

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

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Minor Industrial Permit No. UT0023752

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

FRESENIUS MEDICAL CARE

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named **MILL CREEK**,

in accordance with specific limitations, outfalls, and other conditions set forth herein.

This permit shall become effective on July 1, 2016.

This permit expires at midnight on June 30, 2021.

Signed this 27 day of June 2016.



Walter L. Baker, P.E.
Director

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I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

- A. Description of Discharge Point. The authorization to discharge wastewater provided under this part is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are violations 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*.

Outfall Number

001

Location of Discharge Outfall

Located at latitude 41° 14' 32.38" and longitude 111° 59' 22.42". The discharge is through a gravity flow concrete storm drain pipe leading to Mill Creek, which is a tributary of the Weber River and hence to the Great Salt Lake. STORET discharge location is 492306.

- 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 a bioassay or other tests performed in accordance with standard procedures.

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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 001. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Effluent Limitations a/			
	Average Monthly	Average Weekly	Daily Minimum	Daily Maximum
BOD ₅ , mg/L	25	35		
TSS, mg/L	25	35		
Total Dissolved Solids (TDS), mg/L				1,200
Oil & Grease, mg/L				10.0
pH, Standard Units			6.5	9

Self-Monitoring and Reporting Requirements a/ b/			
Parameter	Frequency	Sample Type	Units
Total Flow	Quarterly	Estimate	MGD
BOD ₅	Quarterly	Grab	mg/L
TSS	Quarterly	Grab	mg/L
TDS	Quarterly	Grab	mg/L
Oil & Grease c/	Quarterly/sheen	Grab	mg/L
pH	Quarterly	Grab	SU

a/ See Definitions, *Part VIII*, for definition of terms.

b/ The permittee shall not sample during storm events greater than 0.10 tenths of an inch or 24 hours thereafter.

c/ Sample only if sheen is observed.

- D. Reporting of Wastewater 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) or by NetDMR, post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period. The first report is due on August 28, 2016. 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 VII.G)*, and submitted by NetDMR, or to the Division of Water Quality at the following address:

Department of Environmental Quality
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870

E. Storm Water Requirements It has been determined that Fresenius has a regulated storm water discharge as per UAC R317-8-3.9., therefore, the following permit conditions governing storm water discharges apply.

1. Coverage of This Section

a. Discharges Covered Under This Section The requirements listed under this section apply to storm water discharges associated with industrial activity from facilities that manufacture: measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks (SIC major group 38).

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. Other than as provided in *Part I* of this permit, non-storm water discharges are not authorized by this permit.

3. Storm Water Pollution Prevention Plan Requirements

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

(1) 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 that 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.

(2) 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 discharges of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage

i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under paragraph 3.a.(2)(c) (Spills and Leaks) of this section have occurred, and the locations of the following activities where such activities are

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exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

- ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for contacting significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.
- (b) 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 to be covered under this permit and the present; 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 to be covered under 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.
- (c) 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.
- (d) 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.

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- (e) Risk Identification and Summary of Potential Pollutant Sources. A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processing activities; and onsite waste disposal. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.
- (3) Measures and Controls. Each facility covered by this permit 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:
- (a) Good Housekeeping. Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner.
- (b) 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.
- (c) Spill Prevention and Response Procedures. Areas where potential spills which 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 for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.
- (d) Inspections. In addition to or as part of the comprehensive site evaluation required under paragraph 3.a.(4) of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to inspections. Records of inspections shall be maintained.

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- (e) 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 periodic dates for such training
- (f) Recordkeeping 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.
- (g) Non-storm Water Discharges
- i) 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 IV.G.* of this permit. Such certification may not be feasible if the facility operating storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph 3.a.(3)(g)(iii) (Failure to Certify) below.
- ii) Exceptions. Except for flows from fire fighting activities, sources of non-storm water listed in Part I.A. (Prohibition of Non-storm Water Discharges) of this permit 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.

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- iii) Failure to Certify. If this facility is unable to provide the certification required (testing for non-storm water discharges), the Director must be notified within 180 days after 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.

 - (h) 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.

 - (i) 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 sources(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 the measures that the permittee determines to be reasonable and appropriate which 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 paragraph 3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate 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.
4. Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations once a year. Such evaluations shall provide:
- a. 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

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ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

- b. Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph 3.a.(2) of this section (Description of Potential Pollutant Sources) of this section and pollution prevention measures and controls identified in the plan in accordance with paragraph 3.a.(3) (Measures and Controls) 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.
 - c. A report summarizing the scope of the evaluation, personnel making the inspection, 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 3.a.(4)(b) (above) of this section shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from 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 VI.G.* (Signatory Requirements) of this permit.
 - d. Where compliance evaluation schedules overlap with inspections required under 3.a.3).d), the compliance evaluation may be conducted in place of one such inspection.
5. Numeric Effluent Limitations. There are no additional requirements beyond those listed in Part I.C. of this permit.
 6. Monitoring and reporting Requirements
 - a. Monitoring Requirements:
 - (1) Quarterly Visual Examination of Storm Water Quality. Facilities 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 designated period [described in a) below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.
 - (a) Visual Monitoring Periods. Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snowmelt: January through March; April through June; July through September; and October through December.

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- (b) 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 one 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 will carry out the collection and examination of discharges for the life of the permit.
- (c) 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.
- (d) Representative Discharge. When a facility has two 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 collect a sample of effluent of one of such outfalls and report that the examination 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 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.
- (e) Adverse Conditions. When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic condition, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records 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,

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tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

- (f) 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.

II. MONITORING, RECORDING & GENERAL 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. Samples of biosolids shall be collected at a location representative of the quality of biosolids 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 and 40CFR Part 503*, 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. 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.
- E. 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 and 40 CFR 503* or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or the Biosolids Report Form. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.
- F. 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.
- G. 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 five 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

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites 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) 536-4300 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 III.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part III.H, Upset Conditions.*);
 - d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit; or,
 - e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.
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;
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,
 - 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.

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5. Reports shall be submitted to the addresses in *Part I.D, Reporting of Monitoring Results*.
- I. 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 I.D* are submitted. The reports shall contain the information listed in *Part II.H.3*
- J. 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;
 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;
 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, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,
 5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

III. 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 or 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 III.G, *Bypass of Treatment Facilities* and Part III.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. The permittee shall also take all reasonable steps to minimize or prevent any land application in violation of this permit.
- 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, sludge, or other pollutants removed in the course of treatment shall be 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 paragraph 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 judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and
 - (3) The permittee submitted notices as required under *Part III.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 *Part III.G.2.a (1), (2) and (3).*
3. Notice.
 - a. *Anticipated bypass.* Except as provided above in *Part III.G.2* and below in *Part III.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;

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- (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 *Part III.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 III.H, 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.H, 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.

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- 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 R317-8-3.5(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 R317-8-3.5(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.

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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).

IV. 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 parameters discharged or pollutant sold or given away. 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:

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- 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 *Part 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 *Part 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*.

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- 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 permittee's 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 or Federal 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* and *Section 510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.
- 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. Revisions to the current CWA § 208 areawide treatment management plans or promulgations/revisions to TMDLs (40 CFR 130.7) approved by the EPA and

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adopted by DWQ which calls for different effluent limitations than contained in this permit.

- P. Biosolids – Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate biosolids limitations (and compliance schedule, if necessary), management practices, other appropriate requirements to protect public health and the environment, or if there have been substantial changes (or such changes are planned) in biosolids use or disposal practices; applicable management practices or numerical limitations for pollutants in biosolids have been promulgated which are more stringent than the requirements in this permit; and/or it has been determined that the permittees biosolids use or land application practices do not comply with existing applicable state or federal regulations.
- Q. Toxicity Limitation - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include whole effluent toxicity (WET) testing, a WET limitation, a compliance schedule, a compliance date, additional or modified numerical limitations, or any other conditions related to the control of toxicants if toxicity is detected during the life of this permit.
- R. 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".

V. DEFINITIONS

A. Wastewater.

1. The "7-day (and weekly) average", other than for e-coli bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for e-coli bacteria, fecal coliform bacteria, and total coliform bacteria. 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, which begins on Sunday and ends 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 Saturday.
2. The "30-day (and monthly) average," other than for e-coli bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for e-coli bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
3. "Act," means the *Utah Water Quality Act*.
4. "Bypass," means the diversion of waste streams from any portion of a treatment facility.
5. "Composite Samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing 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,

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- d. Continuous sample volume, with sample collection rate proportional to flow rate.
6. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
7. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
8. "EPA," means the United States Environmental Protection Agency.
9. "Director," means Director of the Utah Division of Water Quality.
10. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
11. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
12. "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.
13. "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 preventative maintenance, or careless or improper operation.

**FACT SHEET/STATEMENT OF BASIS
FRESENIUS MEDICAL CARE
RENEWAL PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0023752
MINOR INDUSTRIAL**

FACILITY CONTACTS

Person Name: Greg Kunz
Position: Utilities & Rectification Manager
Phone Number: (801) 395-5063
Greg.kunz@fmc-na.com

Facility Name: Fresenius Medical Care
Mailing and Facility Address: 475 West 13th Street
Ogden, UT 84404

DESCRIPTION OF FACILITY

Fresenius Medical Care (FMC) formulates, packages, and manufactures products used in different applications for the treatment of Renal Disease (kidney failure). One product is dialysate solution, and is used in the treatment of peritoneal dialysis. The other product is a dialyzer (special filter), used in hemodialysis treatment. Both of these products and treatments replace the work of kidneys. The plant was remodeled in 2006 to its current standards. FMC has a Standard Industrial Classification (SIC) code of 3841 for Surgical and Medical Instruments and 2834 for Pharmaceutical Preparations. FMC's discharge is located at latitude 41° 14' 32.38" and longitude 111° 59' 22.42", in Weber County, Utah. It has STORET number 492306 and one discharge point, Outfall 001.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Storm water requirements were added to the permit.

DISCHARGE

DESCRIPTION OF DISCHARGE

All water discharged by FMC is derived from the Ogden City culinary water system. The approximate 21,500 gallons per day (gpd) of non-contact cooling water from the production heat exchanger, along with storm water from the roof, is discharged to the storm drain which flows to Mill Creek. Five years of self-monitoring shows that FMC has had one violation of their effluent limits with one BOD₅ exceedance measured at 47.5 mg/L. The facility has discharged an estimated average flow of 4,300 gpd over the last five years. The operator has requested that a flow of 21,500 gpd of non-contact cooling water continue to be used for permit development. In addition to discharging non-contact cooling water, the site discharges storm water through Outfall 001 but does not sample during storm events greater than 0.10 tenths of an inch or 24 hours thereafter, so flows greater than 21,500 gpd may be present. As a result, a discharge flow rate of 70,000 gpd was used for permit development.

All sanitary waste and recycled cooling tower water from the boilers is discharged to the Central Weber Sewer Improvement District's sanitary sewer.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	Located at latitude 41° 14' 32.38" and longitude 111° 59' 22.42". The discharge is through a gravity flow concrete storm drain pipe leading to Mill Creek, which is a tributary of the Weber River and hence to the Great Salt Lake. STORET discharge location is 492306.

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge flows approximately one and a half (1 ½) miles in a storm drain before discharging to the Plain City Canal, thence to Mill Creek, which is a tributary of the Weber River. Mill Creek is classified 2B, 3C, and 4 as is the Weber River from Great Salt Lake to the Slaterville Diversion according to *Utah Administrative Code (UAC) R317-2-13*:

- Class 2B -Protected for secondary contact recreation such as boating, wading, or similar uses.
- Class 3C -Protected for nongame fish and other 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

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD₅), and pH are based on current Utah Secondary Treatment Standards, *UAC R317-1-3.2*. The oil and grease is based on best professional judgment (BPJ). An attached Wasteload Analysis (WLA) was conducted to evaluate effluent impacts to meet State water quality standards in the receiving waters. Due to the lack of receiving water flow data an upstream flow of 0.5 cfs was assumed for the analysis and evaluated against the previously discussed 70,000 gpd (0.11 cfs) discharge rate. Based on these flow rates and receiving water concentrations an assimilative capacity was available for discharge of total dissolved solids (TDS) at a concentration of 3,700 mg/L. During the past 5 years the maximum measured effluent TDS concentration was 892 mg/L, instead of raising the TDS effluent limitation and imposing a flow limitation, the TDS effluent limitation will continue to be held at the water quality criteria standard. The TDS limit is based on water quality criteria standard for Class 4 receiving water classification. All effluent limitations are set equal to water quality criteria, secondary standards, or BPJ and supported by the WLA to be protective of the receiving water. Therefore, a limitation will not be imposed for flow discharge rate. Based on effluent monitoring data the permittee is expected to be able to comply with the limitations. The permit limitations are:

Parameter	Effluent Limitations a/			
	Average Monthly	Average Weekly	Daily Minimum	Daily Maximum
BOD ₅ , mg/L	25	35		
TSS, mg/L	25	35		
Total Dissolved Solids (TDS), mg/L				1,200
Oil & Grease, mg/L				10.0
pH, Standard Units			6.5	9

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit. The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period.

Self-Monitoring and Reporting Requirements a/ b/			
Parameter	Frequency	Sample Type	Units
Total Flow	Quarterly	Estimate	MGD
BOD ₅	Quarterly	Grab	mg/L
TSS	Quarterly	Grab	mg/L
TDS	Quarterly	Grab	mg/L
Oil & Grease c/	Quarterly/sheen	Grab	mg/L
pH	Quarterly	Grab	SU

- a/ See Definitions, *Part VIII*, for definition of terms.
- b/ The permittee shall not sample during storm events greater than 0.10 tenths of an inch or 24 hours thereafter.
- c/ Sample only if sheen is observed.

STORM WATER

STORMWATER REQUIREMENTS

The storm water requirements are based on the UPDES Multi-Sector General Permit for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000 (MSGP). Sections of the MSGP that pertain to discharges from an industrial activity have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for all areas associated with the facility. The SWPPP elements of this plan are

required to include: 1) the development of a pollution prevention team, 2) development of drainage maps and materials stockpiles, 3) an inventory of exposed materials, 4) spill reporting and response procedures, 5) a preventative maintenance program, 6) employee training, 7) certification that storm water discharges are not mixed with non-storm water discharges, 8) compliance site evaluations and potential pollutant source identification, and 9) visual examinations of storm water discharges. The SWPPP must be maintained on site and be available for review during inspections.

PRETREATMENT REQUIREMENTS

FMC discharges all sanitary waste and boiler blow down to the Central Weber Sewer Improvement District. 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

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring). Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317-2-7.2.

The permittee is a minor industrial facility that will discharge infrequently. Toxicity is neither an existing concern, nor likely to be present in the effluent. The source of the effluent is culinary water and storm water from the facility's roof. Based on these considerations, there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

TOTAL MAXIMUM DAILY LOAD REQUIREMENTS

FMC discharges into the Great Salt Lake via Mill Creek, which is not identified as impaired by the 303(d) assessment process as defined in the Clean Water Act. Currently, no TMDL evaluation is underway for Mill Creek.

PERMIT DURATION

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

Drafted by	
Discharge:	Ken Hoffman kenhoffman@utah.gov 801-536-4313
Pretreatment	Jennifer Robinson
Stormwater	Mike George
WET	Mike Herkimer
TMDL	Kari Lundeen
WLA	Dave Wham

PUBLIC NOTICE

Began: April 13, 2016
Ended: May 16, 2016

Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published in the Ogden Standard Examiner.

During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

No comments were received during the public notice period; therefore the permit is the same as the public notice draft.

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

Discharging Facility: Frezenius Medical Care
UPDES No: UT-0023752
Current Flow: 0.07 MGD 0.11 cfs
Design Flow 0.07 MGD 0.11 cfs

Receiving Water: Stormdrain=>canal=>Mill Creek
Stream Classification: 2B, 3C, 4
Stream Flows [cfs]:
0.5 Summer (July-Sept) 7Q10
0.5 Fall (Oct-Dec) 7Q10
0.5 Winter (Jan-Mar) 7Q10
0.5 Spring (Apr-June) 7Q10
0.0 Average
Stream TDS Values:
650.0 Summer (July-Sept) 80th Percentile
650.0 Fall (Oct-Dec) 80th Percentile
650.0 Winter (Jan-Mar) 80th Percentile
650.0 Spring (Apr-June) 80th Percentile

Effluent Limits:		WQ Standard:
Flow, MGD:	0.07 MGD	Design Flow
BOD, mg/l:	25.0 Summer	5.0 Indicator
Dissolved Oxygen, mg/l	4.5 Summer	5.0 30 Day Average
TNH3, Chronic, mg/l:	6.2 Summer	Varies Function of pH and Temperature
TDS, mg/l:	3703.7 Summer	1200.0

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

Antidegradation Level II Review Is NOT Required

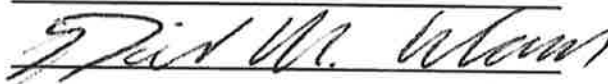
Date: 12/7/2015

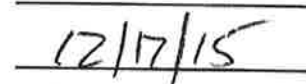
Permit Writer:

WLA by:

WQM Sec. Approval:

TMDL Sec. Approval:





Utah Division of Water Quality
Salt Lake City, Utah

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

7-Dec-15
4:00 PM

Facilities: Frezenius Medical Care
Discharging to: Stormdrain=>canal=>Mill Creek

UPDES No: UT-0023752

THIS IS A DRAFT DOCUMENT

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

Stormdrain=>canal=>Mill Creek:	2B, 3C, 4
Antidegradation Review:	Antidegradation Level II Review is 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)	5.00 mg/l (30 Day Average) N/A mg/l (7Day Average) 3.00 mg/l (1 Day Average)
Maximum Total Dissolved Solids	1200.0 mg/l

**Utah Division of Water Quality
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**	0.052 lbs/day	750.00	ug/l	0.444 lbs/day
Arsenic	190.00 ug/l	0.112 lbs/day	340.00	ug/l	0.201 lbs/day
Cadmium	0.61 ug/l	0.000 lbs/day	6.52	ug/l	0.004 lbs/day
Chromium III	211.92 ug/l	0.125 lbs/day	4433.71	ug/l	2.625 lbs/day
ChromiumVI	11.00 ug/l	0.007 lbs/day	16.00	ug/l	0.009 lbs/day
Copper	23.85 ug/l	0.014 lbs/day	39.41	ug/l	0.023 lbs/day
Iron			1000.00	ug/l	0.592 lbs/day
Lead	12.88 ug/l	0.008 lbs/day	330.60	ug/l	0.196 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.001 lbs/day
Nickel	132.13 ug/l	0.078 lbs/day	1188.44	ug/l	0.704 lbs/day
Selenium	4.60 ug/l	0.003 lbs/day	20.00	ug/l	0.012 lbs/day
Silver	N/A ug/l	N/A lbs/day	25.04	ug/l	0.015 lbs/day
Zinc	303.93 ug/l	0.180 lbs/day	303.93	ug/l	0.180 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 300 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	0.001 lbs/day
Chlordane	0.004 ug/l	0.014 lbs/day	1.200	ug/l	0.001 lbs/day
DDT, DDE	0.001 ug/l	0.003 lbs/day	0.550	ug/l	0.000 lbs/day
Dieldrin	0.002 ug/l	0.006 lbs/day	1.250	ug/l	0.001 lbs/day
Endosulfan	0.056 ug/l	0.184 lbs/day	0.110	ug/l	0.000 lbs/day
Endrin	0.002 ug/l	0.008 lbs/day	0.090	ug/l	0.000 lbs/day
Guthion			0.010	ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	0.012 lbs/day	0.260	ug/l	0.000 lbs/day
Lindane	0.080 ug/l	0.263 lbs/day	1.000	ug/l	0.001 lbs/day
Methoxychlor			0.030	ug/l	0.000 lbs/day
Mirex			0.010	ug/l	0.000 lbs/day
Parathion			0.040	ug/l	0.000 lbs/day
PCB's	0.014 ug/l	0.046 lbs/day	2.000	ug/l	0.001 lbs/day
Pentachlorophenol	13.00 ug/l	42.731 lbs/day	20.000	ug/l	0.012 lbs/day
Toxephene	0.0002 ug/l	0.001 lbs/day	0.7300	ug/l	0.000 lbs/day

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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	0.00 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	0.36 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
ocyclohexane (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]

Toxic Organics	Maximum Conc., ug/l - Acute Standards			
	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.]	
Acenaphthene	ug/l	lbs/day	2700.0 ug/l	8.87 lbs/day
Acrolein	ug/l	lbs/day	780.0 ug/l	2.56 lbs/day
Acrylonitrile	ug/l	lbs/day	0.7 ug/l	0.00 lbs/day
Benzene	ug/l	lbs/day	71.0 ug/l	0.23 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	0.01 lbs/day
Chlorobenzene	ug/l	lbs/day	21000.0 ug/l	69.03 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	0.33 lbs/day

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1,1,1-Trichloroethane				
Hexachloroethane	ug/l	lbs/day	8.9 ug/l	0.03 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	ug/l	lbs/day	42.0 ug/l	0.14 lbs/day
1,1,2,2-Tetrachloroethane	ug/l	lbs/day	11.0 ug/l	0.04 lbs/day
Chloroethane			0.0 ug/l	0.00 lbs/day
Bis(2-chloroethyl) ether	ug/l	lbs/day	1.4 ug/l	0.00 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	14.13 lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day	6.5 ug/l	0.02 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	ug/l	lbs/day	470.0 ug/l	1.54 lbs/day
2-Chlorophenol	ug/l	lbs/day	400.0 ug/l	1.31 lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day	17000.0 ug/l	55.88 lbs/day
1,3-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	8.55 lbs/day
1,4-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	8.55 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	0.01 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	2.60 lbs/day
1,2-Dichloropropane	ug/l	lbs/day	39.0 ug/l	0.13 lbs/day
1,3-Dichloropropylene	ug/l	lbs/day	1700.0 ug/l	5.59 lbs/day
2,4-Dimethylphenol	ug/l	lbs/day	2300.0 ug/l	7.56 lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day	9.1 ug/l	0.03 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	0.00 lbs/day
Ethylbenzene	ug/l	lbs/day	29000.0 ug/l	95.32 lbs/day
Fluoranthene	ug/l	lbs/day	370.0 ug/l	1.22 lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) ether	ug/l	lbs/day	170000.0 ug/l	558.79 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	5.26 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	1.18 lbs/day
Dichlorobromomethane	ug/l	lbs/day	22.0 ug/l	0.07 lbs/day
Chlorodibromomethane	ug/l	lbs/day	34.0 ug/l	0.11 lbs/day
Hexachlorobutadiene(c)	ug/l	lbs/day	50.0 ug/l	0.16 lbs/day
Hexachlorocyclopentadiene	ug/l	lbs/day	17000.0 ug/l	55.88 lbs/day
Isophorone	ug/l	lbs/day	600.0 ug/l	1.97 lbs/day
Naphthalene				
Nitrobenzene	ug/l	lbs/day	1900.0 ug/l	6.25 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	46.02 lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day	765.0 ug/l	2.51 lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day	8.1 ug/l	0.03 lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day	16.0 ug/l	0.05 lbs/day
N-Nitrosodi-n-propylamine	ug/l	lbs/day	1.4 ug/l	0.00 lbs/day
Pentachlorophenol	ug/l	lbs/day	8.2 ug/l	0.03 lbs/day

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Phenol	ug/l	lbs/day	4.6E+06 ug/l	1.51E+04 lbs/day
Bis(2-ethylhexyl)phthala	ug/l	lbs/day	5.9 ug/l	0.02 lbs/day
Butyl benzyl phthalate	ug/l	lbs/day	5200.0 ug/l	17.09 lbs/day
Di-n-butyl phthalate	ug/l	lbs/day	12000.0 ug/l	39.44 lbs/day
Di-n-octyl phthlate				
Diethyl phthalate	ug/l	lbs/day	120000.0 ug/l	394.44 lbs/day
Dimethyl phthlate	ug/l	lbs/day	2.9E+06 ug/l	9.53E+03 lbs/day
Benzo(a)anthracene (P/	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 (F	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(k)fluoranthene (F	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)				
Anthracen� (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	36.16 lbs/day
Tetrachloroethylene	ug/l	lbs/day	8.9 ug/l	0.03 lbs/day
Toluene	ug/l	lbs/day	200000 ug/i	657.40 lbs/day
Trichloroethylene	ug/l	lbs/day	81.0 ug/l	0.27 lbs/day
Vinyl chloride	ug/l	lbs/day	525.0 ug/l	1.73 lbs/day
				lbs/day
				lbs/day
Pesticides				
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	0.01 lbs/day
beta-Endosulfan	ug/l	lbs/day	2.0 ug/l	0.01 lbs/day
Endosulfan sulfate	ug/l	lbs/day	2.0 ug/l	0.01 lbs/day
Endrin	ug/l	lbs/day	0.8 ug/l	0.00 lbs/day
Endrin aldehyde	ug/l	lbs/day	0.8 ug/l	0.00 lbs/day
Heptachlor	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Arochlor 10	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

Antimony	ug/l	lbs/day		
Arsenic	ug/l	lbs/day	4300.00 ug/l	14.13 lbs/day
Asbestos	ug/l	lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	2.2E+05 ug/l	723.14 lbs/day
Lead	ug/l	lbs/day		
Mercury			0.15 ug/l	0.00 lbs/day
Nickel			4600.00 ug/l	15.12 lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			6.30 ug/l	0.02 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)	0.5	20.0	8.2	0.10	0.50	9.79	0.00	650.0	
Fall	0.5	12.0	8.1	0.10	0.50	---	0.00	650.0	
Winter	0.5	4.0	8.0	0.10	0.50	---	0.00	650.0	
Spring	0.5	12.0	8.1	0.10	0.50	---	0.00	650.0	
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	0.07100	31.3	713.00	0.21106
Fall	0.07100	23.4		
Winter	0.07100	17.7		
Spring	0.07100	25.8		

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	0.071 MGD	0.110 cfs
Fall	0.071 MGD	0.110 cfs
Winter	0.071 MGD	0.110 cfs
Spring	0.071 MGD	0.110 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.071 MGD. If the discharger is allowed to have a flow greater than 0.071 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 >	18.0% 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	Load
Summer	25.0 mg/l as BOD5	14.8 lbs/day
Fall	25.0 mg/l as BOD5	14.8 lbs/day
Winter	25.0 mg/l as BOD5	14.8 lbs/day
Spring	25.0 mg/l as BOD5	14.8 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	4.50
Fall	4.50
Winter	4.50
Spring	4.50

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	6.2 mg/l as N	3.7 lbs/day
	1 Hour Avg. - Acute	13.5 mg/l as N	8.0 lbs/day
Fall	4 Day Avg. - Chronic	11.3 mg/l as N	6.7 lbs/day
	1 Hour Avg. - Acute	15.2 mg/l as N	9.0 lbs/day
Winter	4 Day Avg. - Chronic	12.6 mg/l as N	7.5 lbs/day
	1 Hour Avg. - Acute	16.8 mg/l as N	9.9 lbs/day
Spring	4 Day Avg. - Chronic	11.3 mg/l as N	6.7 lbs/day
	1 Hour Avg. - Acute	15.2 mg/l as N	9.0 lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 50.0%.

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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	0.061	mg/l	0.04	lbs/day
	1 Hour Avg. - Acute	0.062	mg/l	0.04	lbs/day
Fall	4 Day Avg. - Chronic	0.061	mg/l	0.04	lbs/day
	1 Hour Avg. - Acute	0.062	mg/l	0.04	lbs/day
Winter	4 Day Avg. - Chronic	0.061	mg/l	0.04	lbs/day
	1 Hour Avg. - Acute	0.062	mg/l	0.04	lbs/day
Spring	4 Day Avg. - Chronic	0.061	mg/l	0.00	lbs/day
	1 Hour Avg. - Acute	0.062	mg/l	0.00	lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration		Load	
Summer	Maximum, Acute	3703.7	mg/l	1.10	tons/day
Fall	Maximum, Acute	3703.7	mg/l	1.10	tons/day
Winter	Maximum, Acute	3703.7	mg/l	1.10	tons/day
Spring	4 Day Avg. - Chronic	3703.7	mg/l	1.10	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 300 mg/l):

	4 Day Average		1 Hour Average		Load
	Concentration	Load	Concentration	Load	
Aluminum	N/A	N/A	4,153.3	ug/l	2.5 lbs/day
Arsenic	1,051.30 ug/l	0.4 lbs/day	1,884.1	ug/l	1.1 lbs/day
Cadmium	3.03 ug/l	0.0 lbs/day	35.8	ug/l	0.0 lbs/day
Chromium III	1,172.99 ug/l	0.4 lbs/day	24,613.2	ug/l	14.6 lbs/day
Chromium VI	42.98 ug/l	0.0 lbs/day	70.7	ug/l	0.0 lbs/day
Copper	128.81 ug/l	0.0 lbs/day	215.2	ug/l	0.1 lbs/day
Iron	N/A	N/A	5,546.5	ug/l	3.3 lbs/day
Lead	67.91 ug/l	0.0 lbs/day	1,831.9	ug/l	1.1 lbs/day
Mercury	0.07 ug/l	0.0 lbs/day	13.3	ug/l	0.0 lbs/day
Nickel	730.00 ug/l	0.3 lbs/day	6,594.8	ug/l	3.9 lbs/day
Selenium	18.30 ug/l	0.0 lbs/day	103.8	ug/l	0.1 lbs/day
Silver	N/A ug/l	N/A lbs/day	139.0	ug/l	0.1 lbs/day

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Zinc	1,687.14 ug/l	0.6 lbs/day	1,687.1	ug/l	1.0 lbs/day
Cyanide	28.87 ug/l	0.0 lbs/day	122.1	ug/l	0.1 lbs/day

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

Summer	26.6 Deg. C.	79.8 Deg. F
Fall	18.6 Deg. C.	65.4 Deg. F
Winter	10.6 Deg. C.	51.0 Deg. F
Spring	18.6 Deg. C.	65.4 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	1.37E-03 lbs/day
Chlordane	4.30E-03 ug/l	2.55E-03 lbs/day	1.2E+00	ug/l	1.10E-03 lbs/day
DDT, DDE	1.00E-03 ug/l	5.92E-04 lbs/day	5.5E-01	ug/l	5.04E-04 lbs/day
Dieldrin	1.90E-03 ug/l	1.12E-03 lbs/day	1.3E+00	ug/l	1.14E-03 lbs/day
Endosulfan	5.60E-02 ug/l	3.32E-02 lbs/day	1.1E-01	ug/l	1.01E-04 lbs/day
Endrin	2.30E-03 ug/l	1.36E-03 lbs/day	9.0E-02	ug/l	8.24E-05 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	9.16E-06 lbs/day
Heptachlor	3.80E-03 ug/l	2.25E-03 lbs/day	2.6E-01	ug/l	2.38E-04 lbs/day
Lindane	8.00E-02 ug/l	4.74E-02 lbs/day	1.0E+00	ug/l	9.16E-04 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	2.75E-05 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	9.16E-06 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	3.66E-05 lbs/day
PCB's	1.40E-02 ug/l	8.29E-03 lbs/day	2.0E+00	ug/l	1.83E-03 lbs/day
Pentachlorophenol	1.30E+01 ug/l	7.70E+00 lbs/day	2.0E+01	ug/l	1.83E-02 lbs/day
Toxephene	2.00E-04 ug/l	1.18E-04 lbs/day	7.3E-01	ug/l	6.69E-04 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	3.0 lbs/day
Nitrates as N	4.0 mg/l	2.4 lbs/day
Total Phosphorus as P	0.05 mg/l	0.0 lbs/day
Total Suspended Solids	90.0 mg/l	53.3 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	1.50E+04 ug/l	8.87E+00 lbs/day
Acrolein	4.33E+03 ug/l	2.56E+00 lbs/day
Acrylonitrile	3.66E+00 ug/l	2.17E-03 lbs/day
Benzene	3.94E+02 ug/l	2.33E-01 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	2.44E+01 ug/l	1.45E-02 lbs/day
Chlorobenzene	1.17E+05 ug/l	6.90E+01 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	4.28E-03 ug/l	2.53E-06 lbs/day
1,2-Dichloroethane	5.50E+02 ug/l	3.25E-01 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	4.94E+01 ug/l	2.93E-02 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	2.33E+02 ug/l	1.38E-01 lbs/day
1,1,2,2-Tetrachloroethane	6.11E+01 ug/l	3.62E-02 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	7.77E+00 ug/l	4.60E-03 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	2.39E+04 ug/l	1.41E+01 lbs/day
2,4,6-Trichlorophenol	3.61E+01 ug/l	2.14E-02 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	2.61E+03 ug/l	1.54E+00 lbs/day
2-Chlorophenol	2.22E+03 ug/l	1.31E+00 lbs/day
1,2-Dichlorobenzene	9.44E+04 ug/l	5.59E+01 lbs/day
1,3-Dichlorobenzene	1.44E+04 ug/l	8.55E+00 lbs/day

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1,4-Dichlorobenzene	1.44E+04 ug/l	8.55E+00 lbs/day
3,3'-Dichlorobenzidine	4.28E-01 ug/l	2.53E-04 lbs/day
1,1-Dichloroethylene	1.78E+01 ug/l	1.05E-02 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	4.39E+03 ug/l	2.60E+00 lbs/day
1,2-Dichloropropane	2.17E+02 ug/l	1.28E-01 lbs/day
1,3-Dichloropropylene	9.44E+03 ug/l	5.59E+00 lbs/day
2,4-Dimethylphenol	1.28E+04 ug/l	7.56E+00 lbs/day
2,4-Dinitrotoluene	5.05E+01 ug/l	2.99E-02 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	3.00E+00 ug/l	1.77E-03 lbs/day
Ethylbenzene	1.61E+05 ug/l	9.53E+01 lbs/day
Fluoranthene	2.05E+03 ug/l	1.22E+00 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	9.44E+05 ug/l	5.59E+02 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	8.88E+03 ug/l	5.26E+00 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	2.00E+03 ug/l	1.18E+00 lbs/day
Dichlorobromomethane(HM)	1.22E+02 ug/l	7.23E-02 lbs/day
Chlorodibromomethane (HM)	1.89E+02 ug/l	1.12E-01 lbs/day
Hexachlorocyclopentadiene	9.44E+04 ug/l	5.59E+01 lbs/day
Isophorone	3.33E+03 ug/l	1.97E+00 lbs/day
Naphthalene		
Nitrobenzene	1.05E+04 ug/l	6.25E+00 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	7.77E+04 ug/l	4.60E+01 lbs/day
4,6-Dinitro-o-cresol	4.25E+03 ug/l	2.51E+00 lbs/day
N-Nitrosodimethylamine	4.50E+01 ug/l	2.66E-02 lbs/day
N-Nitrosodiphenylamine	8.88E+01 ug/l	5.26E-02 lbs/day
N-Nitrosodi-n-propylamine	7.77E+00 ug/l	4.60E-03 lbs/day
Pentachlorophenol	4.55E+01 ug/l	2.70E-02 lbs/day
Phenol	2.55E+07 ug/l	1.51E+04 lbs/day
Bis(2-ethylhexyl)phthalate	3.28E+01 ug/l	1.94E-02 lbs/day
Butyl benzyl phthalate	2.89E+04 ug/l	1.71E+01 lbs/day
Di-n-butyl phthalate	6.66E+04 ug/l	3.94E+01 lbs/day
Di-n-octyl phthalate		
Diethyl phthalate	6.66E+05 ug/l	3.94E+02 lbs/day
Dimethyl phthalate	1.61E+07 ug/l	9.53E+03 lbs/day
Benzo(a)anthracene (PAH)	1.72E-01 ug/l	1.02E-04 lbs/day
Benzo(a)pyrene (PAH)	1.72E-01 ug/l	1.02E-04 lbs/day
Benzo(b)fluoranthene (PAH)	1.72E-01 ug/l	1.02E-04 lbs/day
Benzo(k)fluoranthene (PAH)	1.72E-01 ug/l	1.02E-04 lbs/day
Chrysene (PAH)	1.72E-01 ug/l	1.02E-04 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	1.72E-01 ug/l	1.02E-04 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	1.72E-01 ug/l	1.02E-04 lbs/day

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Pyrene (PAH)	6.11E+04 ug/l	3.62E+01 lbs/day
Tetrachloroethylene	4.94E+01 ug/l	2.93E-02 lbs/day
Toluene	1.11E+06 ug/l	6.57E+02 lbs/day
Trichloroethylene	4.50E+02 ug/l	2.66E-01 lbs/day
Vinyl chloride	2.91E+03 ug/l	1.73E+00 lbs/day

Pesticides

Aldrin	7.77E-04 ug/l	4.60E-07 lbs/day
Dieldrin	7.77E-04 ug/l	4.60E-07 lbs/day
Chlordane	3.28E-03 ug/l	1.94E-06 lbs/day
4,4'-DDT	3.28E-03 ug/l	1.94E-06 lbs/day
4,4'-DDE	3.28E-03 ug/l	1.94E-06 lbs/day
4,4'-DDD	4.66E-03 ug/l	2.76E-06 lbs/day
alpha-Endosulfan	1.11E+01 ug/l	6.57E-03 lbs/day
beta-Endosulfan	1.11E+01 ug/l	6.57E-03 lbs/day
Endosulfan sulfate	1.11E+01 ug/l	6.57E-03 lbs/day
Endrin	4.50E+00 ug/l	2.66E-03 lbs/day
Endrin aldehyde	4.50E+00 ug/l	2.66E-03 lbs/day
Heptachlor	1.17E-03 ug/l	6.90E-07 lbs/day
Heptachlor epoxide		

PCB's

PCB 1242 (Arochlor 1242)	2.50E-04 ug/l	1.48E-07 lbs/day
PCB-1254 (Arochlor 1254)	2.50E-04 ug/l	1.48E-07 lbs/day
PCB-1221 (Arochlor 1221)	2.50E-04 ug/l	1.48E-07 lbs/day
PCB-1232 (Arochlor 1232)	2.50E-04 ug/l	1.48E-07 lbs/day
PCB-1248 (Arochlor 1248)	2.50E-04 ug/l	1.48E-07 lbs/day
PCB-1260 (Arochlor 1260)	2.50E-04 ug/l	1.48E-07 lbs/day
PCB-1016 (Arochlor 1016)	2.50E-04 ug/l	1.48E-07 lbs/day

Pesticide

Toxaphene	4.16E-03 ug/l	2.47E-06 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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Dioxin
Dioxin (2,3,7,8-TCDD) 7.77E-08 ug/l 4.60E-11 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		4153.3				4153.3	N/A
Antimony				23874.5		23874.5	
Arsenic	555.2	1884.1			0.0	555.2	1051.3
Barium						0.0	
Beryllium						0.0	
Cadmium	55.2	35.8			0.0	35.8	3.0
Chromium (III)		24613.2			0.0	24613.2	1173.0
Chromium (VI)	551.6	70.7			0.0	70.74	42.98
Copper	1106.8	215.2				215.2	128.8
Cyanide		122.1	1221484.0			122.1	28.9
Iron		5546.5				5546.5	
Lead	551.6	1831.9			0.0	551.6	67.9
Mercury		13.33		0.83	0.0	0.83	0.067
Nickel		6594.8		25540.1		6594.8	730.0
Selenium	270.4	103.8			0.0	103.8	18.3
Silver		139.0			0.0	139.0	
Thallium				35.0		35.0	
Zinc		1687.1				1687.1	1687.1
Boron	4164.2					4164.2	

**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	4153.3	N/A	
Antimony	23874.46		
Arsenic	555.2	1051.3	Acute Controls
Asbestos	0.00E+00		
Barium			
Beryllium			
Cadmium	35.8	3.0	
Chromium (III)	24613.2	1173	
Chromium (VI)	70.7	43.0	
Copper	215.2	128.8	

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Cyanide	122.1	28.9
Iron	5546.5	
Lead	551.6	67.9
Mercury	0.833	0.067
Nickel	6594.8	730
Selenium	103.8	18.3
Silver	139.0	N/A
Thallium	35.0	
Zinc	1687.1	1687.1
Boron	4164.15	

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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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.

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801-538-6052
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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 2.000	REAER. Coeff. (Ka)20 (Ka)/day 121.496	REAER. Coeff. FORCED 1/day 0.000	REAER. Coeff. (Ka)T 1/day 121.496	NBOD Coeff. (Kn)20 1/day 0.400	NBOD Coeff. (Kn)T 1/day 0.400
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 LOSS (K5)T 1/day 4.000	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 32.000
BENTHIC DEMAND (SOD)20 gm/m2/day 1.000	BENTHIC DEMAND (SOD)T gm/m2/day 1.000						
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

