/l	lbs/day	360.0 ug/l	23.06 lbs/day
Dichlorobromomethane	ug/l	lbs/day	22.0 ug/l	1.41 lbs/day
Chlorodibromomethane	ug/l	lbs/day	34.0 ug/l	2.18 lbs/day
Hexachlorobutadiene(c)	ug/l	lbs/day	50.0 ug/l	3.20 lbs/day
Hexachlorocyclopentadiene	ug/l	lbs/day	17000.0 ug/l	1089.14 lbs/day
Isophorone	ug/l	lbs/day	600.0 ug/l	38.44 lbs/day
Naphthalene				
Nitrobenzene	ug/l	lbs/day	1900.0 ug/l	121.73 lbs/day
2-Nitrophenol	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4-Nitrophenol	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dinitrophenol	ug/l	lbs/day	14000.0 ug/l	896.94 lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day	765.0 ug/l	49.01 lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day	8.1 ug/l	0.52 lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day	16.0 ug/l	1.03 lbs/day
N-Nitrosodi-n-propylamine	ug/l	lbs/day	1.4 ug/l	0.09 lbs/day
Pentachlorophenol	ug/l	lbs/day	8.2 ug/l	0.53 lbs/day

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Phenol	ug/l	lbs/day	4.6E+06 ug/l	2.95E+05 lbs/day
Bis(2-ethylhexyl)phthalate	ug/l	lbs/day	5.9 ug/l	0.38 lbs/day
Butyl benzyl phthalate	ug/l	lbs/day	5200.0 ug/l	333.15 lbs/day
Di-n-butyl phthalate	ug/l	lbs/day	12000.0 ug/l	768.81 lbs/day
Di-n-octyl phthalate				
Diethyl phthalate	ug/l	lbs/day	120000.0 ug/l	7688.06 lbs/day
Dimethyl phthalate	ug/l	lbs/day	2.9E+06 ug/l	1.86E+05 lbs/day
Benzo(a)anthracene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(a)pyrene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(b)fluoranthene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(k)fluoranthene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Chrysene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Acenaphthylene (PAH)				
Anthracene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Dibenzo(a,h)anthracene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Indeno(1,2,3-cd)pyrene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Pyrene (PAH)	ug/l	lbs/day	11000.0 ug/l	704.74 lbs/day
Tetrachloroethylene	ug/l	lbs/day	8.9 ug/l	0.57 lbs/day
Toluene	ug/l	lbs/day	200000 ug/l	12813.43 lbs/day
Trichloroethylene	ug/l	lbs/day	81.0 ug/l	5.19 lbs/day
Vinyl chloride	ug/l	lbs/day	525.0 ug/l	33.64 lbs/day
				lbs/day
Pesticides				lbs/day
Aldrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Dieldrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Chlordane	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDT	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDE	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDD	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
alpha-Endosulfan	ug/l	lbs/day	2.0 ug/l	0.13 lbs/day
beta-Endosulfan	ug/l	lbs/day	2.0 ug/l	0.13 lbs/day
Endosulfan sulfate	ug/l	lbs/day	2.0 ug/l	0.13 lbs/day
Endrin	ug/l	lbs/day	0.8 ug/l	0.05 lbs/day
Endrin aldehyde	ug/l	lbs/day	0.8 ug/l	0.05 lbs/day
Heptachlor	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 1242)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Arochlor 1254)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Arochlor 1221)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Arochlor 1232)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Arochlor 1248)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Arochlor 1260)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Arochlor 1016)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Pesticide				
Toxaphene	ug/l		0.0 ug/l	0.00 lbs/day
Dioxin				
Dioxin (2,3,7,8-TCDD)	ug/l	lbs/day		

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Metals

	ug/l	lbs/day		
Antimony				
Arsenic	ug/l	lbs/day	4300.00 ug/l	275.49 lbs/day
Asbestos	ug/l	lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	2.2E+05 ug/l	14094.77 lbs/day
Lead	ug/l	lbs/day		
Mercury			0.15 ug/l	0.01 lbs/day
Nickel			4600.00 ug/l	294.71 lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			6.30 ug/l	0.40 lbs/day
Zinc				

There are additional standards that apply to this receiving water, but were not considered in this modeling/waste load allocation analysis.

VII. Mathematical Modeling of Stream Quality

Model configuration was accomplished utilizing standard modeling procedures. Data points were plotted and coefficients adjusted as required to match observed data as closely as possible.

The modeling approach used in this analysis included one or a combination of the following models.

(1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).

(2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.

(3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8

(4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

Coefficients used in the model were based, in part, upon the following references:

(1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.

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(2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al.
Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

The required information for the model may include the following information for both the upstream conditions at low flow and the effluent conditions:

Flow, Q, (cfs or MGD)	D.O. mg/l
Temperature, Deg. C.	Total Residual Chlorine (TRC), mg/l
pH	Total NH3-N, mg/l
BOD5, mg/l	Total Dissolved Solids (TDS), mg/l
Metals, ug/l	Toxic Organics of Concern, ug/l

Other Conditions

In addition to the upstream and effluent conditions, the models require a variety of physical and biological coefficients and other technical information. In the process of actually establishing the permit limits for an effluent, values are used based upon the available data, model calibration, literature values, site visits and best professional judgement.

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis. Dry washes are considered to have an upstream flow equal to the flow of the discharge.

Current Upstream Information

	Stream							
	Critical Low							
	Flow	Temp.	pH	T-NH3	BOD5	DO	TRC	TDS
	cfs	Deg. C		mg/l as N	mg/l	mg/l	mg/l	mg/l
Summer (Irrig. Season)	7.4	17.1	8.2	0.03	1.00	7.35	0.00	387.3
Fall	13.1	9.6	8.2	0.03	1.00	---	0.00	376.5
Winter	15.1	7.4	8.3	0.03	1.00	---	0.00	494.9
Spring	18.7	12.1	8.3	0.03	1.00	---	0.00	392.9
Dissolved Metals	Al	As	Cd	CrIII	CrVI	Copper	Fe	Pb
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
All Seasons	1.59*	0.53*	0.053*	0.53*	2.65*	0.53*	0.83*	0.53*
Dissolved Metals	Hg	Ni	Se	Ag	Zn	Boron		
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
All Seasons	0.0000	0.53*	1.06*	0.1*	0.053*	10.0		* 1/2 MDL

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Projected Discharge Information

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
Summer	2.90000	NA	814.00	9.84173
Fall	2.30000	NA		
Winter	2.20000	NA		
Spring	2.70000	NA		

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

IX. Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort coincide with the environmental conditions expected at low stream flows.

Effluent Limitation for Flow based upon Water Quality Standards

In-stream criteria of downstream segments will be met with an effluent flow maximum value as follows:

Season	Daily Average	
Summer	2.900 MGD	4.486 cfs
Fall	2.300 MGD	3.558 cfs
Winter	2.200 MGD	3.403 cfs
Spring	2.700 MGD	4.177 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 2.9 MGD. If the discharger is allowed to have a flow greater than 2.9 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occurring, the permit writers must include the discharge flow limitation as indicated above; or, include loading effluent limits in the permit.

Effluent Limitation for Whole Effluent Toxicity (WET) based upon WET Policy

Effluent Toxicity will not occur in downstream segments if the values below are met.

WET Requirements	LC50 >	EOP Effluent	[Acute]
	IC25 >	37.7% Effluent	[Chronic]

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Effluent Limitation for Biological Oxygen Demand (BOD) based upon Water Quality Standards or Regulations

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent BOD limitation as follows:

Season	Concentration	
Summer	25.0 mg/l as BOD5	604.5 lbs/day
Fall	25.0 mg/l as BOD5	604.5 lbs/day
Winter	25.0 mg/l as BOD5	604.5 lbs/day
Spring	25.0 mg/l as BOD5	604.5 lbs/day

Effluent Limitation for Dissolved Oxygen (DO) based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent D.O. limitation as follows:

Season	Concentration
Summer	5.00
Fall	5.00
Winter	5.00
Spring	5.00

Effluent Limitation for Total Ammonia based upon Water Quality Standards

In-stream criteria of downstream segments for Total Ammonia will be met with an effluent limitation (expressed as Total Ammonia as N) as follows:

Season		Concentration	Load
Summer	4 Day Avg. - Chronic	7.9 mg/l as N	190.2 lbs/day
	1 Hour Avg. - Acute	21.7 mg/l as N	525.5 lbs/day
Fall	4 Day Avg. - Chronic	14.5 mg/l as N	277.6 lbs/day
	1 Hour Avg. - Acute	39.2 mg/l as N	751.9 lbs/day
Winter	4 Day Avg. - Chronic	38.8 mg/l as N	711.6 lbs/day
	1 Hour Avg. - Acute	232.9 mg/l as N	4,271.6 lbs/day
Spring	4 Day Avg. - Chronic	11.4 mg/l as N	0.0 lbs/day
	1 Hour Avg. - Acute	31.9 mg/l as N	0.0 lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 100.0%.

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Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

In-stream criteria of downstream segments for Total Residual Chlorine will be met with an effluent limitation as follows:

	Season	Concentration	Load
Summer	4 Day Avg. - Chronic	0.029 mg/l	0.70 lbs/day
	1 Hour Avg. - Acute	0.050 mg/l	1.21 lbs/day
Fall	4 Day Avg. - Chronic	0.051 mg/l	0.98 lbs/day
	1 Hour Avg. - Acute	0.089 mg/l	1.70 lbs/day
Winter	4 Day Avg. - Chronic	0.059 mg/l	1.09 lbs/day
	1 Hour Avg. - Acute	0.103 mg/l	1.89 lbs/day
Spring	4 Day Avg. - Chronic	0.060 mg/l	0.00 lbs/day
	1 Hour Avg. - Acute	0.104 mg/l	0.00 lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

	Season	Concentration	Load
Summer	Maximum, Acute	2540.5 mg/l	30.72 tons/day
Fall	Maximum, Acute	2558.3 mg/l	24.53 tons/day
Winter	Maximum, Acute	2363.0 mg/l	21.67 tons/day
Spring	4 Day Avg. - Chronic	2531.3 mg/l	28.49 tons/day

Colorado Salinity Forum Limits Determined by Permitting Section

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 375.1 mg/l):

	4 Day Average		1 Hour Average		
	Concentration	Load	Concentration	Load	
Aluminum	N/A	N/A	1,366.6	ug/l	25.1 lbs/day
Arsenic	502.09 ug/l	6.0 lbs/day	619.8	ug/l	11.4 lbs/day
Cadmium	1.78 ug/l	0.0 lbs/day	14.9	ug/l	0.3 lbs/day
Chromium III	672.88 ug/l	8.0 lbs/day	9,714.0	ug/l	178.2 lbs/day
Chromium VI	22.59 ug/l	0.3 lbs/day	25.9	ug/l	0.5 lbs/day
Copper	75.18 ug/l	0.9 lbs/day	88.1	ug/l	1.6 lbs/day
Iron	N/A	N/A	1,823.7	ug/l	33.5 lbs/day
Lead	44.05 ug/l	0.5 lbs/day	801.0	ug/l	14.7 lbs/day
Mercury	0.03 ug/l	0.0 lbs/day	4.4	ug/l	0.1 lbs/day
Nickel	421.60 ug/l	5.0 lbs/day	2,619.1	ug/l	48.0 lbs/day
Selenium	9.56 ug/l	0.1 lbs/day	35.2	ug/l	0.6 lbs/day
Silver	N/A ug/l	N/A lbs/day	67.1	ug/l	1.2 lbs/day

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Zinc	972.94 ug/l	11.5 lbs/day	670.1	ug/l	12.3 lbs/day
Cyanide	13.78 ug/l	0.2 lbs/day	40.1	ug/l	0.7 lbs/day

**Effluent Limitations for Heat/Temperature based upon
Water Quality Standards**

Summer	27.7 Deg. C.	81.9 Deg. F
Fall	28.3 Deg. C.	83.0 Deg. F
Winter	29.1 Deg. C.	84.5 Deg. F
Spring	34.0 Deg. C.	93.2 Deg. F

**Effluent Limitations for Organics [Pesticides]
Based upon Water Quality Standards**

In-stream criteria of downstream segments for Organics [Pesticides] will be met with an effluent limit as follows:

	4 Day Average		1 Hour Average		
	Concentration	Load	Concentration		Load
Aldrin			1.5E+00	ug/l	5.61E-02 lbs/day
Chlordane	4.30E-03 ug/l	1.04E-01 lbs/day	1.2E+00	ug/l	4.49E-02 lbs/day
DDT, DDE	1.00E-03 ug/l	2.42E-02 lbs/day	5.5E-01	ug/l	2.06E-02 lbs/day
Dieldrin	1.90E-03 ug/l	4.59E-02 lbs/day	1.3E+00	ug/l	4.68E-02 lbs/day
Endosulfan	5.60E-02 ug/l	1.35E+00 lbs/day	1.1E-01	ug/l	4.11E-03 lbs/day
Endrin	2.30E-03 ug/l	5.56E-02 lbs/day	9.0E-02	ug/l	3.37E-03 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	3.74E-04 lbs/day
Heptachlor	3.80E-03 ug/l	9.19E-02 lbs/day	2.6E-01	ug/l	9.73E-03 lbs/day
Lindane	8.00E-02 ug/l	1.93E+00 lbs/day	1.0E+00	ug/l	3.74E-02 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	1.12E-03 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	3.74E-04 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	1.50E-03 lbs/day
PCB's	1.40E-02 ug/l	3.39E-01 lbs/day	2.0E+00	ug/l	7.48E-02 lbs/day
Pentachlorophenol	1.30E+01 ug/l	3.14E+02 lbs/day	2.0E+01	ug/l	7.48E-01 lbs/day
Toxephene	2.00E-04 ug/l	4.84E-03 lbs/day	7.3E-01	ug/l	2.73E-02 lbs/day

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**Effluent Targets for Pollution Indicators
Based upon Water Quality Standards**

In-stream criteria of downstream segments for Pollution Indicators will be met with an effluent limit as follows:

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	91.7 lbs/day
Nitrates as N	4.0 mg/l	73.4 lbs/day
Total Phosphorus as P	0.05 mg/l	0.9 lbs/day
Total Suspended Solids	90.0 mg/l	1651.0 lbs/day

Note: Pollution indicator targets are for information purposes only.

**Effluent Limitations for Protection of Human Health [Toxics Rule]
Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)**

In-stream criteria of downstream segments for Protection of Human Health [Toxics] will be met with an effluent limit as follows:

	Maximum Concentration	
	Concentration	Load
Toxic Organics		
Acenaphthene	7.15E+03 ug/l	1.73E+02 lbs/day
Acrolein	2.07E+03 ug/l	5.00E+01 lbs/day
Acrylonitrile	1.75E+00 ug/l	4.23E-02 lbs/day
Benzene	1.88E+02 ug/l	4.55E+00 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	1.17E+01 ug/l	2.82E-01 lbs/day
Chlorobenzene	5.56E+04 ug/l	1.35E+03 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	2.04E-03 ug/l	4.93E-05 lbs/day
1,2-Dichloroethane	2.62E+02 ug/l	6.34E+00 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	2.36E+01 ug/l	5.70E-01 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	1.11E+02 ug/l	2.69E+00 lbs/day
1,1,2,2-Tetrachloroethane	2.91E+01 ug/l	7.05E-01 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	3.71E+00 ug/l	8.97E-02 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	1.14E+04 ug/l	2.75E+02 lbs/day
2,4,6-Trichlorophenol	1.72E+01 ug/l	4.16E-01 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	1.25E+03 ug/l	3.01E+01 lbs/day
2-Chlorophenol	1.06E+03 ug/l	2.56E+01 lbs/day
1,2-Dichlorobenzene	4.50E+04 ug/l	1.09E+03 lbs/day
1,3-Dichlorobenzene	6.89E+03 ug/l	1.67E+02 lbs/day

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1,4-Dichlorobenzene	6.89E+03 ug/l	1.67E+02 lbs/day
3,3'-Dichlorobenzidine	2.04E-01 ug/l	4.93E-03 lbs/day
1,1-Dichloroethylene	8.48E+00 ug/l	2.05E-01 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	2.09E+03 ug/l	5.06E+01 lbs/day
1,2-Dichloropropane	1.03E+02 ug/l	2.50E+00 lbs/day
1,3-Dichloropropylene	4.50E+03 ug/l	1.09E+02 lbs/day
2,4-Dimethylphenol	6.09E+03 ug/l	1.47E+02 lbs/day
2,4-Dinitrotoluene	2.41E+01 ug/l	5.83E-01 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	1.43E+00 ug/l	3.46E-02 lbs/day
Ethylbenzene	7.68E+04 ug/l	1.86E+03 lbs/day
Fluoranthene	9.80E+02 ug/l	2.37E+01 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	4.50E+05 ug/l	1.09E+04 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	4.24E+03 ug/l	1.03E+02 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	9.54E+02 ug/l	2.31E+01 lbs/day
Dichlorobromomethane(HM)	5.83E+01 ug/l	1.41E+00 lbs/day
Chlorodibromomethane (HM)	9.01E+01 ug/l	2.18E+00 lbs/day
Hexachlorocyclopentadiene	4.50E+04 ug/l	1.09E+03 lbs/day
Isophorone	1.59E+03 ug/l	3.84E+01 lbs/day
Naphthalene		
Nitrobenzene	5.03E+03 ug/l	1.22E+02 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	3.71E+04 ug/l	8.97E+02 lbs/day
4,6-Dinitro-o-cresol	2.03E+03 ug/l	4.90E+01 lbs/day
N-Nitrosodimethylamine	2.15E+01 ug/l	5.19E-01 lbs/day
N-Nitrosodiphenylamine	4.24E+01 ug/l	1.03E+00 lbs/day
N-Nitrosodi-n-propylamine	3.71E+00 ug/l	8.97E-02 lbs/day
Pentachlorophenol	2.17E+01 ug/l	5.25E-01 lbs/day
Phenol	1.22E+07 ug/l	2.95E+05 lbs/day
Bis(2-ethylhexyl)phthalate	1.56E+01 ug/l	3.78E-01 lbs/day
Butyl benzyl phthalate	1.38E+04 ug/l	3.33E+02 lbs/day
Di-n-butyl phthalate	3.18E+04 ug/l	7.69E+02 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	3.18E+05 ug/l	7.69E+03 lbs/day
Dimethyl phthlate	7.68E+06 ug/l	1.86E+05 lbs/day
Benzo(a)anthracene (PAH)	8.21E-02 ug/l	1.99E-03 lbs/day
Benzo(a)pyrene (PAH)	8.21E-02 ug/l	1.99E-03 lbs/day
Benzo(b)fluoranthene (PAH)	8.21E-02 ug/l	1.99E-03 lbs/day
Benzo(k)fluoranthene (PAH)	8.21E-02 ug/l	1.99E-03 lbs/day
Chrysene (PAH)	8.21E-02 ug/l	1.99E-03 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	8.21E-02 ug/l	1.99E-03 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	8.21E-02 ug/l	1.99E-03 lbs/day

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Pyrene (PAH)	2.91E+04 ug/l	7.05E+02 lbs/day
Tetrachloroethylene	2.36E+01 ug/l	5.70E-01 lbs/day
Toluene	5.30E+05 ug/l	1.28E+04 lbs/day
Trichloroethylene	2.15E+02 ug/l	5.19E+00 lbs/day
Vinyl chloride	1.39E+03 ug/l	3.36E+01 lbs/day

Pesticides

Aldrin	3.71E-04 ug/l	8.97E-06 lbs/day
Dieldrin	3.71E-04 ug/l	8.97E-06 lbs/day
Chlordane	1.56E-03 ug/l	3.78E-05 lbs/day
4,4'-DDT	1.56E-03 ug/l	3.78E-05 lbs/day
4,4'-DDE	1.56E-03 ug/l	3.78E-05 lbs/day
4,4'-DDD	2.23E-03 ug/l	5.38E-05 lbs/day
alpha-Endosulfan	5.30E+00 ug/l	1.28E-01 lbs/day
beta-Endosulfan	5.30E+00 ug/l	1.28E-01 lbs/day
Endosulfan sulfate	5.30E+00 ug/l	1.28E-01 lbs/day
Endrin	2.15E+00 ug/l	5.19E-02 lbs/day
Endrin aldehyde	2.15E+00 ug/l	5.19E-02 lbs/day
Heptachlor	5.56E-04 ug/l	1.35E-05 lbs/day
Heptachlor epoxide		

PCB's

PCB 1242 (Arochlor 1242)	1.19E-04 ug/l	2.88E-06 lbs/day
PCB-1254 (Arochlor 1254)	1.19E-04 ug/l	2.88E-06 lbs/day
PCB-1221 (Arochlor 1221)	1.19E-04 ug/l	2.88E-06 lbs/day
PCB-1232 (Arochlor 1232)	1.19E-04 ug/l	2.88E-06 lbs/day
PCB-1248 (Arochlor 1248)	1.19E-04 ug/l	2.88E-06 lbs/day
PCB-1260 (Arochlor 1260)	1.19E-04 ug/l	2.88E-06 lbs/day
PCB-1016 (Arochlor 1016)	1.19E-04 ug/l	2.88E-06 lbs/day

Pesticide

Toxaphene	1.99E-03 ug/l	4.81E-05 lbs/day
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Metals

Antimony	ug/l	lbs/day
Arsenic	ug/l	lbs/day
Asbestos	ug/l	lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	ug/l	lbs/day
Cyanide	ug/l	lbs/day
Lead		
Mercury	ug/l	lbs/day
Nickel	ug/l	lbs/day
Selenium		
Silver		
Thallium	ug/l	lbs/day
Zinc		

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Salt Lake City, Utah**

Dioxin
Dioxin (2,3,7,8-TCDD) 3.71E-08 ug/l 8.97E-10 lbs/day

**Metals Effluent Limitations for Protection of All Beneficial Uses
Based upon Water Quality Standards and Toxics Rule**

	Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/l
Aluminum		1366.6				1366.6	N/A
Antimony				11392.7		11392.7	
Arsenic	264.9	619.8			0.0	264.9	502.1
Barium						0.0	
Beryllium						0.0	
Cadmium	26.4	14.9			0.0	14.9	1.8
Chromium (III)		9714.0			0.0	9714.0	672.9
Chromium (VI)	263.6	25.9			0.0	25.92	22.59
Copper	528.6	88.1				88.1	75.2
Cyanide		40.1	582882.6			40.1	13.8
Iron		1823.7				1823.7	
Lead	263.6	801.0			0.0	263.6	44.1
Mercury		4.38		0.40	0.0	0.40	0.032
Nickel		2619.1		12187.5		2619.1	421.6
Selenium	129.9	35.2			0.0	35.2	9.6
Silver		67.1			0.0	67.1	
Thallium				16.7		16.7	
Zinc		670.1				670.1	972.9
Boron	1987.1					1987.1	

Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]

[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

	WLA Acute ug/l	WLA Chronic ug/l	
Aluminum	1366.6	N/A	
Antimony	11392.70		
Arsenic	264.9	502.1	Acute Controls
Asbestos	0.00E+00		
Barium			
Beryllium			
Cadmium	14.9	1.8	
Chromium (III)	9714.0	673	
Chromium (VI)	25.9	22.6	
Copper	88.1	75.2	

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Cyanide	40.1	13.8	
Iron	1823.7		
Lead	263.6	44.1	
Mercury	0.397	0.032	
Nickel	2619.1	422	
Selenium	35.2	9.6	
Silver	67.1	N/A	
Thallium	16.7		
Zinc	670.1	972.9	Acute Controls
Boron	1987.10		

Other Effluent Limitations are based upon R317-1.

E. coli 126.0 organisms per 100 ml

X. Antidegradation Considerations

The Utah Antidegradation Policy allows for degradation of existing quality where it is determined that such lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are protected [R317-2-3]. It has been determined that certain chemical parameters introduced by this discharge will cause an increase of the concentration of said parameters in the receiving waters. Under no conditions will the increase in concentration be allowed to interfere with existing instream water uses.

The antidegradation rules and procedures allow for modification of effluent limits less than those based strictly upon mass balance equations utilizing 100% of the assimilative capacity of the receiving water. Additional factors include considerations for "Blue-ribbon" fisheries, special recreational areas, threatened and endangered species, and drinking water sources.

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an Antidegradation Level II Review is not required.

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value.

XII. Summary Comments

The mathematical modeling and best professional judgement indicate that violations of receiving water beneficial uses with their associated water quality standards, including important downstream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

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Salt Lake City, Utah**

XIII. Notice of UPDES Requirement

This Addendum to the Statement of Basis does not authorize any entity or party to discharge to the waters of the State of Utah. That authority is granted through a UPDES permit issued by the Utah Division of Water Quality. The numbers presented here may be changed as a function of other factors. Dischargers are strongly urged to contact the Permits Section for further information. Permit writers may utilize other information to adjust these limits and/or to determine other limits based upon best available technology and other considerations provided that the values in this wasteload analysis [TMDL] are not compromised. See special provisions in Utah Water Quality Standards for adjustments in the Total Dissolved Solids values based upon background concentration.

Utah Division of Water Quality
801-538-6052
File Name: LakeSidePower_WLA_10-15-14.xls

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Salt Lake City, Utah**

APPENDIX - Coefficients and Other Model Information

CBOD Coeff. (Kd)20 1/day 2.000	CBOD Coeff. FORCED (Kd)/day 0.000	CBOD Coeff. (Ka)T 1/day 1.751	REAER. Coeff. (Ka)20 (Ka)/day 16.046	REAER. Coeff. FORCED 1/day 0.000	REAER. Coeff. (Ka)T 1/day 14.979	NBOD Coeff. (Kn)20 1/day 0.600	NBOD Coeff. (Kn)T 1/day 0.480
Open Coeff. (K4)20 1/day 0.000	Open Coeff. (K4)T 1/day 0.000	NH3 LOSS (K5)20 1/day 4.000	NH3 (K5)T 1/day 3.501	NO2+NO3 LOSS (K6)20 1/day 0.000	NO2+NO3 (K6)T 1/day 0.000	TRC Decay K(CI)20 1/day 32.000	TRC K(CI)(T) 1/day 27.025
BENTHIC DEMAND (SOD)20 gm/m2/day 1.000	BENTHIC DEMAND (SOD)T gm/m2/day 0.833						
K1 CBOD {theta} 1.0	K2 Reaer. {theta} 1.0	K3 NH3 {theta} 1.1	K4 Open {theta} 1.0	K5 NH3 Loss {theta} 1.0	K6 NO2+3 {theta} 1.0	K(CI) TRC {theta} 1.1	S Benthic {theta} 1.1

Antidegradation Review

*Official Draft Public Notice Version December 24, 2014
The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.*

Permit No UT0025623
Major Industrial

STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

AUTHORIZATION TO DISCHARGE UNDER THE
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM
(UPDES)

In compliance with provisions of the Utah *Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended (the "Act")*,

LAKE SIDE POWER PLANT

is hereby authorized to discharge from its facility located at 1825 North Pioneer Lane Vineyard, Utah with the outfall located at latitude 40°19'46" and longitude 111°45'17", to receiving waters named

Lindon Hollow Creek into Utah Lake

in accordance with discharge points, effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on February 1, 2015

This permit and the authorization to discharge shall expire at midnight, January 31, 2020.

Signed this day of 2015.

Walter L. Baker, P.E.
Director

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I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Description of Discharge Point.

The authorization to discharge provided under this permit is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are in violation of the *Act* and may be subject to penalties under the *Act*. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the *Act*.

<u>Outfall Number</u>	<u>Location of Discharge Point</u>
002	The discharge is located at latitude 40°19'54.45" and longitude 111°45'47.85". The discharge is through a pipe to Lindon Hollow Creek which flows to Utah Lake.

B. Narrative Standard.

It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures.

C. Specific Limitations and Self-Monitoring Requirements.

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 002. Such discharges shall be limited and monitored by the permittee as specified below:

The permit limitations for discharge from Outfall 002 are:

Parameter	Final Effluent Limitations				
	Monthly Average Maximum	Weekly Average Maximum	Minimum	Maximum	Maximum Mass Loading
Flow MGD					
Sum (Jul-Sept)	-	-	-	2.9	-
Fall (Oct-Dec)	-	-	-	2.3	-
Winter (Jan-Mar)	-	-	-	2.2	-
Spr (Apr-Jun)	-	-	-	2.7	-
DO, mg/L	-	-	5.0	-	-
TSS, mg/L	25	35	-	-	-
TDS, mg/L					
Sum (Jul-Sept)	-	-	-	2371	-
Fall (Oct-Dec)	-	-	-	2371	-
Winter (Jan-Mar)	-	-	-	2363	-
Spr (Apr-Jun)	-	-	-	2371	-
pH, Standard Units	-	-	6.5	9	-
Iron, mg/L	-	-	-	1	-
Total Chromium, mg/L	-	-	-	0.2	-
Chromium VI, mg/L	-	-	-	0.022	-
Total Zinc, mg/L	-	-	-	0.6	-
Copper, mg/L	-	-	-	1	-
Copper, lbs./Qtr.					
Sum (Jul-Sept)	-	-	-	-	167
Fall (Oct-Dec)	-	-	-	-	132
Winter (Jan-Mar)	-	-	-	-	124
Spr (Apr-Jun)	-	-	-	-	154
TRC, mg/L *a					
Sum (Jul-Sept)	-	-	-	0.03	-
Fall (Oct-Dec)	-	-	-	0.05	-
Winter (Jan-Mar)	-	-	-	0.06	-
Spr (Apr-Jun)	-	-	-	0.06	-
Oil & Grease, mg/L*b	-	-	-	10	-
WET Chronic Biomonitoring	-	-	-	IC25 > 38% effluent	-
Temperature °F					
Sum (Jul-Sept)	-	-	-	81.8	-
Fall (Oct-Dec)	-	-	-	82.9	-
Winter (Jan-Mar)	-	-	-	84.4	-
Spr (Apr-Jun)	-	-	-	93.1	-

NA – Not Applicable.

*a The TRC limit developed in the WLA is a more stringent limit than that found in 40 CFR 423.15 and is considered more protective than limiting the times allowed for utilizing and discharging chlorine.

*b Oil & Grease sampled when a sheen is present or visible.

Self-Monitoring & Reporting Requirements					
Parameter	Frequency	Sample Type	Units	MDL *d	
Total Flow	Continuous	Instantaneous	MGD	-	
Temperature, Effluent	2 x Week	Grab	°F	-	
TDS, Effluent			mg/L	-	
TSS, Effluent			mg/L	-	
DO, Effluent			mg/L	-	
pH, Effluent			SU	-	
TRC, Effluent *a			Daily	mg/L	-
Oil & Grease, Effluent *b			Monthly	mg/L	-
Total Phosphorus, Effluent *c	Monthly	mg/L	-		
Total Zinc, Effluent	Weekly	Grab	mg/L	0.67	
Total Chromium, Effluent			mg/L	0.6	
Chromium VI			mg/L	0.022	
Iron, Effluent			mg/L	1	
Copper, Effluent			Weekly	mg/L	0.075
WET, Chronic Biomonitoring Ceriodaphnia Dubia and Pimephales Promelas (fathead minnows)	Quarterly	Grab	Pass/Fail	-	
<u>METALS *e</u>			<u>MDL *d</u>		
Cyanide, Effluent	Quarterly	Grab	mg/L	0.0138	
Aluminum Effluent			mg/L	1	
Arsenic Effluent			mg/L	0.26	
Cadmium Effluent			mg/L	0.0018	
Lead Effluent			mg/L	0.04	
Mercury Effluent			mg/L	0.00003	
Nickel Effluent			mg/L	0.42	
Selenium Effluent			mg/L	0.009	
Silver Effluent			mg/L	0.067	

NA – Not Applicable

- *a The TRC limit developed in the WLA is a more stringent limit than that found in 40 CFR 423.15 and is considered more protective than limiting the times allowed for utilizing and discharging chlorine.
- *b Oil & Grease sampled when a sheen is present or visible.
- *c Total Phosphorus is being sampled in conjunction with work being done on a TMDL for Utah Lake. Sampling twice monthly for the first year of discharging, reporting the monthly average, and then sampling drops to monthly. This sampling was included in an agreement with the Lake Side Power Plant facility team. There is no limit associated with Total Phosphorus for this facility at the present time.
- *d Metals samples should be analyzed using a method that meets MDL requirements. If a test method is not available the permittee must submit documentation to the Director regarding the method that will be used. The sample type (composite or grab) should be performed according to the methods requirements
- *e See Definitions, *Part VI* for definition of terms.

There shall be no visible sheen or floating solids or visible foam in other than trace amounts.

There shall be no discharge of sanitary wastes.

Low volume wastes, as defined in 40 CFR Part 423 (Steam Electric Power Generating Point Source Category), will be generated at the site and discharged in the effluent, but will not exceed the applicable effluent discharge limits.

2. Whole Effluent Testing - Chronic Toxicity.

Starting on the effective date of the permit, the permittee shall quarterly conduct chronic short-term toxicity tests on a grab sample of the final effluent. The sample shall be collected at outfall 002 .

The monitoring frequency shall be quarterly. Samples shall be collected on a two day progression; i.e., if the first sample is on a Monday, during the next sampling period, sampling shall be on a Wednesday. If chronic toxicity is detected, the test shall be repeated in less than four weeks from the date the initial sample was taken. The need for any additional samples, and/or a Toxicity Reduction Evaluation (TRE, see Part I.D.3.) shall be determined by the Director. If the second test shows no chronic toxicity, routine monitoring shall be resumed.

The chronic toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, 4th Edition, (EPA 821/R-02-13), October 2002* as per 40 CFR 136.3(a) *TABLE 1A-LIST OF APPROVED BIOLOGICAL METHODS*. Testing shall alternate species quarterly with test species consisting of Ceriodaphnia dubia and Pimephales promelas (fathead minnow).

Chronic toxicity occurs when the IC₂₅ is less than or equal to an effluent concentration of 38%. If any of the acceptable control performance criteria are not met, the test shall be considered invalid.

Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the reporting calendar quarter (e.g., biomonitoring results for the calendar quarter ending March 31 shall be reported with the DMR due April 28, with the remaining biomonitoring reports submitted with DMRs due each July 28, October 28, and January 28). All test results shall be reported along with the DMR submitted for that reporting period. The format for the report shall be consistent with the latest revision of *Region VIII* and shall include all the physical testing as specified.

If the results for ten consecutive tests indicate no chronic toxicity, the permittee may request a cessation or reduction in biomonitoring. The Director may approve, partially approve, or deny the request based on results and other available information. If approval is given, the modification will take place without a public notice.

The current Utah whole effluent toxicity (WET) policy is in the process of being updated and revised to assure its consistency with the Environmental Protection Agency's national and regional WET policy. When said revised WET policy has been finalized and officially adopted, this permit will be reopened and modified to incorporate satisfactory follow-up chronic toxicity language (chronic pattern of toxicity, PTI and/or TIE/TRE, etc.) without a public notice, as warranted and appropriate.

3. Toxicity Reduction Evaluation (TRE).

If toxicity is detected during the life of this permit and it is determined by the Director that a TRE is necessary, the permittee shall be so notified and shall initiate a TRE immediately thereafter. The purpose of the TRE will be establish the cause of the toxicity, locate the source(s) of the toxicity, and control or provide treatment for the toxicity.

A TRE may include but is not limited to one, all, or a combination of the following:

- a. Phase I - Toxicity Characterization
- b. Phase II - Toxicity Identification Procedures
- c. Phase III - Toxicity Control Procedures
- d. Any other appropriate procedures for toxicity source elimination and control

If the TRE establishes that the toxicity cannot be immediately eliminated, the permittee shall submit a proposed compliance plan to the Director. The plan shall include the proposed approach to control toxicity and a proposed compliance schedule for achieving control. If the approach and schedule are acceptable to the Director, this permit may be reopened and modified.

If the TRE shows that the toxicity is caused by a toxicant(s) that may be controlled with specific numerical limitations, the permittee may:

- a. Submit an alternative control program for compliance with the numerical requirements.
- b. If necessary, provide a modified biomonitoring protocol which compensates for the pollutant(s) being controlled numerically.

If acceptable to the Director, this permit may be reopened and modified to incorporate any additional numerical limitations, a modified compliance schedule if judged necessary by the Director, and/or a modified biomonitoring protocol.

Failure to conduct an adequate TRE, or failure to submit a plan or program as described above, or the submittal of a plan or program judged inadequate by the Director, shall be considered a violation of this permit.

II. STORM WATER DISCHARGE REQUIREMENTS

A. Coverage of This Section.

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to storm water discharges from the industrial facility.

a. Site Coverage. This section covers discharges of storm water associated with industrial activity to waters of the State from the confines of the facility listed on the cover page. Specific monitoring requirements have been included and are based on the requirements of the UPDES Multi Sector General Permit for Storm Water Discharges Associated with Industrial Activity, Permit No. UTR000000, Sector O, Storm Water Discharges Associated With Industrial Activity From Steam Electric Power Generating Facilities, Including Coal Handling Areas.

B. Prohibition of Non-Storm Water Discharges.

1. The following non-storm water discharges may be authorized under this permit provided the non-storm water component of the discharge is in compliance with this section; discharges from fire fighting activities; fire hydrant flushing; potable water sources including waterline flushing; drinking fountain water; irrigation drainage and lawn watering; routine external building wash down water where detergents or other compounds have not been used in the process; pavement wash waters where spills or leaks of toxic or hazardous materials (including oils and fuels) have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated compressor condensate; uncontaminated springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.

C. Storm Water Pollution Prevention Plan Requirements.

1. Contents of the Plan. The plan shall include, at a minimum, the following items:

a. Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the

facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

- b. Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials, which may be reasonably expected to have the potential as a significant pollutant source. Each plan shall include, at a minimum:
 - a. Drainage. A site map indicating drainage areas and storm water outfalls. For each area of the facility that generates storm water discharges associated with the waste water treatment related activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow and an identification of the types of pollutants that are likely to be present in storm water discharges associated with the activity. Factors to consider include the toxicity of the pollutant; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified. The site map shall include but not be limited to:
 - a. Drainage direction and discharge points from all wastewater associated discharges.
 - b. Location of any erosion and sediment control structure or other control measures utilized for reducing pollutants in storm water runoff.
 - c. Location of any handling, loading, unloading or storage of chemicals or potential pollutants such as caustics, hydraulic fluids, lubricants, solvents or other petroleum products, or hazardous wastes and where these may be exposed to precipitation.
 - d. Locations where any major spills or leaks of toxic or hazardous materials have occurred

- e. Location of any sand or salt piles.
 - f. Location of fueling stations or vehicle and equipment maintenance and cleaning areas that are exposed to precipitation.
 - g. Location of receiving streams or other surface water bodies.
 - h. Locations of outfalls and the types of discharges contained in the drainage areas of the outfalls.
3. Inventory of Exposed Materials. An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the effective date of this permit; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the effective date of this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.
4. Spills and Leaks. A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the effective date of this permit. Such list shall be updated as appropriate during the term of the permit.
5. Sampling Data. A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.
6. Summary of Potential Pollutant Sources and Risk Assessment. A narrative description of the potential pollutant sources from the following activities associated with treatment works: access roads/rail lines; loading and unloading operations; outdoor storage activities; material handling sites; outdoor vehicle storage or maintenance sites; significant dust or particulate generating processes; and onsite waste disposal practices. Specific potential pollutants shall be identified where known.

7. Measures and Controls. The facility shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:
8. Good Housekeeping. All areas that may contribute pollutants to storm waters discharges shall be maintained in a clean, orderly manner. These are practices that would minimize the generation of pollutants at the source or before it would be necessary to employ sediment ponds or other control measures at the discharge outlets. Areas where good housekeeping practices should be implemented are storage areas for raw materials, waste materials and finished products; loading/unloading areas and waste disposal areas for hazardous and non-hazardous wastes. Examples of good housekeeping measures include; sweeping; labeling drums containing hazardous materials; and preventive monitoring practices or equivalent measures.
9. Preventive Maintenance. A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.
10. Spill Prevention and Response Procedures. Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points, shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures and equipment for cleaning up spills shall be identified in the plan and made available to the appropriate personnel.
11. Inspections. In addition to the comprehensive site evaluation required under paragraph D. of this part, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a periodic basis. The following areas shall be included in all inspections: loading and unloading areas for all significant materials; storage areas, including associated

containment areas; waste management units; and vents and stacks from industrial activities. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. The use of a checklist developed by the facility is encouraged.

12. Employee Training. Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify how often training will take place, but training should be held at least annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and control; fueling procedures; general good housekeeping practices; proper procedures for using fertilizers, herbicides and pesticides.
13. Record Keeping and Internal Reporting Procedures. A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.
14. Non-storm Water Discharges.
 - a. Certification. The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part V.G. of this permit
 - b. Exceptions. Except for flows from fire fighting activities, sources of non-storm water listed in paragraph B. (Prohibition of Non-storm Water Discharges) of this

section that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

- c. Failure to Certify. Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the *Director* within 180 days of the effective date of this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the State which are not authorized by a *UPDES* permit are unlawful, and must be terminated
15. Sediment and Erosion Control. The plan shall identify areas, which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.
16. Management of Runoff. The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity {*see* (Description of Potential Pollutant Sources)} shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices and discharging storm water through the waste water facility for treatment.

D. Comprehensive Site Compliance Evaluation.

Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

1. Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.
2. Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph C.1.b. (Description of Potential Pollutant Sources) of this section and pollution prevention measures and controls identified in the plan in accordance with paragraph C.7. (Measures and Controls) of this section shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.
3. A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph *i.* (above) shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part V.G (Signatory Requirements) of this permit.

4. Deadlines for Plan Preparation and Compliance. The facility shall prepare and implement a plan in compliance with the provisions of this section within 270 days of the effective date of this permit.
5. Keeping Plans Current. The facility shall amend the plan whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge of pollutants to the waters of the state or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified by the plan, or in otherwise achieving the general objective of controlling pollutants in storm water discharges associated with the activities at the facility.

E. Monitoring and Reporting Requirements

1. Quarterly Visual Examination of Storm Water Quality. The facility shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each of the following designated periods during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event: January through March; April through June; July through September; and October through December.
 - a. Sample and Data Collection. Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.
 - b. Visual Storm Water Discharge Examination Reports. Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the

examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

- c. Representative Discharge. Based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.
- d. Adverse Conditions. When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the results of the visual examination. Adverse weather conditions, which may prohibit the collection of samples, include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).
- e. Inactive and Unstaffed Site. When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that

performing visual examinations during a qualifying event is not feasible.

- f. Analytical Monitoring Requirements. During even calendar years of the permit the facility must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) except as provided in paragraphs i,j, and k, of this section titled (Sampling Waiver), (Representative Discharge), and (Alternative Certification). The facility is required to monitor their storm water discharges for the pollutants of concern listed in the table below. Facilities must report in accordance with the Part II, E,1 (Reporting). In addition to the parameters listed in the table, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

**Monitoring Requirements for
Steam Electric Power Generating Facilities**

Pollutant of Concern	Cut-Off Concentration
Total Recoverable Iron	1.0 mg/L

- g. Monitoring Periods. The facility shall monitor samples collected during the sampling periods of: January to March, April to June, July to September, and October to December for the years specified in paragraph above.
- h. Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first

30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or non-process water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

i. Sampling Waiver.

1. Adverse Conditions. When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).
2. Low Concentration Waiver. When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the second year monitoring period is less than the corresponding value for that pollutant listed in the above Table under the column Monitoring Cut-Off Concentration, a facility may waive monitoring and reporting requirements in the fourth year monitoring period. The facility must submit to the *Director*, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived.
3. Inactive and Unstaffed Site. When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and

unstaffed. The facility must submit to the *Director*, in lieu of monitoring data, a certification statement on the *SWDMR* stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

- j. Representative Discharge. When a facility has 2 or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent) or high (above 65 percent)) shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the *SWDMR*.
- k. Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph l below, under penalty of law, signed in accordance with *Part V.G.* (signatory requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to the *DWQ* in accordance with *Part II.C.* of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the

certification along with the monitoring reports required under paragraph *b.* below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations

1. Reporting. Permittees with steam electric power generating facilities shall submit monitoring results, or a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived, on SWDMR form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed SWDMR form must be submitted to the Director per storm event sampled. Signed copies of SWDMRs, or said certifications, shall be submitted to the Director at the address listed in Part III, D, of the permit.

F. EPCRA Section 313 Requirements.

1. In areas where Section 313 water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided. At a minimum, one of the following preventive systems or its equivalent shall be used:
 - a. Curbing, culverts, gutters, sewers, or other forms of drainage control to prevent or minimize the potential for storm water run-on to come into contact with significant sources of pollutants; or
 - b. Roofs, covers or other forms of appropriate protection to prevent storage piles from exposure to storm water and wind.
2. No tank or container shall be used for the storage of a Section 313 water priority chemical unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature, etc.

Liquid storage areas for Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include secondary containment provided for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

3. Material storage areas for Section 313 water priority chemicals other than liquids that are subject to runoff, leaching, or wind shall incorporate drainage or other control features that will minimize the discharge of Section 313 water priority chemicals by reducing storm water contact with Section 313 water priority chemicals.
4. Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 water priority chemicals. Protection such as overhangs or door skirts to enclose trailer ends at truck loading/unloading docks shall be provided as appropriate. Appropriate measures to minimize discharges of Section 313 chemicals may include: the placement and maintenance of drip pans (including the proper disposal of materials collected in the drip pans) where spillage may occur (such as hose connections, hose reels and filler nozzles) for use when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.
5. Processing equipment and materials handling equipment shall be operated so as to minimize discharges of Section 313 water priority chemicals. Materials used in piping and equipment shall be compatible with the substances handled. Drainage from process and materials handling areas shall minimize storm water contact with Section 313 water priority chemicals. Additional protection such as covers or guards to prevent exposure to wind, spraying or releases from pressure relief vents from causing a discharge of Section 313 water priority chemicals to the drainage system shall be provided as appropriate. Visual inspections or leak tests shall be provided for overhead piping conveying Section 313 water priority chemicals without secondary containment.
6. Drainage from areas covered by paragraphs (1), (2), (3), or (4) of this part (above) should be restrained by valves or other positive means to prevent the discharge of a spill or other excessive leakage of Section 313 water priority chemicals. Where containment units are employed, such units may be emptied by pumps or ejectors; however, these shall be manually activated.

Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-and-closed design.

If facility drainage is not engineered as above, the final discharge of all in-facility storm sewers shall be equipped to be equivalent with a diversion system that could, in the event of an uncontrolled spill of Section 313 water priority chemicals, return the spilled material to the

facility.

Records shall be kept of the frequency and estimated volume (in gallons) of discharges from containment areas.

7. Other areas of the facility (those not addressed in paragraphs (1), (2), (3), or (4)), from which runoff that may contain Section 313 water priority chemicals or spills of Section 313 water priority chemicals could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and ensure the mitigation of pollutants in runoff or leachate.
8. All areas of the facility shall be inspected at specific intervals identified in the plan for leaks or conditions that could lead to discharges of Section 313 water priority chemicals or direct contact of storm water with raw materials, intermediate materials, waste materials or products. In particular, facility piping, pumps, storage tanks and bins, pressure vessels, process and material handling equipment, and material bulk storage areas shall be examined for any conditions or failures that could cause a discharge. Inspection shall include examination for leaks, wind blowing, corrosion, support or foundation failure, or other forms of deterioration or noncontainment. Inspection intervals shall be specified in the plan and shall be based on design and operational experience. Different areas may require different inspection intervals. Where a leak or other condition is discovered that may result in significant releases of Section 313 water priority chemicals to waters of the State, action to stop the leak or otherwise prevent the significant release of Section 313 water priority chemicals to waters of the State shall be immediately taken or the unit or process shut down until such action can be taken. When a leak or noncontainment of a Section 313 water priority chemical has occurred, contaminated soil, debris, or other material must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.
9. Facilities shall have the necessary security systems to prevent accidental or intentional entry that could cause a discharge. Security systems described in the plan shall address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.
10. Facility employees and contractor personnel that work in areas where Section 313 water priority chemicals are used or stored shall be trained in and informed of preventive measures at the facility. Employee training shall be conducted at intervals specified in the plan, but not less than once per year. Training shall address: pollution control laws and regulations, the storm water pollution prevention plan and the particular features of the facility and its operation that are designed to minimize

discharges of Section 313 water priority chemicals. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting requirements so that spills and emergency releases of Section 313 water priority chemicals can be isolated and contained before a discharge of a Section 313 water priority chemical can occur. Contractor or temporary personnel shall be informed of facility operation and design features in order to prevent discharges or spills from occurring.

P/N DRAFT

III. MONITORING, RECORDING AND REPORTING REQUIREMENTS

- A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Sludge samples shall be collected at a location representative of the quality of sludge immediately prior to the use-disposal practice.
- B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10*, unless other test procedures have been specified in this permit.
- C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. Reporting of Monitoring Results. Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), post-marked no later than the 28th day of the month following the completed reporting period. The first report is due on **March 28th, 2015**. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part V.G)*, and submitted to the Director, Division of Water Quality at the following address:
- original to: Department of Environmental Quality
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870
- E. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.
- F. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10* or as otherwise specified in this permit, the results of this monitoring shall be included in the

calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.

- G. Records Contents. Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements;
 2. The individual(s) who performed the sampling or measurements;
 3. The date(s) and time(s) analyses were performed;
 4. The individual(s) who performed the analyses;
 5. The analytical techniques or methods used; and,
 6. The results of such analyses.
- H. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location.
- I. Twenty-four Hour Notice of Noncompliance Reporting.
1. The permittee shall (orally) report any noncompliance, which may seriously endanger health or environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 536-4300, or 24-hour answering service (801) 536-4123.
 2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4123 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
 - a. Any noncompliance, which may endanger health or the environment;
 - b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part IV.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part IV.H, Upset Conditions.*); or,

- d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.
3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and,
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 - e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.
 4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 536-4300.
 5. Reports shall be submitted to the addresses in *Part II.D, Reporting of Monitoring Results*.
- J. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part II.D* are submitted. The reports shall contain the information listed in *Part II.I.3*.
- K. Inspection and Entry. The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

Part III – Monitoring, Recording & Reporting Requirements
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3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location.

PND DRAFT

IV. COMPLIANCE RESPONSIBILITIES

- A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.
- B. Penalties for Violations of Permit Conditions. The Act provides that any person who violates a permit condition implementing provisions of the Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions of the Act is subject to a fine not exceeding \$25,000 per day of violation; Any person convicted under UCA 19-5-115(2) a second time shall be punished by a fine not exceeding \$50,000 per day. Except as provided at Part IV.G, Bypass of Treatment Facilities and Part IV.H, Upset Conditions, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
- C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment.
- E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- F. Removed Substances. Collected screening, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.
- G. Bypass of Treatment Facilities.

1. Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to 2. and 3. of this section.
2. Prohibition of Bypass.
 - a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and
 - (3) The permittee submitted notices as required under section G.3.
 - b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in sections G.2a. (1), (2) and (3).
3. Notice.
 - a. Anticipated bypass. Except as provided above in section G.2. and below in section G. 3.b, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:
 - (1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages;
 - (2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;

- (3) Description of specific measures to be taken to minimize environmental and public health impacts;
 - (4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;
 - (5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and
 - (6) Any additional information requested by the Director.
- b. Emergency Bypass. Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in section G.3.a.(1) through (6) to the extent practicable.
- c. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass to the Director as required under Part II.I., Twenty Four Hour Reporting. The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2. of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.
2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;

- c. The permittee submitted notice of the upset as required under Part II.I, Twenty-four Hour Notice of Noncompliance Reporting; and,
 - d. The permittee complied with any remedial measures required under Part III.D, Duty to Mitigate.
 3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.
- I. Toxic Pollutants. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of *The Water Quality Act of 1987* for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- J. Changes in Discharge of Toxic Substances. Notification shall be provided to the Director as soon as the permittee knows of, or has reason to believe:
 1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. One hundred micrograms per liter (100 ug/L);
 - b. Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(7)* or (10); or,
 - d. The level established by the Director in accordance with *UAC R317-8-4.2(6)*.
 2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. Five hundred micrograms per liter (500 ug/L);
 - b. One milligram per liter (1 mg/L) for antimony;

- c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(9)*; or,
 - d. The level established by the Director in accordance with *UAC R317-8-4.2(6)*.
- K. Industrial Pretreatment. Any wastewaters discharged to the sanitary sewer, either as a direct discharge or as a hauled waste, are subject to Federal, State and local pretreatment regulations. Pursuant to Section 307 of *The Water Quality Act of 1987*, the permittee shall comply with all applicable federal General Pretreatment Regulations promulgated at *40 CFR 403*, the State Pretreatment Requirements at *UAC R317-8-8*, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the wastewaters.

In addition, in accordance with *40 CFR 403.12(p)(1)*, the permittee must notify the POTW, the EPA Regional Waste Management Director, and the State hazardous waste authorities, in writing, if they discharge any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under *40 CFR 261*. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch)

V. GENERAL REQUIREMENTS

- A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants, which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.
- B. Anticipated Noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.
- C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.
- E. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
- F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.
- G. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.
1. All permit applications shall be signed by either a principal executive officer or ranking elected official

2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Director, and,
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. Changes to authorization. If an authorization under paragraph IV.G.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph IV.G.2 must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained

under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

- I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential
- J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.
- K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
- M. Transfers. This permit may be automatically transferred to a new permittee if:
 - 1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;
 - 2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
 - 3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.
- N. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any

applicable state law or regulation under authority preserved by *UCA 19-5-117*.

- O. Water Quality-Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:
1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
 2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.
 3. A revision to the current Water Quality Management Plan is approved and adopted which calls for different effluent limitations than contained in this permit.
- P. Toxicity Limitation - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include, whole effluent toxicity (WET) limitations, a compliance date, a compliance schedule, a change in the whole effluent toxicity (biomonitoring) protocol, additional or modified numerical limitations, or any other conditions related to the control of toxicants if one or more of the following events occur
1. Toxicity is detected, as per *Part I.C.2 through I.C.3* of this permit, during the duration of this permit.
 2. The TRE results indicate that compliance with the toxic limits will require an implementation schedule past the date for compliance and the *Director* agrees with the conclusion.
 3. The TRE results indicate that the toxicant(s) represent pollutant(s) that may be controlled with specific numerical limits, and the *Director* agrees that numerical controls are the most appropriate course of action.
 4. Following the implementation of numerical control(s) of toxicant(s), the *Director* agrees that a modified biomonitoring protocol is necessary to compensate for toxicant(s) that are controlled numerically.

5. The TRE reveals other unique conditions or characteristics, which in the opinion of the permit issuing authority justify the incorporation of unanticipated special conditions in the permit.
- Q. Storm Water-Reopener Provision. At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8*, to include, any applicable storm water provisions and requirements, a storm water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "Waters-Of-State"
- R. Total Maximum Daily Load-Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include Total Maximum Daily Load (TMDL) monitoring, related effluent limits, a compliance schedule, a compliance date, additional or modified numerical limitations, or any other conditions related to the TMDL Process and activity in effected impaired water body.

VI. DEFINITIONS

1. The "30-day and monthly average" is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
2. The "7-day and weekly average" is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week whichever is applicable. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, beginning on Sunday and ending on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains the Saturday.
3. "Daily Maximum" ("Daily Max.") is the maximum value allowable in any single sample or instantaneous measurement.
4. "Composite samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the composite sample period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:
 - a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
 - b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;
 - c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,

- d. Continuous collection of sample, with sample collection rate proportional to flow rate.
5. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
6. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
7. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
8. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
9. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
10. "Director" means Director of the Division of Water Quality.
11. "EPA" means the United States Environmental Protection Agency.
12. "Acute toxicity" occurs when 50 percent or more mortality is observed for either test species at any effluent concentration.
13. "Chronic toxicity" occurs when the survival, growth, or reproduction for either test species exposed to a dilution of 38 percent effluent (or lower) is significantly less (at the 95 percent confidence level) than the survival, growth or reproduction of the control specimens.
14. "Act" means the "*Utah Water Quality Act*".
15. "Best Management Practices" ("*BMP's*") means schedules of activities, prohibitions of practices, maintenance procedures, and

other management practices to prevent or reduce the pollution of waters of the State. *BMP's* also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

16. "Coal pile runoff" means the rainfall runoff from or through any coal storage pile.
17. "*CWA*" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
18. "Flow-weighted composite sample" means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.
19. "Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a *UPDES* permit (other than the *UPDES* permit for discharges from the municipal separate storm sewer) and discharges from fire fighting activities, fire hydrant flushing, potable water sources including waterline flushing, uncontaminated ground water (including dewatering ground water infiltration), foundation or footing drains where flows are not contaminated with process materials such as solvents, springs, riparian habitats, wetlands, irrigation water, exterior building wash down where there are no chemical or abrasive additives, pavement wash water where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used, and air conditioning condensate.
20. "Landfill" means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.
21. "Land application unit" means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.
22. "Large and Medium municipal separate storm sewer system" means all municipal separate storm sewers that are either:

- a. Located in an incorporated place with a population of 100,000 or more as determined by the latest *Decennial Census* by the *Bureau of Census*; or
 - b. Located in the counties with unincorporated urbanized areas with a population of 100,000 or more, according to the latest Decennial Census by the Bureau of Census, except municipal separate storm sewers that are located in the incorporated places, townships or towns within the county; or
 - c. Owned or operated by a municipality other than those described in paragraph (a) or (b) and that are designated by the *Director* as part of the large or medium municipal separate storm sewer system.
23. "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharges. This term does not include return flows from irrigated agriculture or agriculture storm water runoff.
24. "Runoff coefficient" means the fraction of total rainfall that will appear at a conveyance as runoff.
25. "Section 313 water priority chemical" means a chemical or chemical categories which:
- a. Are listed at *40 CFR 372.65* pursuant to *Section 313* of *Title III* of the *Emergency Planning and Community Right-to-Know Act (EPCRA)* (also known as *Title III* of the *Superfund Amendments and Reauthorization Act (SARA)* of 1986);
 - b. Are present at or above threshold levels at a facility subject to *EPCRA, Section 313* reporting requirements, and
 - c. Meet at least one of the following criteria:
 - (1) Are listed in *Appendix D* of *40 CFR 122* on either *Table II* (organic priority pollutants), *Table III* (certain metals, cyanides, and phenols) or *Table IV* (certain toxic pollutants and hazardous substances);

- (2) Are listed as a hazardous substance pursuant to *Section 311(b)(2)(A)* of the *CWA* at *40 CFR 116.4*; or
 - (3) Are pollutants for which EPA has published acute or chronic toxicity criteria.
26. "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under *Section 101(14)* of *CERCLA*; any chemical the facility is required to report pursuant to *EPCRA Section 313*; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.
27. "Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under *Section 311* of the *Clean Water Act* (see *40 CFR 110.10* and *40 CFR 117.21*) or *Section 102* of *CERCLA* (see *40 CFR 302.4*).
28. "Storm water" means storm water runoff, snowmelt runoff, and surface runoff and drainage.
29. "Time-weighted composite" means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.
30. "Waste pile" means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.
31. "10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable reoccurrence interval of once in 10 years. This information is available in *Weather Bureau Technical Paper No. 40*, May 1961 and *NOAA Atlas 2*, 1973 for the 11 Western States, and may be obtained from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

