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. **UT0023850**
Storm Water Permit No. **UTR274003**

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

NUCOR STEEL

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named **MALAD RIVER**,

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

This permit shall become effective on November 1, 2017

This permit expires at midnight on October 31, 2022.

Signed this 30 day of October, 2017.

Erica Brown Gaddis, PhD
Director

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PART I
DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS
DISCHARGE PERMIT NO. UT0023850

I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

A. Description of Discharge Points. 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	Location of Discharge Outfall
001	Located at latitude 41°52'37", longitude 112°11'22". The discharge is piped to an unnamed open ditch and then to the Malad River.

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.

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:

Effluent Limitations *a				
Parameter	Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Flow, MGD	NA	NA	NA	0.72
TSS, mg/L	25	35	NA	NA
Oil & Grease, mg/L	NA	NA	NA	10
Dissolved Oxygen, mg/L	NA	NA	5.0	NA
pH, Standard Units	NA	NA	6.5	9
TDS, mg/L	NA	NA	NA	7000

NA- Not Applicable

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow	Continuous	Recorder	MGD
TSS	Weekly	Grab	mg/L
Oil & Grease (a)	When Sheen Observed	Grab	mg/L
Dissolved Oxygen	Weekly	Grab	mg/L
pH	Weekly	Grab	SU
TDS	Weekly	Grab	mg/L
Metals (b)	Monthly	Grab	mg/L

(a) Grab samples required only if sheen is observed or there is reason to believe that there are hydrocarbons present.
(b) Sampling required during first 10 months of discharge from outfall 001. Metals to be analyzed include arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and iron. Not required if no discharge from outfall 001.

2. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: At Outfall 001, sample point to be the sample tap in the Ionics building.

D. Reporting of Monitoring Results.

1. 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. 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

* Starting January 1, 2017 monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

II. STORM WATER REQUIREMENTS.

A. Coverage of This Section. The requirements listed under this section shall apply to storm water discharges. Storm water discharges from the following portions of the facility may be eligible for coverage under this permit: biosolids drying beds, haul or access roads on which transportation of biosolids may occur, grit screen cleaning areas, chemical loading, unloading and storage areas, salt or sand storage areas, vehicle or equipment storage and maintenance areas, or any other wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including lands dedicated to the disposal of sewage sludge that are located within the confines of the facility that may have a reasonable expectation to contribute to pollutants in a storm water discharge.

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

C. Storm Water Pollution Prevention Plan Requirements. The permittee must have (on site) or develop and implement a storm water pollution prevention plan as a condition of this permit.

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

a. *Pollution Prevention Team.* Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

b. *Description of Potential Pollutant Sources.* Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials, which may be reasonably expected to have the potential as a significant pollutant source. Each plan shall include, at a minimum:

(1) *Drainage.* A site map indicating drainage areas and storm water outfalls. For each area of the facility that generates storm water discharges associated with the waste water treatment related activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow and an identification of the types of pollutants that are likely to be present in storm water discharges associated with the activity. Factors to consider include the toxicity of the pollutant; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of

significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified. The site map shall include but not be limited to:

(a) Drainage direction and discharge points from all wastewater associated activities including but not limited to grit screen cleaning, bio-solids drying beds and transport, chemical/material loading, unloading and storage areas, vehicle maintenance areas, salt or sand storage areas.

(b) Location of any erosion and sediment control structure or other control measures utilized for reducing pollutants in storm water runoff.

(c) Location of bio-solids drying beds, where exposed to precipitation or where the transportation of bio-solids may be spilled onto internal roadways or tracked off site.

(d) Location where grit screen cleaning or other routinely performed industrial activities are located and are exposed to precipitation.

(e) Location of any handling, loading, unloading or storage of chemicals or potential pollutants such as caustics, hydraulic fluids, lubricants, solvents or other petroleum products, or hazardous wastes and where these may be exposed to precipitation.

(f) Locations where any major spills or leaks of toxic or hazardous materials have occurred.

(g) Location of any sand or salt piles.

(h) Location of fueling stations or vehicle and equipment maintenance and cleaning areas that are exposed to precipitation.

(i) Location of receiving streams or other surface water bodies.

(j) Locations of outfalls and the types of discharges contained in the drainage areas of the outfalls.

(2) *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 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 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.

(3) *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.

(4) *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.

(5) *Summary of Potential Pollutant Sources and Risk Assessment.* A narrative description of the potential pollutant sources from the following activities associated with treatment works: access roads/rail lines; loading and unloading operations; outdoor storage activities; material handling sites; outdoor vehicle storage or maintenance sites; significant dust or particulate generating processes; and onsite waste disposal practices. Specific potential pollutants shall be identified where known.

(6) *Measures and Controls.* The permittee 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:

(7) *Good Housekeeping.* All areas that may contribute pollutants to storm waters discharges shall be maintained in a clean, orderly manner. These are practices that would minimize the generation of pollutants at the source or before it would be necessary to employ sediment ponds or other control measures at the discharge outlets. Where applicable, such measures or other equivalent measures would include the following: sweepers and covered storage to minimize dust generation and storm runoff; conservation of vegetation where possible to minimize erosion; sweeping of haul roads, bio-solids access points, and exits to reduce or eliminate off site tracking; sweeping of sand or salt storage areas to minimize entrainment in storm water runoff; collection, removal, and proper disposal of waste oils and other fluids resulting from vehicle and equipment maintenance; other equivalent measures to address identified potential sources of pollution.

(8) *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.

(9) *Spill Prevention and Response Procedures.* Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points, shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures and equipment for cleaning up spills shall be identified in the plan and made available to the appropriate personnel.

(10) *Inspections.* In addition to the comprehensive site evaluation required under paragraph *(Part II.C.1.b.(16))* of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a periodic basis. The following areas shall be included in all inspections: access

roads/rail lines, equipment storage and maintenance areas (both indoor and outdoor areas); fueling; material handling areas, residual treatment, storage, and disposal areas; and wastewater treatment areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. The use of a checklist developed by the facility is encouraged.

(11) *Employee Training.* Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify how often training will take place, but training should be held at least annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and control; fueling procedures; general good housekeeping practices; proper procedures for using fertilizers, herbicides and pesticides.

(12) *Record keeping and Internal Reporting Procedures.* A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(13) *Non-storm Water Discharges.*

(a) *Certification.* The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with *Part V.G* of this permit.

(b) *Exceptions.* Except for flows from firefighting activities, sources of non-storm water listed in *Part II.B.* (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.

(c) *Failure to Certify.* Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the *Director* within 180 days 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.

(14) *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.

(15) *Management of Runoff.* The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity *Part II.C.1.b* (Description of Potential Pollutant Sources) of this permit] shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices and discharging storm water through the waste water facility for treatment.

(16) *Comprehensive Site Compliance Evaluation.* Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(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 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 *Part II.C.1.b* (Description of Potential Pollutant Sources) of this section and pollution prevention measures and controls identified in the plan in accordance with *Part II.C.1.b.(6)* (Measures and Controls) of this section shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph *i.* (above) shall be made and retained

as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with *Part V.G* (Signatory Requirements) of this permit.

(17) *Deadlines for Plan Preparation and Compliance*. The permittee shall prepare and implement a plan in compliance with the provisions of this section within 270 days of the effective date of this permit. If the permittee already has a plan, it shall be revised according to *Part II.C.1.b.(16)*, Comprehensive Site Evaluation.

(18) *Keeping Plans Current*. The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge of pollutants to the waters of the state or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified by the plan, or in otherwise achieving the general objective of controlling pollutants in storm water discharges associated with the activities at the facility.

D. Monitoring and Reporting 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 of the following designated periods during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event: January through March; April through June; July through September; and October through December.

   a. *Sample and Data Collection*. Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well-lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

   b. *Visual Storm Water Discharge Examination Reports*. Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

   c. *Representative Discharge*. When the permittee 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 observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

d. *Adverse Conditions*. When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the results of the visual examination. Adverse weather conditions, which may prohibit the collection of samples, include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

e. *Inactive and Unstaffed Site*. When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

III. 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) 231-1769, 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 IV.G, Bypass of Treatment Facilities.)*;

   c. Any upset which exceeds any effluent limitation in the permit (See *Part IV.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.

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 III.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.

IV. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

B. Penalties for Violations of Permit Conditions. The *Act* provides that any person who violates a permit condition implementing provisions of the *Act* is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions 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 IV.G, Bypass of Treatment Facilities* and *Part IV.H, Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment. 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 *section IV.G.3*.

b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in *sections IV.G.2.a (1), (2) and (3)*.

3. Notice.

a. *Anticipated bypass*. Except as provided above in *section IV.G.2* and below in *section IV.G.3.b*, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:

(1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages:

(2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;

(3) Description of specific measures to be taken to minimize environmental and public health impacts;

(4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;

(5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and,

(6) Any additional information requested by the Director.

b. *Emergency Bypass*. Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in *section IV.G.3.a.(1) through (6)* to the extent practicable.

c. *Unanticipated bypass*. The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part II.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 III.H, Twenty-four Hour Notice of Noncompliance Reporting*; and,

   d. The permittee complied with any remedial measures required under *Part IV.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.

V. GENERAL REQUIREMENTS

A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of 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:

   a. The authorization is made in writing by a person described above and submitted to the Director, and,

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager,

superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

3. Changes to authorization. If an authorization under *paragraph V.G.2* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *paragraph V.G.2.* must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section shall make the following certification:

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

H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than $10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.

K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers. This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;

2. The notice includes a written agreement between the existing and new 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 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 of federal regulations.

Toxicity Limitation - Reopener Provision.

This permit may be reopened and modified (following proper administrative procedures) to include 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.

Q. Storm Water-Reopener Provision. At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8*, to include, any applicable storm water provisions and requirements, a storm water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "waters-of-State".

VI. 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. "Acute toxicity" occurs when 50 percent or more mortality is observed for either test species at any effluent concentration (lethal concentration or "LC_{50}").

5. "Bypass," means the diversion of waste streams from any portion of a treatment facility.

6. "Chronic toxicity" occurs when the IC_{25}< XX% effluent. The XX% effluent is the concentration of the effluent in the receiving water, at the end of the mixing zone expressed as per cent effluent.

7. "IC_{25}" is the concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.

8. "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,

d. Continuous sample volume, with sample collection rate proportional to flow rate.

9. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.

10. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.

11. "EPA," means the United States Environmental Protection Agency.

12. "Director," means Director of the Division of Water Quality.

13. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

14. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

15. "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.

16. "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.

B. Storm Water.

1. "Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

2. "Coal pile runoff" means the rainfall runoff from or through any coal storage pile.

3. "Co-located industrial activity" means when a facility has industrial activities being conducted onsite that are described under more than one of the coverage sections of

Appendix II in the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity. Facilities with co-located industrial activities shall comply with all applicable monitoring and pollution prevention plan requirements of each section in which a co-located industrial activity is described.

4. "Commercial Treatment and Disposal Facilities" means facilities that receive, on a commercial basis, any produced hazardous waste (not their own) and treat or dispose of those wastes as a service to the generators. Such facilities treating and/or disposing exclusively residential hazardous wastes are not included in this definition.

5. "Landfill" means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile.

6. "Land application unit" means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

7. "Municipal separate storm sewer system" (large and/or medium) means all municipal separate storm sewers that are either:

   a. Located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (at the issuance date of this permit, Salt Lake City is the only city in Utah that falls in this category); or

   b. Located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties (at the issuance date of this permit Salt Lake County is the only county that falls in this category); or

   c. Owned or operated by a municipality other than those described in paragraph *a.* or *b.* (above) and that are designated by the *Director* as part of the large or medium municipal separate storm sewer system.

8. "NOI" means "notice of intent", it is an application form that is used to obtain coverage under the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity.

9. "NOT" means "notice of termination", it is a form used to terminate coverage under the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity.

10. "Point source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

11. "Section 313 water priority chemical" means a chemical or chemical categories that:

a. Are listed at *40 CFR 372.65* pursuant to *Section 313* of the *Emergency Planning and Community Right-to-Know Act* (*EPCRA*) (also known as *Title III of the Superfund Amendments and Reauthorization Act* (*SARA*) of 1986);

b. Are present at or above threshold levels at a facility subject to *EPCRA Section 313* reporting requirements; and

c. Meet at least one of the following criteria:

(1) Are listed in *Appendix D* of *40 CFR Part 122* on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances);

(2) Are listed as a hazardous substance pursuant to *Section 311(b)(2)(A)* of the *CWA* at *40 CFR 116.4*; or

(3) Are pollutants for which EPA has published acute or chronic water quality criteria. See *Appendix III* of this permit. This appendix was revised based on final rulemaking EPA published in the *Federal Register* November 30, 1994.

12. "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under *Section 101(14)* of *CERCLA*; any chemical the facility is required to report pursuant to *EPCRA Section 313*; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

13. "Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under *Section 311 of the Clean Water Act* (see *40 CFR 110.10* and *CFR 117.21*) or *Section 102* of *CERCLA* (see *40 CFR 302.4*).

14. "Storm water" means storm water runoff, snowmelt runoff, and surface runoff and drainage.

15. "SWDMR" means "storm water discharge monitoring report", a report of the results of storm water monitoring required by the permit. The Division of Water Quality provides the storm water discharge monitoring report form.

16. "Storm water associated with industrial activity" (*UAC R317-8-3.8(6)(c) & (d)*) means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the *UPDES* program. For the categories of industries identified in paragraphs *(a)* through *(j)* of this definition, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined in *40 CFR Part 401*); sites used for the storage and maintenance of material handling equipment; sites used for

residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph *(k)* of this definition, the term includes only storm water discharges from all areas (except access roads and rail lines) listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs *(a)* to *(k)* of this definition) include those facilities designated under *UAC R317-8-3.8(1)(a)5.* The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

a. Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under *40 CFR Subchapter N* (except facilities with toxic pollutant effluent standards that are exempted under category (k) of this definition);

b. Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, 373;

c. Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under *40 CFR 434.11(l)* because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations that have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but that have an identifiable owner/operator;

d. Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

e. Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under *Subtitle D* of *RCRA*;

f. Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

g. Steam electric power generating facilities, including coal handling sites;

h. Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45 and 5171 that have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or that are otherwise identified under paragraphs (a) to (g) or (I) to (k) of this subsection are associated with industrial activity;

i. Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under *40 CFR Part 403*. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and that are not physically located in the confines of the facility, or areas that are in compliance with *40 CFR Part 503*;

j. Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than 5 acres of total land area that are not part of a larger common plan of development or sale;

k. Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and that are not otherwise included within categories (a) to (j))

17. "Waste pile" means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

FACT SHEET AND STATEMENT OF BASIS
NUCOR STEEL
RENEWAL PERMIT: DISCHARGE & STORM WATER
UPDES PERMIT NUMBER: UT0023850
MINOR INDUSTRIAL

FACILITY CONTACTS

Person Name:	Doug Jones
Position:	Manager
Phone Number:	(435) 458-2300

Facility Name:	Nucor Steel
Mailing Address:	P.O. Box 100 Plymouth, Utah 84330
Telephone:	(435) 458-2300
Actual Address:	7285 W 21200 N W Cemetery Rd

DESCRIPTION OF FACILITY

Nucor Steel, a Division of Nucor Corporation is located at SW ¼, Section 4 and NW ¼, Section 9, Township 13 North, Range 3 West, Box Elder County, Utah about 2.5 miles west and 1.5 miles north of Plymouth, Utah: Latitude 41°52'37"; Longitude 112°11'22".

Nucor's Plymouth facility is a non-integrated steel mill (SIC Code 3312) which produces approximately one million tons of structural steel products annually. The principle process at Nucor Steel involves two Electric Arc Furnaces (EAF) for melting scrap metal, the molten metal is then continuously cast into billets and the billets are directed to one of the two hot rolling mills for shaping into final products.

There are wells that produce the process water and culinary water at the facility. One well has water of a high quality that no other treatment is necessary for use a culinary water supply and also for water needed for the steel mill process. As long as this well is producing water there will be no discharge. Nucor Steel has as a back-up option, an Electrodialysis Reversal (EDR) treatment system which is used to remove dissolved solids from the well water from other wells. The wastewater from the EDR is discharged via outfall 001 to an open ditch then to the Malad River. Some of the wastewater from the EDR is used as dust suppression on the unpaved roads as per Nucor Steel's Air Quality Permit. All of Nucor Steel's sanitary wastewater is directed to one of 3 on-site septic systems.

DISCHARGE

DESCRIPTION OF DISCHARGE

Nucor Steel maintains a UPDES permit in the event that a discharge from their facility is necessary.

Nucor Steel has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. Nucor Steel has had one discharge event in the last 13 years. This discharge occurred because of the need to maintain the EDR treatment system. No violation of any permit limits were reported.

Outfall	Description of Discharge Point
001	Located at latitude 41°52'37", longitude 112°11'22". The discharge is piped to an un-named open ditch and then to the Malad River

RECEIVING WATERS AND STREAM CLASSIFICATION

If a discharge were to occur, it would be pumped into an un-named open ditch and then to the Malad River, which is a Class 2B and 3C according to *Utah Administrative Code (UAC) R317-2-13*:

Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.

Class 3C -- Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.
Geographical Boundary -- All open waters at or below approximately 4,208-foot elevation north of the Union Pacific Causeway and east of the Promontory Mountains, excluding salt evaporation ponds.
Beneficial Uses -- Protected for infrequent primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including their necessary food chain.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS) and pH are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The oil and grease limitation is based on best professional judgment (BPJ). The wasteload analysis (see ADDENDUM) indicates that these limitations should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters.

The Malad River does not include a stream classification that requires a TDS limit. However, a TDS limit is included in the permit to protect the Bear River, to which the Malad River flows. The TDS and dissolved oxygen limits are based on the wasteload analysis.

Based on effluent monitoring data and the existing treatment facility, the permittee is expected to be able to comply with the limitations.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was not conducted following DWQ's

September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance) because there has been a lack of discharge data for the previous 13 years.

Should Nucor find it necessary to discharge from outfall 001, metals analysis shall occur monthly until a minimum of 10 sampling events have been completed. Results from these sampling events will be used to conduct RP analysis of the discharge. Should this analysis show that the Nucor discharge has reasonable potential to violate current effluent limits; this permit may be modified to include additional monitoring, effluent limits or both. Metals to be analyzed include arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and iron.

The permit limitations for Outfall 001 are:

Effluent Limitations				
Parameter	Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Flow, MGD	NA	NA	NA	0.72
TSS, mg/L	25	35	NA	NA
Oil & Grease, mg/L	NA	NA	NA	10
Dissolved Oxygen, mg/L	NA	NA	5.0	NA
pH, Standard Units	NA	NA	6.5	9
TDS, mg/L	NA	NA	NA	7000

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the similar to 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. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow	Continuous	Recorder	MGD
TSS	Weekly	Grab	mg/L
Oil & Grease (a)	Weekly	Grab	mg/L
Dissolved Oxygen	Weekly	Grab	mg/L
pH	Weekly	Grab	SU
TDS	Weekly	Grab	mg/L
Metals (b)	Monthly	Grab	mg/L

(a) Grab samples required only if sheen is observed or there is reason to believe that there are hydrocarbons present.

(b) Sampling required during first 10 months of discharge from outfall 001. Metals to be analyzed include arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and iron. Not required if no discharge from outfall 001.

STORM WATER

STORMWATER REQUIREMENTS

Storm water requirements are included in this UPDES permit. The storm water requirements are based on the UPDES Multi-Sector General Permit for Storm Water Discharges for Industrial Activity, General Permit Coverage No. UTR274003 (MSGP). All sections of the MSGP that pertain to discharges from Steel Mills 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 for all areas within the confines of the plant. 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.

Nucor Steel has previously maintained coverage under the MSGP for Storm Water Discharges from Industrial Activity (General Permit Coverage No. UTR274003) and has developed a storm water pollution prevention plan as required by the permit. The plan is kept updated and made available on-site for review as required.

In order to provide more efficient permitting, the MSGP storm water permit provisions have once again been included in this individual permit. The coverage under the general storm water permit may be terminated upon request by the permittee, but is not required to do so if the permittee wishes to maintain separate permit coverage.

PRETREATMENT REQUIREMENTS

This facility does not discharge process wastewater to a sanitary sewer system. Any process wastewater that the facility may discharge to the sanitary sewer, either as a 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 403, the state's pretreatment requirements found in UAC R317-8-8, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the waste.

BIOMONITORING REQUIREMENTS

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (WET) Control (Biomonitoring (2/1991)). Authority to require effluent biomonitoring is provided in UAC R317-8, Utah Pollutant Discharge Elimination System and UAC R317-2, Water Quality Standards. The result of the wasteload analysis was a finding of no significant impact. Based on these considerations, and that the facility is not classified as a major or a significant minor facility, there is no reasonable potential for toxicity in Nucor Steel'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.

PERMIT DURATION

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

Drafted by
Kelsey Christiansen
Michael George, Storm Water
Dave Wham, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: August 29, 2017
Ended: September 29, 2017

The Public Noticed of the draft permit was published in the Vernal Express.

There were no comments received during the public notice period.

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ATTACHMENT 3

Wasteload Analysis

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Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis
SUMMARY

Discharging Facility:	**Nucor Steel**		
UPDES No:	UT-0023850		
Current Flow:	0.77	cfs	Design Flow
Projected Flow:	0.77	cfs	

Receiving Water:	**Malad River**	
Stream Classification:	2B, 3C	
Stream Flows [cfs]:	12.0	Summer (July-Sept)
	12.0	Fall (Oct-Dec)
	12.0	Winter (Jan-Mar)
	12.0	Spring (Apr-June)
	28.0	Average
Stream TDS Values:	4366.0	Summer (July-Sept)
	2943.5	Fall (Oct-Dec)
	1981.0	Winter (Jan-Mar)
	3209.7	Spring (Apr-June)

Effluent Limits:			**WQ Standard:**	
Flow, MGD:	0.8	MGD	Design Flow	
BOD, mg/l:	25.0	Summer	5.0	Indicator
Dissolved Oxygen, mg/l	5.0	Summer	5.0	30 Day Average
TNH3, Chronic, mg/l:	14.7	Summer	Varies	Function of pH and Temperature
TDS, mg/l:	7000.0	Summer	0.0	Site Specific

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

Antidegradation Level I Review Completed. Level II Review Not Required.

		Date
Permit Writer:		
WLA by:	David M. Allen	Revised 8-9-17
WQM Sec. Approval:		
TMDL Sec. Approval:		

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis

29-Mar-17
2:00 PM

Facilities: **Nucor Steel**
Discharging to: **Malad River**

UPDES No: UT-0023850

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 interms 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

Malad River:	2B, 3C
Antidegradation Review:	Antidegradation Level II review not required

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average) 0.019 mg/l (1 Hour Average)
Chronic Dissolved Oxygen (DO)	5.00 mg/l (30 Day Average) N/A mg/l (7Day Average) 3.00 mg/l (1 Day Average
Maximum Total Dissolved Solids	0.0 mg/l

Acute and Chronic Heavy Metals (Dissolved)

Utah Division of Water Quality
Salt Lake City, Utah

Parameter	4 Day Average (Chronic) Standard Concentration	Load*	1 Hour Average (Acute) Standard Concentration	Load*
Aluminum	87.00 ug/l**	0.559 lbs/day	750.00 ug/l	4.815 lbs/day
Arsenic	190.00 ug/l	1.220 lbs/day	340.00 ug/l	2.183 lbs/day
Cadmium	0.93 ug/l	0.006 lbs/day	11.67 ug/l	0.075 lbs/day
Chromium III	338.74 ug/l	2.175 lbs/day	7087.02 ug/l	45.502 lbs/day
ChromiumVI	11.00 ug/l	0.071 lbs/day	16.00 ug/l	0.103 lbs/day
Copper	38.91 ug/l	0.250 lbs/day	67.61 ug/l	0.434 lbs/day
Iron			1000.00 ug/l	6.421 lbs/day
Lead	26.71 ug/l	0.171 lbs/day	685.36 ug/l	4.400 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40 ug/l	0.015 lbs/day
Nickel	214.50 ug/l	1.377 lbs/day	1929.25 ug/l	12.387 lbs/day
Selenium	4.60 ug/l	0.030 lbs/day	20.00 ug/l	0.128 lbs/day
Silver	N/A ug/l	N/A lbs/day	67.06 ug/l	0.431 lbs/day
Zinc	493.76 ug/l	3.170 lbs/day	493.76 ug/l	3.170 lbs/day

* Allowed below discharge

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

Metals Standards Based upon a Hardness of 531.91 mg/l as CaCO3

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard Concentration	Load*	1 Hour Average (Acute) Standard Concentration	Load*
Aldrin			1.500 ug/l	0.010 lbs/day
Chlordane	0.004 ug/l	0.306 lbs/day	1.200 ug/l	0.008 lbs/day
DDT, DDE	0.001 ug/l	0.071 lbs/day	0.550 ug/l	0.004 lbs/day
Dieldrin	0.002 ug/l	0.135 lbs/day	1.250 ug/l	0.008 lbs/day
Endosulfan	0.056 ug/l	3.982 lbs/day	0.110 ug/l	0.001 lbs/day
Endrin	0.002 ug/l	0.164 lbs/day	0.090 ug/l	0.001 lbs/day
Guthion			0.010 ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	0.270 lbs/day	0.260 ug/l	0.002 lbs/day
Lindane	0.080 ug/l	5.688 lbs/day	1.000 ug/l	0.006 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	0.995 lbs/day	2.000 ug/l	0.013 lbs/day
Pentachlorophenol	13.00 ug/l	924.307 lbs/day	20.000 ug/l	0.128 lbs/day
Toxephene	0.0002 ug/l	0.014 lbs/day	0.7300 ug/l	0.005 lbs/day

IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard Concentration	Load*	1 Hour Average (Acute) Standard Concentration	Load*
Arsenic			100.0 ug/l	lbs/day
Boron			750.0 ug/l	lbs/day
Cadmium			10.0 ug/l	0.03 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	0.0	mg/l	0.00 tons/day

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

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
Metals	**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]

	Maximum Conc., ug/l - Acute Standards				
	Class 1C			**Class 3A, 3B**	
Toxic Organics	[2 Liters/Day for 70 Kg Person over 70 Yr.]			[6.5 g for 70 Kg Person over 70 Yr.]	
Acenaphthene	ug/l	lbs/day	2700.0 ug/l	191.97	lbs/day
Acrolein	ug/l	lbs/day	780.0 ug/l	55.46	lbs/day
Acrylonitrile	ug/l	lbs/day	0.7 ug/l	0.05	lbs/day
Benzene	ug/l	lbs/day	71.0 ug/l	5.05	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	0.31	lbs/day
Chlorobenzene	ug/l	lbs/day	21000.0 ug/l	1493.11	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	7.04	lbs/day
1,1,1-Trichloroethane					
Hexachloroethane	ug/l	lbs/day	8.9 ug/l	0.63	lbs/day
1,1-Dichloroethane					
1,1,2-Trichloroethane	ug/l	lbs/day	42.0 ug/l	2.99	lbs/day
1,1,2,2-Tetrachloroethai	ug/l	lbs/day	11.0 ug/l	0.78	lbs/day
Chloroethane			0.0 ug/l	0.00	lbs/day
Bis(2-chloroethyl) ether	ug/l	lbs/day	1.4 ug/l	0.10	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	305.73 lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day	6.5	ug/l	0.46 lbs/day
p-Chloro-m-cresol			0.0	ug/l	0.00 lbs/day
Chloroform (HM)	ug/l	lbs/day	470.0	ug/l	33.42 lbs/day
2-Chlorophenol	ug/l	lbs/day	400.0	ug/l	28.44 lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day	17000.0	ug/l	1208.71 lbs/day
1,3-Dichlorobenzene	ug/l	lbs/day	2600.0	ug/l	184.86 lbs/day
1,4-Dichlorobenzene	ug/l	lbs/day	2600.0	ug/l	184.86 lbs/day
3,3'-Dichlorobenzidine	ug/l	lbs/day	0.1	ug/l	0.01 lbs/day
1,1-Dichloroethylene	ug/l	lbs/day	3.2	ug/l	0.23 lbs/day
1,2-trans-Dichloroethyle	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
2,4-Dichlorophenol	ug/l	lbs/day	790.0	ug/l	56.17 lbs/day
1,2-Dichloropropane	ug/l	lbs/day	39.0	ug/l	2.77 lbs/day
1,3-Dichloropropylene	ug/l	lbs/day	1700.0	ug/l	120.87 lbs/day
2,4-Dimethylphenol	ug/l	lbs/day	2300.0	ug/l	163.53 lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day	9.1	ug/l	0.65 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	0.04 lbs/day
Ethylbenzene	ug/l	lbs/day	29000.0	ug/l	2061.91 lbs/day
Fluoranthene	ug/l	lbs/day	370.0	ug/l	26.31 lbs/day
4-Chlorophenyl phenyl ether					
4-Bromophenyl phenyl ether					
Bis(2-chloroisopropyl) e	ug/l	lbs/day	170000.0	ug/l	12087.09 lbs/day
Bis(2-chloroethoxy) met	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
Methylene chloride (HM	ug/l	lbs/day	1600.0	ug/l	113.76 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	25.60 lbs/day
Dichlorobromomethane	ug/l	lbs/day	22.0	ug/l	1.56 lbs/day
Chlorodibromomethane	ug/l	lbs/day	34.0	ug/l	2.42 lbs/day
Hexachlorobutadiene(c)	ug/l	lbs/day	50.0	ug/l	3.56 lbs/day
Hexachlorocyclopentadi	ug/l	lbs/day	17000.0	ug/l	1208.71 lbs/day
Isophorone	ug/l	lbs/day	600.0	ug/l	42.66 lbs/day
Naphthalene					
Nitrobenzene	ug/l	lbs/day	1900.0	ug/l	135.09 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	995.41 lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day	765.0	ug/l	54.39 lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day	8.1	ug/l	0.58 lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day	16.0	ug/l	1.14 lbs/day
N-Nitrosodi-n-propylami	ug/l	lbs/day	1.4	ug/l	0.10 lbs/day
Pentachlorophenol	ug/l	lbs/day	8.2	ug/l	0.58 lbs/day
Phenol	ug/l	lbs/day	4.6E+06	ug/l	3.27E+05 lbs/day
Bis(2-ethylhexyl)phthala	ug/l	lbs/day	5.9	ug/l	0.42 lbs/day
Butyl benzyl phthalate	ug/l	lbs/day	5200.0	ug/l	369.72 lbs/day
Di-n-butyl phthalate	ug/l	lbs/day	12000.0	ug/l	853.21 lbs/day
Di-n-octyl phthlate					
Diethyl phthalate	ug/l	lbs/day	120000.0	ug/l	8532.06 lbs/day
Dimethyl phthlate	ug/l	lbs/day	2.9E+06	ug/l	2.06E+05 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)					
Anthracene (PAH)	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
Dibenzo(a,h)anthracene	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
Indeno(1,2,3-cd)pyrene	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
Pyrene (PAH)	ug/l	lbs/day	11000.0	ug/l	782.11 lbs/day
Tetrachloroethylene	ug/l	lbs/day	8.9	ug/l	0.63 lbs/day
Toluene	ug/l	lbs/day	200000.0	ug/l	14220.10 lbs/day
Trichloroethylene	ug/l	lbs/day	81.0	ug/l	5.76 lbs/day
Vinyl chloride	ug/l	lbs/day	525.0	ug/l	37.33 lbs/day
					lbs/day
Pesticides					lbs/day
Aldrin	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
Dieldrin	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
Chlordane	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
4,4'-DDT	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
4,4'-DDE	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
4,4'-DDD	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
alpha-Endosulfan	ug/l	lbs/day	2.0	ug/l	0.14 lbs/day
beta-Endosulfan	ug/l	lbs/day	2.0	ug/l	0.14 lbs/day
Endosulfan sulfate	ug/l	lbs/day	2.0	ug/l	0.14 lbs/day
Endrin	ug/l	lbs/day	0.8	ug/l	0.06 lbs/day
Endrin aldehyde	ug/l	lbs/day	0.8	ug/l	0.06 lbs/day
Heptachlor	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
Heptachlor epoxide					
PCB's					
PCB 1242 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1254 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1221 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1232 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1248 (Arochlor 12	ug/l	lbs/day	0.0	ug/l	0.00 lbs/day
PCB-1260 (Arochlor 12	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			
Metals					
Antimony	ug/l	lbs/day			
Arsenic	ug/l	lbs/day	4300.00	ug/l	305.73 lbs/day
Asbestos	ug/l	lbs/day			
Beryllium					
Cadmium					

Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	2.2E+05 ug/l	15642.11 lbs/day
Lead	ug/l	lbs/day		
Mercury			0.15 ug/l	0.01 lbs/day
Nickel			4600.00 ug/l	327.06 lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			6.30 ug/l	0.45 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.

(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 cfs	Temp. Deg. C	pH	T-NH3 mg/l as N	BOD5 mg/l	DO mg/l	TRC mg/l	TDS mg/l
Summer (Irrig. Season)	12.0	21.9	8.2	0.03	0.50	6.68	0.00	#REF!
Fall	12.0	4.9	8.3	0.03	0.50	---	0.00	0.0
Winter	12.0	7.2	7.8	0.05	0.50	---	0.00	0.0
Spring	12.0	15.5	8.1	0.06	0.50	---	0.00	0.0

	Al	As	Cd	CrIII	CrVI	Copper	Fe	Pb
Dissolved Metals	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*

	Hg	Ni	Se	Ag	Zn	Boron	
Dissolved Metals	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

Projected Discharge Information

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
Summer	0.77000	17.0	0.00	0.00000
Fall	0.77000	12.0		
Winter	0.77000	4.0		
Spring	0.77000	12.0		

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	0.770 MGD	1.191 cfs
Fall	0.770 MGD	1.191 cfs
Winter	0.770 MGD	1.191 cfs
Spring	0.770 MGD	1.191 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.77 MGD. If the discharger is allowed to have a flow greater than 0.77 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occuring, the permit writers must include the discharge flow limititation 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 segements if the values below are met.

WET Requirements	LC50 >	66.2% Effluent	[Acute]
	IC25 >	9.0% Effluent	[Chronic]

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

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

Season	Concentration	
Summer	25.0 mg/l as BOD5	160.5 lbs/day
Fall	25.0 mg/l as BOD5	160.5 lbs/day
Winter	25.0 mg/l as BOD5	160.5 lbs/day
Spring	25.0 mg/l as BOD6	160.5 lbs/day

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

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

Season	Concentration
Summer	5.00
Fall	5.00
Winter	5.00
Spring	5.00

Effluent Limitation for Total Ammonia based upon Water Quality Standards

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

Season		Concentration		Load	
Summer	4 Day Avg. - Chronic	14.7	mg/l as N	94.5	lbs/day
	1 Hour Avg. - Acute	41.6	mg/l as N	267.3	lbs/day
Fall	4 Day Avg. - Chronic	20.9	mg/l as N	134.5	lbs/day
	1 Hour Avg. - Acute	33.8	mg/l as N	216.8	lbs/day
Winter	4 Day Avg. - Chronic	35.1	mg/l as N	225.3	lbs/day
	1 Hour Avg. - Acute	44.1	mg/l as N	283.0	lbs/day
Spring	4 Day Avg. - Chronic	19.3	mg/l as N	0.0	lbs/day
	1 Hour Avg. - Acute	33.8	mg/l as N	0.0	lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 50.%.

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	0.122	mg/l	0.78	lbs/day
	1 Hour Avg. - Acute	0.115	mg/l	0.74	lbs/day
Fall	4 Day Avg. - Chronic	0.122	mg/l	0.78	lbs/day
	1 Hour Avg. - Acute	0.115	mg/l	0.74	lbs/day
Winter	4 Day Avg. - Chronic	0.122	mg/l	0.78	lbs/day
	1 Hour Avg. - Acute	0.115	mg/l	0.74	lbs/day
Spring	4 Day Avg. - Chronic	0.122	mg/l	0.00	lbs/day
	1 Hour Avg. - Acute	0.115	mg/l	0.00	lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration		Load	
Summer	Maximum, Acute	7000	mg/l	22.47	tons/day
Fall	Maximum, Acute	7000	mg/l	22.47	tons/day
Winter	Maximum, Acute	7000	mg/l	22.47	tons/day
Spring	Maximum, Acute	7000	mg/l	22.47	tons/day

Colorado Salinity Form 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 531.91 mg/l):

	4 Day Average Concentration		Load	1 Hour Average Concentration		Load
Aluminum	N/A		N/A	4,515.7	ug/l	29.0 lbs/day
Arsenic	2,096.04	ug/l	8.7 lbs/day	2,048.6	ug/l	13.2 lbs/day
Cadmium	9.54	ug/l	0.0 lbs/day	70.0	ug/l	0.4 lbs/day
Chromium III	3,743.15	ug/l	15.5 lbs/day	42,780.2	ug/l	274.7 lbs/day
Chromium VI	81.77	ug/l	0.3 lbs/day	76.6	ug/l	0.5 lbs/day
Copper	422.87	ug/l	1.8 lbs/day	404.1	ug/l	2.6 lbs/day
Iron	N/A		N/A	6,030.7	ug/l	38.7 lbs/day
Lead	287.75	ug/l	1.2 lbs/day	4,133.5	ug/l	26.5 lbs/day
Mercury	0.13	ug/l	0.0 lbs/day	14.5	ug/l	0.1 lbs/day
Nickel	2,367.30	ug/l	9.8 lbs/day	11,642.8	ug/l	74.8 lbs/day
Selenium	34.92	ug/l	0.1 lbs/day	112.7	ug/l	0.7 lbs/day
Silver	N/A	ug/l	N/A lbs/day	404.8	ug/l	2.6 lbs/day
Zinc	5,467.06	ug/l	22.7 lbs/day	2,980.4	ug/l	19.1 lbs/day
Cyanide	57.58	ug/l	0.2 lbs/day	132.8	ug/l	0.9 lbs/day

Effluent Limitations for Heat/Temperature based upon Water Quality Standards

Summer	34.0 Deg. C.	93.2 Deg. F
Fall	17.0 Deg. C.	62.6 Deg. F
Winter	19.3 Deg. C.	66.7 Deg. F
Spring	17.0 Deg. C.	62.6 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 Concentration		Load		1 Hour Average Concentration		Load	
Aldrin					1.5E+00	ug/l	1.49E-02	lbs/day
Chlordane	4.30E-03	ug/l	2.76E-02	lbs/day	1.2E+00	ug/l	1.19E-02	lbs/day
DDT, DDE	1.00E-03	ug/l	6.42E-03	lbs/day	5.5E-01	ug/l	5.46E-03	lbs/day
Dieldrin	1.90E-03	ug/l	1.22E-02	lbs/day	1.3E+00	ug/l	1.24E-02	lbs/day
Endosulfan	5.60E-02	ug/l	3.60E-01	lbs/day	1.1E-01	ug/l	1.09E-03	lbs/day
Endrin	2.30E-03	ug/l	1.48E-02	lbs/day	9.0E-02	ug/l	8.94E-04	lbs/day
Guthion	0.00E+00	ug/l	0.00E+00	lbs/day	1.0E-02	ug/l	9.93E-05	lbs/day
Heptachlor	3.80E-03	ug/l	2.44E-02	lbs/day	2.6E-01	ug/l	2.58E-03	lbs/day
Lindane	8.00E-02	ug/l	5.14E-01	lbs/day	1.0E+00	ug/l	9.93E-03	lbs/day
Methoxychlor	0.00E+00	ug/l	0.00E+00	lbs/day	3.0E-02	ug/l	2.98E-04	lbs/day
Mirex	0.00E+00	ug/l	0.00E+00	lbs/day	1.0E-02	ug/l	9.93E-05	lbs/day
Parathion	0.00E+00	ug/l	0.00E+00	lbs/day	4.0E-02	ug/l	3.97E-04	lbs/day
PCB's	1.40E-02	ug/l	8.99E-02	lbs/day	2.0E+00	ug/l	1.99E-02	lbs/day
Pentachlorophenol	1.30E+01	ug/l	8.35E+01	lbs/day	2.0E+01	ug/l	1.99E-01	lbs/day
Toxephene	2.00E-04	ug/l	1.28E-03	lbs/day	7.3E-01	ug/l	7.25E-03	lbs/day

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	32.1	lbs/day
Nitrates as N	4.0	mg/l	25.7	lbs/day
Total Phosphorus as P	0.05	mg/l	0.3	lbs/day
Total Suspended Solids	90.0	mg/l	577.8	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	2.99E+04	ug/l	1.92E+02	lbs/day
Acrolein	8.64E+03	ug/l	5.55E+01	lbs/day
Acrylonitrile	7.31E+00	ug/l	4.69E-02	lbs/day
Benzene	7.86E+02	ug/l	5.05E+00	lbs/day
Benzidine		ug/l		lbs/day

Carbon tetrachloride	4.87E+01 ug/l	3.13E-01 lbs/day
Chlorobenzene	2.33E+05 ug/l	1.49E+03 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	8.53E-03 ug/l	5.47E-05 lbs/day
1,2-Dichloroethane	1.10E+03 ug/l	7.04E+00 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	9.86E+01 ug/l	6.33E-01 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	4.65E+02 ug/l	2.99E+00 lbs/day
1,1,2,2-Tetrachloroethane	1.22E+02 ug/l	7.82E-01 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	1.55E+01 ug/l	9.95E-02 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	4.76E+04 ug/l	3.06E+02 lbs/day
2,4,6-Trichlorophenol	7.20E+01 ug/l	4.62E-01 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	5.20E+03 ug/l	3.34E+01 lbs/day
2-Chlorophenol	4.43E+03 ug/l	2.84E+01 lbs/day
1,2-Dichlorobenzene	1.88E+05 ug/l	1.21E+03 lbs/day
1,3-Dichlorobenzene	2.88E+04 ug/l	1.85E+02 lbs/day
1,4-Dichlorobenzene	2.88E+04 ug/l	1.85E+02 lbs/day
3,3'-Dichlorobenzidine	8.53E-01 ug/l	5.47E-03 lbs/day
1,1-Dichloroethylene	3.54E+01 ug/l	2.28E-01 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	8.75E+03 ug/l	5.62E+01 lbs/day
1,2-Dichloropropane	4.32E+02 ug/l	2.77E+00 lbs/day
1,3-Dichloropropylene	1.88E+04 ug/l	1.21E+02 lbs/day
2,4-Dimethylphenol	2.55E+04 ug/l	1.64E+02 lbs/day
2,4-Dinitrotoluene	1.01E+02 ug/l	6.47E-01 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	5.98E+00 ug/l	3.84E-02 lbs/day
Ethylbenzene	3.21E+05 ug/l	2.06E+03 lbs/day
Fluoranthene	4.10E+03 ug/l	2.63E+01 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	1.88E+06 ug/l	1.21E+04 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	1.77E+04 ug/l	1.14E+02 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	3.99E+03 ug/l	2.56E+01 lbs/day
Dichlorobromomethane(HM)	2.44E+02 ug/l	1.56E+00 lbs/day
Chlorodibromomethane (HM)	3.77E+02 ug/l	2.42E+00 lbs/day
Hexachlorocyclopentadiene	1.88E+05 ug/l	1.21E+03 lbs/day
Isophorone	6.64E+03 ug/l	4.27E+01 lbs/day
Naphthalene		
Nitrobenzene	2.10E+04 ug/l	1.35E+02 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	1.55E+05 ug/l	9.95E+02 lbs/day
4,6-Dinitro-o-cresol	8.47E+03 ug/l	5.44E+01 lbs/day

N-Nitrosodimethylamine	8.97E+01 ug/l	5.76E-01 lbs/day
N-Nitrosodiphenylamine	1.77E+02 ug/l	1.14E+00 lbs/day
N-Nitrosodi-n-propylamine	1.55E+01 ug/l	9.95E-02 lbs/day
Pentachlorophenol	9.08E+01 ug/l	5.83E-01 lbs/day
Phenol	5.09E+07 ug/l	3.27E+05 lbs/day
Bis(2-ethylhexyl)phthalate	6.53E+01 ug/l	4.19E-01 lbs/day
Butyl benzyl phthalate	5.76E+04 ug/l	3.70E+02 lbs/day
Di-n-butyl phthalate	1.33E+05 ug/l	8.53E+02 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	1.33E+06 ug/l	8.53E+03 lbs/day
Dimethyl phthlate	3.21E+07 ug/l	2.06E+05 lbs/day
Benzo(a)anthracene (PAH)	3.43E-01 ug/l	2.20E-03 lbs/day
Benzo(a)pyrene (PAH)	3.43E-01 ug/l	2.20E-03 lbs/day
Benzo(b)fluoranthene (PAH)	3.43E-01 ug/l	2.20E-03 lbs/day
Benzo(k)fluoranthene (PAH)	3.43E-01 ug/l	2.20E-03 lbs/day
Chrysene (PAH)	3.43E-01 ug/l	2.20E-03 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	3.43E-01 ug/l	2.20E-03 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	3.43E-01 ug/l	2.20E-03 lbs/day
Pyrene (PAH)	1.22E+05 ug/l	7.82E+02 lbs/day
Tetrachloroethylene	9.86E+01 ug/l	6.33E-01 lbs/day
Toluene	2.21E+06 ug/l	1.42E+04 lbs/day
Trichloroethylene	8.97E+02 ug/l	5.76E+00 lbs/day
Vinyl chloride	5.81E+03 ug/l	3.73E+01 lbs/day
Pesticides		
Aldrin	1.55E-03 ug/l	9.95E-06 lbs/day
Dieldrin	1.55E-03 ug/l	9.95E-06 lbs/day
Chlordane	6.53E-03 ug/l	4.19E-05 lbs/day
4,4'-DDT	6.53E-03 ug/l	4.19E-05 lbs/day
4,4'-DDE	6.53E-03 ug/l	4.19E-05 lbs/day
4,4'-DDD	9.30E-03 ug/l	5.97E-05 lbs/day
alpha-Endosulfan	2.21E+01 ug/l	1.42E-01 lbs/day
beta-Endosulfan	2.21E+01 ug/l	1.42E-01 lbs/day
Endosulfan sulfate	2.21E+01 ug/l	1.42E-01 lbs/day
Endrin	8.97E+00 ug/l	5.76E-02 lbs/day
Endrin aldehyde	8.97E+00 ug/l	5.76E-02 lbs/day
Heptachlor	2.33E-03 ug/l	1.49E-05 lbs/day
Heptachlor epoxide		
PCB's		
PCB 1242 (Arochlor 1242)	4.98E-04 ug/l	3.20E-06 lbs/day
PCB-1254 (Arochlor 1254)	4.98E-04 ug/l	3.20E-06 lbs/day
PCB-1221 (Arochlor 1221)	4.98E-04 ug/l	3.20E-06 lbs/day
PCB-1232 (Arochlor 1232)	4.98E-04 ug/l	3.20E-06 lbs/day
PCB-1248 (Arochlor 1248)	4.98E-04 ug/l	3.20E-06 lbs/day
PCB-1260 (Arochlor 1260)	4.98E-04 ug/l	3.20E-06 lbs/day
PCB-1016 (Arochlor 1016)	4.98E-04 ug/l	3.20E-06 lbs/day
Pesticide		

Toxaphene	8.31E-03	ug/l	5.33E-05 lbs/day
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			
Dioxin			
Dioxin (2,3,7,8-TCDD)	1.55E-07	ug/l	9.95E-10 lbs/day

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

	Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/l
Aluminum		4515.7				4515.7	N/A
Antimony				47618.0		47618.0	
Arsenic	1107.4	2048.6			0.0	1107.4	2096.0
Barium						0.0	
Beryllium						0.0	
Cadmium	109.9	70.0			0.0	70.0	9.5
Chromium (III)		42780.2			0.0	42780.2	3743.1
Chromium (VI)	1099.4	76.6			0.0	76.57	81.77
Copper	2206.8	404.1				404.1	422.9
Cyanide		132.8	2436271.1			132.8	57.6
Iron		6030.7				6030.7	
Lead	1099.4	4133.5			0.0	1099.4	287.7
Mercury		14.49		1.66	0.0	1.66	0.133
Nickel		11642.8		50940.2		11642.8	2367.3
Selenium	537.7	112.7			0.0	112.7	34.9
Silver		404.8			0.0	404.8	

Thallium			69.8	69.8	
Zinc		2980.4		2980.4	5467.1
Boron	8305.5			8305.5	

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	4515.7	N/A	
Antimony	47618.03		
Arsenic	1107.4	2096.0	Acute Controls
Asbestos	0.00E+00		
Barium			
Beryllium			
Cadmium	70.0	9.5	
Chromium (III)	42780.2	3743	
Chromium (VI)	76.6	81.8	Acute Controls
Copper	404.1	422.9	Acute Controls
Cyanide	132.8	57.6	
Iron	6030.7		
Lead	1099.4	287.7	
Mercury	1.661	0.133	
Nickel	11642.8	2367	
Selenium	112.7	34.9	
Silver	404.8	N/A	
Thallium	69.8		
Zinc	2980.4	5467.1	Acute Controls
Boron	8305.47		

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 was 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 down-stream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

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.

XIV. Special Considerations

TMDL Issues and Calculations may adjust these values as appropriate. See TMDL Section of DWQ.

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APPENDIX - Coefficients and Other Model Information

CBOD Coeff. (Kd)20 1/day	CBOD Coeff. FORCED (Kd)/day	CBOD Coeff. (Ka)T 1/day	REAER. Coeff. (Ka)20 (Ka)/day	REAER. Coeff. FORCED 1/day	REAER. Coeff. (Ka)T 1/day	NBOD Coeff. (Kn)20 1/day	NBOD Coeff. (Kn)T 1/day
2.000	0.000	2.182	23.336	0.000	24.412	0.400	0.463
Open Coeff. (K4)20 1/day	Open Coeff. (K4)T 1/day	NH3 LOSS (K5)20 1/day	NH3 (K5)T 1/day	NO2+NO3 LOSS (K6)20 1/day	NO2+NO3 (K6)T 1/day	TRC Decay K(Cl)20 1/day	TRC K(Cl)(T) 1/day

0.000	0.000	4.000	4.365	0.000	0.000	32.000	35.746

BENTHIC DEMAND (SOD)20 gm/m2/day	BENTHIC DEMAND (SOD)T gm/m2/day
1.000	1.127

K1 CBOD {theta}	K2 Reaer. {theta}	K3 NH3 {theta}	K4 Open {theta}	K5 NH3 Loss {theta}	K6 NO2+3 {theta}	K(Cl) TRC {theta}	S Benthic {theta}
1.0	1.0	1.1	1.0	1.0	1.0	1.1	1.1

An antidegradation review (ADR) was conducted to determine whether the proposed activity complies with the applicable antidegradation requirements for receiving waters that may be affected. The Level I ADR found that the proposed activity meets the requirements of R317-2-3.5(b)(1) (water quality will not be lowered by the propos activity) and, therefore does not require a Level II review. The proposed activity is a basic permit renewal. No increase in effluent concentration or load is requested over that allowed under the current UPDES Permit.