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

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Major Industrial Permit No. **UT0024805**
Biosolids Permit No. **UTL0024805**

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

NORTHROP GRUMMAN SYSTEMS CORPORATION

is hereby authorized to discharge from its facility located adjacent to State Highway U-83, 25 miles west of Brigham City, Utah,

with outfall 001 located at latitude **41°39'29"** and longitude **112°26'49 "**
and outfall 002 located at latitude **41°43'03"** and longitude **112°26'26 "**

to receiving waters named Blue Creek

This permit shall become effective on December 1, 2023 This permit expires at midnight on June 30, 2028.

Signed this Fourteenth day of November 2023.

John K. Mackey, P.E.
Director

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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 Outfalls
001	South Treatment Plant/M-422 at latitude 41°39'29" and longitude 112°26'49 "
002	North Treatment Plant/E-541 and commingling from M-705 at latitude 41°43'03" and longitude 112°26'26 "

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 through the life of this permit, there shall be no acute or chronic toxicity in Outfalls 001 or 002 as defined in *Part VIII*, and determined by test procedures described in *Part I. C.4(or 3 if no compliance schedule).a & b* of this permit.

2.
   a. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001 and 002. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter		Effluent Limitations *a			
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD Outfall 001 *b Outfall 002 *b	 0.35 0.16	--	--	--	--
Biological Oxygen Demand (BOD_5), mg/L	25	35	--	--	--
Total Suspended Solids (TSS), mg/L	25	35	--	--	--
Dissolved Oxygen, mg/L	--	--	--	4.5	--
Total Ammonia (as N), mg/L Summer (Jul-Sep) Fall (Oct-Dec) Winter (Jan-Mar) Spring (Apr-Jun)	 5.0 9.0 11.0 6.0	 5.0 9.0 11.0 6.0	 -- -- -- --	 -- -- -- --	 14.0 15.0 13.0 16.0
E. coli, No./100mL	126	157	--	--	--
Ozone, mg/L	--	--	--	--	0.1 b/
pH, Standard Units	--	--	--	6.5	9
Oil & Grease, mg/L	--	--	--	--	10.0
Total Cadmium µg/L	--	--	--	--	7.2
Dissolved Selenium, µg/L *c	--	--	--	--	18.4
Total Phosphorus (as P), mg/L (Final) *d, *e,	--	--	1.0	--	--
TDS, mg/L November – February March – October	 4,700 3,800	 -- --	 -- --	 -- --	 6,300 4,900
Isopropanol, mg/L	--	--	--	--	1
Sum, Other Volatile Organics, mg/L	--	--	--	--	2
WET, Chronic Biomonitoring Outfall 001	--	--	--	--	IC_{25}> 18.4% effluent
WET, Chronic Biomonitoring Outfall 002	--	--	--	--	IC_{25}> 9.4% effluent
WET, Acute Biomonitoring Outfall 001, 002	--	--	--	--	LC_{50} > 100% Effluent

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b	Continuous	Recorder	MGD
BOD_5,	Monthly	Composite	mg/L
Chemical Oxygen Demand	Monthly	Composite	mg/L
TSS,	Monthly	Composite	mg/L
Dissolved Oxygen, mg/L	2x Monthly	Grab	mg/L
Total Ammonia (as N)	2x Monthly	Composite	mg/L
E. coli	Monthly	Grab	No./100mL

Ozone	3 x Week	Grab	mg/L
pH	2 x Month	Grab	SU
Oil & Grease *f	When Sheen Observed/Monthly	Grab	mg/L
Total Aluminum	Monthly	Composite	µg/L
Total Arsenic	Monthly	Composite	µg/L
Total Cadmium	Monthly	Composite	µg/L
Total Chromium	Monthly	Composite	µg/L
Total Copper	Monthly	Composite	µg/L
Total Lead	Monthly	Composite	µg/L
Total Mercury	Monthly	Composite	µg/L
Total Nickel	Monthly	Composite	µg/L
Total Selenium	Monthly	Composite	µg/L
Total Silver	Monthly	Composite	µg/L
Total Zinc	Monthly	Composite	µg/L
Total Phosphorus, *d, *e Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Solids, Total Dissolved	2x Monthly	Composite	mg/L
Isopropanol	Monthly	Grab	mg/L
Sum, Other Volatile Organics	Monthly	Grab	mg/L
WET – Biomonitoring *g *Daphnia magna* – Acute *Ceriodaphnia dubia* - Chronic Fathead Minnows - Chronic	Quarterly 1st & 3rd Quarter 1st & 3rd Quarter 2nd & 4th Quarter	 Composite Composite Composite	 Pass/Fail Report Only Pass/Fail
Perchlorate	Monthly	Composite	mg/L
Orthophosphate (as P), *e Effluent	Monthly	 Composite	 mg/L
Total Kjeldahl Nitrogen, TKN (as N) *e, *h Influent Effluent	Monthly	 Composite Composite	 mg/L mg/L
Nitrate, NO3 *e	Monthly	Composite	mg/L
Nitrite, NO2 *e	Monthly	Composite	mg/L

*a See Definitions, *Part VIII*, for definition of terms.
*b If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
*c The receiving segment on Blue Creek is listed as impaired for constituent without an approved TMDL; limit to be set to the water quality standard.
*d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
*e These reflect changes required with the adoption of *UCA R317-1-3.3*, Technology-based Phosphorus Effluent Limits rule.
*f Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
*g The acute *Daphnia magna* and chronic *Ceriodaphnia* will be tested during the 1st and 3rd quarters. Chronic fathead minnows will be tested during the 2nd and 4th quarters.

3. Whole Effluent Toxicity (WET) Testing.

a. *Whole Effluent Testing – Acute Toxicity*. Starting immediately, the permittee shall conduct acute static renewal toxicity tests using *Daphnia magna* during the 1st & 3rd

Quarter on a composite sample of the final effluent at Outfall 001 and 002. The sample shall be collected at the point of compliance before mixing with the receiving water.

The monitoring frequency for acute tests shall be semi-annually unless a sample is found to be acutely toxic during a routine test. If that occurs, the monitoring frequency shall become weekly (See *Part I.C.3.c, Accelerated Testing*). Unless otherwise approved by the Director, samples shall be collected on a two-day progression; i.e., if the first sample is on a Monday, during the next sampling period, the sampling shall begin on a Wednesday, etc.

The static-renewal acute toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012 as per 40 CFR 136.3(a) TABLE IA-LIST OF APPROVED BIOLOGICAL METHODS. The permittee shall conduct the 48-hour static renewal toxicity test using *Daphnia magna* (solution renewal every 24 hours). Based on the Test Acceptability Criteria included in Utah Pollutant Discharge Elimination System (UPDES) Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (Biomonitoring) February, 2018, the Director may require acceptable variations in the test, i.e. temperature, carbon dioxide atmosphere, or any other acceptable variations in the testing procedure, as documented in the Fact Sheet Statement of Basis. If possible, dilution water should be taken from the receiving stream. A valid replacement test is required within the specified sampling period to remain in compliance.

Acute toxicity occurs when 50 percent or more mortality is observed for either species at any effluent concentration. Mortality in the control must simultaneously be 10 percent or less for the results to be considered valid. If more than 10 percent control mortality occurs, the test shall be repeated until satisfactory control mortality is achieved. The permittee shall meet all QA/QC requirements of the acute WET testing method listed in this Section of the permit.

If the permit contains a total residual chlorine limitation such that it may interfere with WET testing (>0.20 mg/L), the permittee may dechlorinate the sample in accordance with approved USEPA methods for WET testing the sample. If dechlorination is affecting the test, the permittee may collect the sample just before chlorination with Director approval.

Semi-annual test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the required reporting period (month, quarter or semi-annual) e.g., biomonitoring results for the calendar quarter ending March 31 shall be reported with the DMR due April 28, with the remaining biomonitoring reports submitted with DMRs due each July 28, October 28, and January 28. Monthly test results shall be reported along with the DMR submitted for that month. The format for the report shall be consistent with Appendix C of "Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (Biomonitoring), Utah Division of Water Quality, February 2018.

b. *Whole Effluent Testing – Chronic Toxicity*. Starting on immediately, the permittee shall quarterly, conduct chronic static renewal toxicity tests on a composite sample of the final effluent at Outfall(s) 001 and 002. The sample shall be collected at the point of compliance before mixing with the receiving water.

Three samples are required and samples shall be collected on Monday, Wednesday and Friday of each sampling period or collected on a two-day progression for each sampling period. This may be changed with Director approval. The chronic toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition*, October 2002, *EPA—821-R-02-* as per *40 CFR 136.3(a)* TABLE IA-LIST OF APPROVED BIOLOGICAL METHODS. Chronic test species shall consist of *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow).

Due to the high TDS of the receiving water, the facility was granted an alternate test species of *Daphnia magna*. Since the Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (Biomonitoring), Utah Division of Water Quality, February 2018 indicates Chronic WET testing for the facility and there is no chronic test for *Daphnia magna,* chronic testing *Ceriodaphnia dubia* are included in this permit as an indicator of toxicity. As an indicator, the chronic test results for can demonstrate compliance with portions of the Narrative Standards (R317-2-7.2). However, the chronic WET test for results alone for *Ceriodaphnia dubia* do not demonstrate noncompliance with the Narrative Standards. As indicators, the chronic WET test results for *Ceriodaphnia dubia* alone are not used for determining reasonable potential for toxicity or noncompliance with the permit.

A multi dilution test consisting of at least five concentrations and a control is required at two dilutions below and two above the RWC, if possible. If test acceptability criteria are not met for control survival, growth, or reproduction, the test shall be considered invalid. A valid replacement test is required within the specified sampling period to remain in compliance with this permit. Chronic toxicity occurs when, during a chronic toxicity test, the 25% inhibition concentration (IC25) calculated on the basis of test organism survival and growth or survival and reproduction, is less than or equal to 15% effluent concentration for Outfall 001 and 8% effluent concentration for Outfall 002 (equivalent to the RWC). If a sample is found to be chronically toxic during a routine test, the monitoring frequency shall become biweekly (*see Part I.C.4.b Accelerated Testing*). (the Director may enter acceptable variations in the test procedure here as documented in the Fact Sheet Statement of Basis and based on the test acceptability criteria as contained in Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control February, 2018). If possible, dilution water should be obtained from the receiving stream.

If the permit contains a total residual chlorine limitation such that it may interfere with WET testing (>0.20 mg/L), the permittee may dechlorinate the sample in accordance with the standard method. If dechlorination is negatively affecting the test, the permittee may collect the sample just before chlorination with Director approval.

Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the required reporting period (e.g., biomonitoring results for the calendar quarter ending March 31 shall be reported with the DMR due April 28, with the remaining biomonitoring reports submitted with DMRs due each July 28, October 28, and January 28). Monthly test results shall be reported along with the DMR submitted for that month. The format for the report shall be consistent with Appendix C of "Utah Pollutant Discharge Elimination System (UPDES)

Permitting and Enforcement Guidance Document for Whole Effluent Toxicity, Utah Division of Water Quality, February, 2018.

c. *Accelerated Testing*. When whole effluent toxicity is indicated during routine WET testing as specified in this permit, the permittee shall notify the Director in writing within 5 days after becoming aware of the test result. The permittee shall perform an accelerated schedule of WET testing to establish whether a pattern of toxicity exists unless the permittee notifies the Director and commences a PTI, TIE, or a TRE. Accelerated testing or the PTI, TIE, or TRE will begin within fourteen days after the permittee becomes aware of the test result. Accelerated testing shall be conducted as specified under Part I. Pattern of Toxicity. If the accelerated testing demonstrates no pattern of toxicity, routine monitoring shall be resumed.

d. *Pattern of Toxicity*. A pattern of toxicity is defined by the results of a series of up to five biomonitoring tests pursuant to the accelerated testing requirements using a full set of dilutions for acute (five plus the control) and five effluent dilutions for chronic (five plus the control), on the species found to be more sensitive, once every week for up to five consecutive weeks for acute and once every two weeks up to ten consecutive weeks for chronic.

If two (2) consecutive tests (not including the scheduled test which triggered the search for a pattern of toxicity) do not result in an exceedance of the acute or chronic toxicity criteria, no further accelerated testing will be required and no pattern of toxicity will be found to exist. The permittee will provide written verification to the Director within 5 days of determining no pattern of toxicity exists, and resume routine monitoring.

A pattern of toxicity may or may not be established based on the following:

WET tests should be run at least weekly (acute) or every two weeks (chronic) (note that only one test should be run at a time), for up to 5 tests, until either:

1) 2 consecutive tests fail, or 3 out of 5 tests fail, at which point a pattern of toxicity will have been identified, or

2) 2 consecutive tests pass, or 3 out of 5 tests pass, in which case no pattern of toxicity is identified.

e. *Preliminary Toxicity Investigation*.

(1) When a pattern of toxicity is detected the permittee will notify the Director in writing within 5 days and begin an evaluation of the possible causes of the toxicity. The permittee will have 15 working days from demonstration of the pattern of toxicity to complete an optional Preliminary Toxicity Investigation (PTI) and submit a written report of the results to the Director. The PTI may include, but is not limited to: additional chemical and biological monitoring, examination of pretreatment program records, examination of discharge monitoring reports, a thorough review of the testing protocol, evaluation of treatment processes and chemical use, inspection of material storage and transfer areas to determine if any spill may have occurred.

(2) If the PTI identifies a probable toxicant and/or a probable source of toxicity, the permittee shall submit, as part of its final results, written notification of that effect to the Director. Within thirty days of completing the PTI the permittee shall submit to the Director for approval a control program to control effluent toxicity and shall proceed to implement such plan in accordance with the

Director's approval. The control program, as submitted to or revised by the Director, will be incorporated into the permit. After final implementation, the permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit. With adequate justification, the Director may extend these deadlines.

(3) If no probable explanation for toxicity is identified in the PTI, the permittee shall notify the Director as part of its final report, along with a schedule for conducting a Phase I Toxicity Reduction Evaluation (TRE) (see Part ___ Toxicity Reduction Evaluation

(4) If toxicity spontaneously disappears during the PTI, the permittee shall submit written notification to that effect to the Director, with supporting testing evidence.

f. *Toxicity Reduction Evaluation (TRE)*. If a pattern of toxicity is detected the permittee shall initiate a TIE/TRE within 7 days unless the Director has accepted the decision to complete a PTI. With adequate justification, the Director may extend the 7-day deadline. The purpose of the TIE portion of a TRE will be to establish the cause of the toxicity, locate the source(s) of the toxicity, and the TRE will control or provide treatment for the toxicity.

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

(1) Phase I – Toxicity Characterization

(2) Phase II – Toxicity Identification Procedures

(3) Phase III – Toxicity Control Procedures

(4) Any other appropriate procedures for toxicity source elimination and control.

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

If toxicity spontaneously disappears during the TIE/TRE, the permittee shall submit written notification to that effect to the Director.

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

(a) An alternative control program for compliance with the numerical requirements.

(b) If necessary, as determined by the Director, provide a modified biomonitoring protocol which compensates for the pollutant(s) being controlled numerically.

This permit may be reopened and modified to incorporate any additional numerical limitations, a modified compliance schedule if judged necessary by the Director, and/or modified WET testing requirements without public notice.

Failure to conduct an adequate TIE/TRE plan or program as described above, or the submittal of a plan or program judged inadequate by the Director, shall be considered a violation of this permit. After implementation of TIE/TRE plan, the permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit.

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. The first report is due on August 28, 2023. 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

* Monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

II. INDUSTRIAL PRETREATMENT REQUIREMENTS

This section is only applicable if the permittee discharges to a POTW.

A. Definitions. For this section, the following definitions shall apply:

1. *Indirect Discharge* means the introduction of pollutants into a publicly-owned treatment works (POTW) from any non-domestic source regulated under section 307 (b), (c) or (d) of the CWA.

2. *Interference* means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

   a. Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

   b. Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

3. *Pass Through means* a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

4. *Publicly Owned Treatment Works* or *POTW* means a treatment works, as defined by section 212 of the CWA, which is owned by a State or municipality (as defined by section 502(4) of the CWA). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality, as defined in section 502(4) of the CWA, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

5. *Significant industrial user (SIU)* is defined as an industrial user discharging to a POTW that satisfies any of the following:

   a. Has a process wastewater flow of 25,000 gallons or more per average work day;

   b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;

   c. Is subject to Categorical Pretreatment Standards, or

   d. Has a reasonable potential for adversely affecting the operation of the POTW or violating any pretreatment standard or requirement.

6. *User or Industrial User (IU)* means a source of Indirect Discharge.

B. Discharge to POTW. Any wastewaters discharged to the sanitary sewer, either as a direct discharge or as a hauled waste, are subject to Federal, State and local pretreatment regulations. Pursuant to Section 307 of The Water Quality Act of 1987, the permittee shall comply with all applicable federal General Pretreatment Regulations promulgated at 40 CFR 403, the State Pretreatment Requirements at UAC R317-8-8, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the wastewaters. At a minimum, the discharge into a POTW must meet the requirements of Part II.D. and E. of the permit.

C. Hazardous Waste Notification. The permittee must notify the POTW, the EPA Regional Waste Management Director, the Director and the State hazardous waste authorities in writing if they discharge any substance into a POTW that, if otherwise disposed of, would be considered a hazardous waste under 40 CFR 261. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

D. General and Specific Prohibitions.

1. General Prohibitions. The permittee may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference. These general prohibitions and the specific prohibitions in paragraph 2. of this section apply to the introducing pollutants into a POTW whether or not the permittee is subject to other National Pretreatment Standards or any national, State, or local Pretreatment Requirements.

2. Specific Prohibitions. The following pollutants shall not be introduced into a POTW:

   a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140˚F (60˚C);

   b. Pollutants, which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;

   c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;

   d. Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge at such volume or strength as to cause interference in the POTW;

   e. Heat in amounts, which will inhibit biological activity in the POTW, resulting in interference, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104˚F (40˚C));

   f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

   g. Pollutants, which result in the presence of toxic gases, vapor, or fumes within the POTW in a quantity that may cause worker health or safety problems;

   h. Any trucked or hauled pollutants, except at discharge points designated by the POTW; or

i. Any pollutant that causes pass through or interference at the POTW.

j. Any specific pollutant which exceeds any local limitation established by the POTW.

E. Categorical Standards. In addition to the general and specific limitations expressed in *Part II. D.* of this section, applicable National Categorical Pretreatment Standards must be met by all industrial users discharging into a POTW. These standards are published in the federal regulations at *40 CFR 405 through 471*.

III. BIOSOLIDS REQUIREMENTS

A. Biosolids Treatment and Disposal. The authorization to dispose of biosolids provided under this permit is limited to those biosolids produced from the treatment works owned and operated by the permittee. The treatment methods and disposal practices are designated below.

1. Treatment

a. Biosolids are dewatered then transferred to a collocated landfill at the facility.

2. Description of Biosolids Disposal Method

a. Biosolids may be disposed of in a landfill or transferred to another facility for treatment and/or disposal.

3. Changes in Treatment Systems and Disposal Practices.

a. Should the permittee change their disposal methods or the biosolids generation and handling processes of the plant, the permittee must notify the Director at least 30 days in advance if the process/method is specified in 40 CFR 503. This includes, but is not limited to, the permanent addition or removal of any biosolids treatment units (i.e., digesters, drying beds, belt presses, etc.) and/or any other change.

b. Should the permittee change their disposal methods or the biosolids generation and handling processes of the plant, the permittee must notify the Director at least 180 days in advance if the process/method is not specified in 40 CFR 503. This includes, but is not limited to, the permanent addition or removal of any biosolids treatment units (i.e., digesters, drying beds, belt presses, etc.) and/or any other change.

For any biosolids that are land filled, the requirements in *Section 2.12* of the latest version of the *EPA Region VIII Biosolids Management Handbook* must be followed

B. Specific Limitations and Monitoring Requirements. All biosolids generated by this facility to be sold or given away to the public shall meet the requirements of *Part III.B.1, 2, 3* and *4* listed below.

1. Metals Limitations. All biosolids sold or given away in a bag or similar container for application to lawns and home gardens must meet the metals limitations as described below. If these metals limitations are not met, the biosolids must be landfilled.

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits [1], (mg/kg)	CPLR [2], (mg/ha)	Pollutant Conc. Limits [3] (mg/kg)	APLR [4], (mg/ha-yr)
Total Arsenic	75	41	41	2.0
Total Cadmium	85	39	39	1.9
Total Copper	4300	1500	1500	75
Total Lead	840	300	300	15
Total Mercury	57	17	17	0.85
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	21
Total Selenium	100	100	100	5.0
Total Zinc	7500	2800	2800	140

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits [1], (mg/kg)	CPLR [2], (mg/ha)	Pollutant Conc. Limits [3] (mg/kg)	APLR [4], (mg/ha-yr)
1, If the concentration of any 1 (one) of these parameters exceeds the Table 1 limit, the biosolids cannot be land applied or beneficially used in any way.				
2, CPLR - Cumulative Pollutant Loading Rate - The maximum loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially used on agricultural, forestry, or a reclamation site.				
3, If the concentration of any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids cannot be land applied or beneficially used in on a lawn, home garden, or other high potential public contact site. If any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids may be land applied or beneficially reused on an agricultural, forestry, reclamation site, or other high potential public contact site, as long as it meets the requirements of Table 1, Table 2, and Table 4.				
4, APLR - Annual Pollutant Loading Rate - The maximum annual loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially reused on agricultural, forestry, or a reclamation site, when they do not meet Table 3, but do meet Table 1.				

2. Pathogen Limitations. All biosolids sold or given away in a bag or a similar container for application to lawns and home gardens must meet the pathogen limitations for Class A. Land applied biosolids must meet the pathogen limitations for Class B as described below. If the pathogen limitations are not met, the biosolids must be landfilled.

   a. Class A biosolids shall meet one of the pathogen measurement requirements in the following Pathogen Control Class table or shall meet the requirements for a Process to Further Reduce Pathogens as defined in *40 CFR Part 503.32(a) Sewage Sludge – Class A.*

      (1) At this time **Northrop Grumman Systems Corporation** does not intend to distribute biosolids to the public for use on the lawn and garden and thus is not required meet Class A Biosolids requirements.

   b. Class B biosolids shall meet the pathogen measurement requirements in the following Pathogen Control Class table or shall meet the requirements for a Process to Significantly Reduce Pathogens as defined in 40 CFR Part 503.32(b) *Sewage Sludge – Class B*.

      (1) At this time **Northrop Grumman Systems Corporation** does not intend to distribute bulk biosolids for land application and thus is not required meet Class B Biosolids requirements.

   c. In addition, the permittee shall comply with all applicable site restrictions listed below *(40 CFR Part 503.32,(b),(5)):*

      (1) Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application.

      (2) Food crops with harvested parts below the land surface shall not be harvested for 20 months after application if the biosolids remains on the land surface for four months or more prior to incorporation into the soil.

(3) Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil.

(4) Food crops, feed crops, and fiber crops shall not be harvested from the land for 30 days after application.

(5) Animals shall not be allowed to graze on the land for 30 days after application.

(6) Turf grown on land where biosolids is applied shall not be harvested for one year after application if the harvested turf is placed on either land with a high potential for public exposure or a lawn.

(7) Public access to land with a high potential for public exposure shall be restricted for one year after application.

(8) Public access to land with a low potential for public exposure shall be restricted for 30 days after application.

(9) The sludge or the application of the sludge shall not cause or contribute to the harm of a threatened or endangered species or result in the destruction or adverse modification of critical habitat of a threatened or endangered species after application.

<table>
<tr><td colspan="2">Pathogen Control Class</td></tr>
<tr><td>503.32 (a)(1) - (5), (7), (8), Class A</td><td>503.32 (b)(1) - (5), Class B</td></tr>
<tr><td>B Salmonella species –less than three (3) MPN[1] per four (4) grams total solids (DWB)[2] or Fecal Coliforms – less than 1,000 MPN per gram total solids (DWB).</td><td rowspan="3">Fecal Coliforms – less than 2,000,000 MPN or CFU[3] per gram total solids (DWB).</td></tr>
<tr><td>503.32 (a)(6) Class A—Alternative 4</td></tr>
<tr><td>B Salmonella species –less than three (3) MPN per four (4) grams total solids (DWB) or less than 1,000 MPN Fecal Coliforms per gram total solids (DWB),
And - Enteric viruses –less than one (1) plaque forming unit per four (4) grams total solids (DWB)
And - Viable helminth ova –less than one (1) per four (4) grams total solids (DWB)</td></tr>
<tr><td colspan="2">1 - MPN – Most Probable Number</td></tr>
<tr><td colspan="2">2 - DWB – Dry Weight Basis</td></tr>
<tr><td colspan="2">3 - CFU – Colony Forming Units</td></tr>
</table>

3. Vector Attraction Reduction Requirements.

a. If the biosolids are land applied, Northrop Grumman Systems Corporation will be required to meet VAR through the use of a method of listed under *40 CFR 503.33.* At this time Northrop Grumman Systems Corporation does not intend to distribute biosolids to the public for beneficial use, and will be disposing of them in a landfill. Under *40 CFR 503.33(b)(11)*

If the permittee intends to use another one of the alternatives, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public comment.

4. Self-Monitoring Requirements.

   a. At a minimum, upon the effective date of this permit, all chemical pollutants, pathogens and applicable vector attraction reduction requirements shall be monitored according to *40 CFR 503.16(1)(a)*.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times
Northrop Grumman Systems Corporation has disposed of an average of 60 DMT of biosolids a year over the past 5 years, therefore they would only be required to once a year.		

   b. Sample collection, preservation and analysis shall be performed in a manner consistent with the requirements of *40 CRF 503* and/or other criteria specific to this permit. A metals analysis is to be performed using *Method SW 846* with *Method 3050* used for digestion. For the digestion procedure, an amount of biosolids equivalent to a dry weight of one gram shall be used. The methods are also described in the latest version of the *Region VIII Biosolids Management Handbook.*

   c. The Director may request additional monitoring for specific pollutants derived from biosolids if the data shows a potential for concern.

   d. After two (2) years of monitoring at the frequency specified, the permittee may request that the Director reduce the sampling frequency for the heavy metals. The frequency cannot be reduced to less than once per year for biosolids that are sold or given away to the public for any parameter. The frequency also cannot be reduced for any of the pathogen or vector attraction reduction requirements listed in this permit.

C. Management Practices of Biosolids.

1. Biosolids Distribution Information

   a. For biosolids that are sold or given away, an information sheet shall be provided to the person who receives the biosolids. The label or information sheet shall contain:

      (1) The name and address of the person who prepared the biosolids for a sale or to be given away.

      (2) A statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet.

2. Biosolids Application Site Storage

   a. For biosolids or material derived from biosolids that are stored in piles for one year or longer, measures shall be taken to ensure that erosion (whether by wind or water) does

not occur. However, best management practices should also be used for piles used for biosolids treatment. If a treatment pile is considered to have caused a problem, best management practices could be added as a requirement in the next permit renewal

3. Land Application Practices

   a. The permittee shall operate and maintain the land application site operations in accordance with the following requirements:

      (1) The permittee shall provide to the Director and the EPA within 90 days of the effective date of this permit a land application plan.

      (2) Application of biosolids shall be conducted in a manner that will not contaminate the groundwater or impair the use classification for that water underlying the sites.

      (3) Application of biosolids shall be conducted in a manner that will not cause a violation of any receiving water quality standard from discharges of surface runoff from the land application sites. Biosolids shall not be applied to land 10 meters or less from waters of the United States (as defined in 40 CFR 122.2).

      (4) No person shall apply biosolids for beneficial use to frozen, ice-covered, or snow-covered land where the slope of such land is greater than three percent and is less than or equal to six percent unless one of the following requirements is met:

         (a) there is 80 percent vegetative ground cover; or,

         (b) approval has been obtained based upon a plan demonstrating adequate runoff containment measures.

      (5) Application of biosolids is prohibited to frozen, ice-covered, or snow-covered sites where the slope of the site exceeds six percent.

      (6) Agronomic Rate

         (a) Application of biosolids shall be conducted in a manner that does not exceed the agronomic rate for available nitrogen of the crops grown on the site. At a minimum, the permittee is required to follow the methods for calculating agronomic rate outlined in the latest version of the *Region VIII Biosolids Management Handbook* (other methods may be approved by the Director). The treatment plant shall provide written notification to the applier of the biosolids of the concentration of total nitrogen (as N on a dry weight basis) in the biosolids. Written permission from the Director is required to exceed the agronomic rate.

         (b) The permittee may request the limits of *Part III, C, 6* be modified if different limits would be justified based on local conditions. The limits are required to be developed in cooperation with the local agricultural extension office or university.

         (c) Deep soil monitoring for nitrate-nitrogen is required for all land application sites (does not apply to sites where biosolids are applied less than once every five years). A minimum of six samples for each 320 (or less) acre area is to

be collected. These samples are to be collected down to either a 5-foot depth, or the confining layer, whichever is shallower (sample at 1 foot, 2-foot, 3-foot, 4 foot and 5-foot intervals). Each of these one-foot interval samples shall be analyzed for nitrate-nitrogen. In addition to the one-foot interval samples, a composite sample of the 5-foot intervals shall be taken, and analyzed for nitrate-nitrogen as well. Samples are required to be taken once every five years for non-irrigated sites that receive more than 18 inches of precipitation annually or for irrigated sites

(7) Biosolids shall not be applied to any site area with standing surface water. If the annual high groundwater level is known or suspected to be within five feet of the surface, additional deep soil monitoring for nitrate-nitrogen as described in *Part III.C.(6),(c).* is to be performed. At a minimum, this additional monitoring will involve a collection of more samples in the affected area and possibly more frequent sampling. The exact number of samples to be collected will be outlined in a deep soil monitoring plan to be submitted to the Director and the EPA within 90 days of the effective date of this permit. The plan is subject to approval by the Director.

(8) The specified cover crop shall be planted during the next available planting season. If this does not occur, the permittee shall notify the Director in writing. Additional restrictions may be placed on the application of the biosolids on that site on a case-by-case basis to control nitrate movement. Deep soil monitoring may be increased under the discretion of the Director.

(9) When weather and or soil conditions prevent adherence to the biosolids application procedure, biosolids shall not be applied on the site.

(10) For biosolids that are sold or given away, an information sheet shall be provided to the person who receives the biosolids. The label or information sheet shall contain:

(a) The name and address of the person who prepared the biosolids for sale or give away for application to the land.

(b) A statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet.

(c) The annual whole biosolids application rate for the biosolids that do not cause the metals loading rates in Tables 1, 2, and 3 (*Part III.B.1.*) to be exceeded.

(11) Biosolids subject to the cumulative pollutant loading rates in Table 2 (*Part III.B.1.*) shall not be applied to agricultural land, forest, a public contact site, or a reclamation site if any of the cumulative pollutant loading rates in Table 2 have been reached.

(12) If the treatment plant applies the biosolids, it shall provide the owner or leaseholder of the land on which the biosolids are applied notice and necessary information to comply with the requirements in this permit.

(13) The permittee shall inspect the application of the biosolids to active sites to prevent malfunctions and deterioration, operator errors and discharges, which may cause or lead to the release of biosolids to the environment or a threat to

human health. The permittee must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment. The permittee shall keep an inspection log or summary including at least the date and time of inspection, the printed name and the handwritten signature of the inspector, a notation of observations made and the date and nature of any repairs or corrective action.

D. Special Conditions on Biosolids Storage. Permanent storage of biosolids is prohibited. Biosolids shall not be temporarily stored for more than two (2) years. Written permission to store biosolids for more than two years must be obtained from the Director. Storage of biosolids for more than two years will be allowed only if it is determined that significant treatment is occurring.

E. Representative Sampling. Biosolids samples used to measure compliance with *Part III* of this Permit shall be collected at locations representative of the quality of biosolids generated at the treatment works and immediately prior to land application.

F. Reporting of Monitoring Results.

1. Biosolids. The permittee shall provide the results of all monitoring performed in accordance with Part III.B, and information on management practices, biosolids treatment, site restrictions and certifications shall be provided no later than February 19 of each year. Each report is for the previous calendar year. If no biosolids were sold or given away during the reporting period, "no biosolids were sold or given away" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the Signatory Requirements (see Part VII.G), and submitted to the Utah Division of Water Quality and the EPA by the NeT-Biosolids system through the EPA Central Data Exchange (CDX) System.

G. Additional Record Keeping Requirements Specific to Biosolids.

1. Unless otherwise required by the Director, **the permittee is not required to keep records** on compost products if the permittee prepared them from biosolids that meet the limits in Table 3 (*Part III.B.1*), the Class A pathogen requirements in *Part III.B.2* and the vector attraction reduction requirements in *Part III.B.3*. The Director may notify the permittee that additional record keeping is required if it is determined to be significant to protecting public health and the environment.

2. **The permittee is required** to keep the following information for at least 5 years:

a. Concentration of each heavy metal in Table 3 (*Part III.B.1*).

b. A description of how the pathogen reduction requirements in *Part III.B.2* were met.

c. A description of how the vector attraction reduction requirements in *Part III.B.3* were met.

d. A description of how the management practices in *Part III.C* were met (if necessary).

e. The following certification statement:

"I certify under the penalty of law, that the heavy metals requirements in *Part III.B.1*, the pathogen requirements in *Part III.B.2*, the vector attraction requirements in *Part III.B.3*, the management practices in *Part III.C*. This determination has been made

under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements, the vector attraction reduction requirements and the management practices have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment."

3. 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 the life of the permit. Data collected on site, copies of Biosolids Report forms, and a copy of this UPDES biosolids-only permit must be maintained on site during the duration of activity at the permitted location.

IV. STORM WATER REQUIREMENTS.

A. Industrial Storm Water Permit. Based on the type of industrial activities occurring at the facility, the permittee is required to maintain separate coverage or an appropriate exclusion under the Multi-Sector General Permit (MSGP) for Storm Water Discharges Associated with Industrial Activities (UTR000000). If the facility is not already covered, the permittee has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation.

B. Construction Storm Water Permit. Any construction at the facility that disturbs an acre or more of land, including less than an acre if it is part of a common plan of development or sale, is required to obtain coverage under the UPDES Construction General Storm Water Permit (UTRC00000). Permit coverage must be obtained prior to land disturbance. If the site qualifies, a Low Erosivity Waiver (LEW) Certification may be submitted instead of permit coverage.

V. 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*, utilizing sufficiently sensitive test methods unless other test procedures have been specified in this permit.

C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

D. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10* and *40 CFR 503* or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or the Biosolids Report Form. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.

F. Records Contents. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements:
2. The individual(s) who performed the sampling or measurements;
3. The date(s) and time(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and,
6. The results of such analyses.

G. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The

report shall be made to the Division of Water Quality, (801) 536-4300, or 24-hour answering service (801) 536-4123.

2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4300 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:

   a. Any noncompliance which may endanger health or the environment;

   b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part VI.G, Bypass of Treatment Facilities.)*;

   c. Any upset which exceeds any effluent limitation in the permit (See *Part VI.H*, *Upset Conditions*.);

   d. Violation of a 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 V.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.

VI. 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 VI.G*, *Bypass of Treatment Facilities* and *Part VI.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 VI.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 VI.G.2.a (1), (2) and (3)*.

3. Notice.

   a. *Anticipated bypass*. Except as provided above in *section VI.G.2* and below in *section VI.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 VI.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 IV.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 V.H*, *Twenty-four Hour Notice of Noncompliance Reporting*; and,

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

VII. 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 VII.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 VII.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.

Q. Toxicity Limitation - Reopener Provision. Use the following paragraph if WET testing is required at the facility:

This permit may be reopened and modified (following proper administrative procedures) to include, whole effluent toxicity (WET) limitations, a compliance date, a compliance schedule, a change in the whole effluent toxicity (biomonitoring) protocol, additional or

modified numerical limitations, or any other conditions related to the control of toxicants if one or more of the following events occur;

1. Toxicity is detected, as per *Part I.C.4.a* of this permit, during the duration of this permit.

2. The TRE results indicate that the toxicant(s) represent pollutant(s) or pollutant parameter(s) that may be controlled with specific numerical limits, and the Director concludes that numerical controls are appropriate.

3. Following the implementation of numerical control(s) of toxicant(s), the Director agrees that a modified biomonitoring protocol is necessary to compensate for those toxicants that are controlled numerically.

4. The TRE reveals other unique conditions or characteristics, which in the opinion of the permit issuing authority justify the incorporation of unanticipated special conditions in the permit.

Use the following paragraph if there is no WET testing is required at the facility:

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.

VIII. 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}< 15% effluent for Outfall 001 and 8% effluent for Outfall 002. The 15% effluent and 8% 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. Biosolids.

1. "Biosolids," means any material or material derived from sewage solids that have been biologically treated.

2. "Dry Weight-Basis," means 100 percent solids (i.e. zero percent moisture).

3. "Land Application" is the spraying or spreading of biosolids onto the land surface; the injection of biosolids below the land surface; or the incorporation of biosolids into the land so that the biosolids can either condition the soil or fertilize crops or vegetation grown in the soil. Land application includes distribution and marketing (i.e. the selling or giving away of the biosolids).

4. "Pathogen," means an organism that is capable of producing an infection or disease in a susceptible host.

5. "Pollutant" for the purposes of this permit is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or pathogenic organisms that after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food-chain, could on the basis of information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.

6. "Runoff" is rainwater, leachate, or other liquid that drains over any part of a land surface and runs off the land surface.

7. "Similar Container" is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.

8. "Total Solids" are the materials in the biosolids that remain as a residue if the biosolids are dried at 103^{o} or 105^{o} Celsius.

9. "Treatment Works" are either Federally owned, publicly owned, or privately owned devices or systems used to treat (including recycling and reclamation) either domestic sewage or a combination of domestic sewage and industrial waste or liquid manure.

10. "Vector Attraction" is the characteristic of biosolids that attracts rodents, flies mosquito's or other organisms capable of transporting infectious agents.

11. "Animals" for the purpose of this permit are domestic livestock.

12. "Annual Whole Sludge Application Rate" is the amount of sewage sludge (dry-weight basis) that can be applied to a unit area of land during a cropping cycle.

13. "Agronomic Rate is the whole sludge application rate (dry-weight basis) designed to: (1) provide the amount of nitrogen needed by the crop or vegetation grown on the land; and (2) minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

14. "Annual Pollutant Loading Rate" is the maximum amount of a pollutant (dry-weight basis) that can be applied to a unit area of land during a 365-day period.

15. "Application Site or Land Application Site" means all contiguous areas of a users' property intended for sludge application.

16. "Cumulative Pollutant Loading Rate" is the maximum amount of an inorganic pollutant (dry-weight basis) that can be applied to a unit area of land.

17. "Grit and Screenings" are sand, gravel, cinders, other materials with a high specific gravity and relatively large materials such as rags generated during preliminary treatment of domestic sewage at a treatment works and shall be disposed of according to *40 CFR 258*.

18. "High Potential for Public Contact Site" is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

19. "Low Potential for Public Contact Site" is the land with a low potential for contact by the public. This includes, but is not limited to, farms, ranches, reclamation areas, and other lands which are private lands, restricted public lands, or lands which are not generally accessible to or used by the public.

20. "Monthly Average" is the arithmetic mean of all measurements taken during the month.

21. "Volatile Solids" is the amount of the total solids in sewage sludge lost when the sludge is combusted at 550 degrees Celsius for 15-20 minutes in the presence of excess air.

FACT SHEET STATEMENT OF BASIS
NORTHROP GRUMMAN SYSTEMS CORPORATION
UPDES PERMIT NO. UT0024805
UPDES BIOSOLIDS PERMIT NUMBER: UTL-024805
RENEWAL PERMIT
MAJOR INDUSTRIAL

FACILITY CONTACTS

Person Name:	Blair Palmer
Position:	Environmental Engineer
Phone Number:	(435) 863-2430
Person Name:	Kris Blauer
Position:	Manager, Environmental Services
Phone Number:	(801) 251-2166
Facility Name:	Northrop Grumman Systems Corporation
Mailing Address:	P.O. Box 707 Brigham City, Utah 84302-0689
Physical Address:	
Telephone:	(435) 863-3511
Actual Address:	9160 North Highway 83 Promontory, Utah 84302

DESCRIPTION OF FACILITY

This facility produces rocket motor propulsion units for space and military use and pyrotechnics for military and commercial use. It is located adjacent to State Highway U-83, 25 miles west of Brigham City, Utah. It has Standard Industrial Classification (SIC) code 3764, for Space Propulsion Units and SIC code 2899, for Manufacturing Pyrotechnics.

Northrop Grumman Systems Corporation's M-422 Waste Water Treatment Facility (WWTF) has bar screens, a grit chamber, an equalization basin, oxidation ditch, final clarifier, and is disinfected using ozone followed by an ozone contact tank. The effluent is then discharged to Blue Creek via Outfall 001. Currently M-422 receives on average 50,000 gallons/day (gpd) of domestic wastewater, 18,000 gpd of boiler water and 1,800 gpd of effluent from the bioreactor.

A wastewater treatment system for the production of solid rocket propellant was completed in 1989. The M-705 Wastewater Treatment System consists of precipitation, filtration, air stripping, carbon adsorption, ion exchange and neutralization. The flow is then split in which one part goes through the bioreactor and the rest is direct discharged. The anion regeneration brine and perchlorate contaminated wastewater is neutralized, filtered, and then sent to a bioreactor and is discharged to the Wastewater Treatment Plant. In 1997, the perchlorate biodegradation system was constructed which can treat approximately 8,000 gpd to a non-detectable level. This is discharged to the M-422 and E-541 WWTF. The maximum flow for the M-705 processes is 24,000 gpd. The flow from the bioreactor is a maximum of 5,000 gpd.

Northrop Grumman Systems Corporation's E-541 WWTF has a bar screen, equalization basin, oxidation ditch, final clarifier, and disinfection utilizing ozone. The effluent is then discharged to Blue Creek via Outfall 002. Currently E-541 receives on average 45,000 gpd of domestic wastewater, 2,200 gpd of boiler blow down water, 1,500 gpd of effluent from the bioreactor and 1,500 gpd from M-705 wastewater treatment.

The sludge from the clarifier from M-422 and E-541 is thickened and belt pressed. The sludge is then disposed at the Northrop Grumman Systems Corporation Class IIIb permitted landfill. The solids for the bar screen and grit chamber are sent to the landfill.

DISCHARGE

DESCRIPTION OF DISCHARGE

Discharge 001 from the South plant (M-422 WWTF) was designed for an average flow of 0.35 MGD. Discharge 002 from the North plant (E-541 WWTF) was designed of 0.16 MGD.

Northrop Grumman Systems Corporation has been reporting self-monitoring results of discharge 001 and 002 on Discharge Monitoring Reports on a monthly basis. In the last five years Northrop Grumman has had a good compliance history. For more information regarding Northrop Grumman's compliance history see the following website echo.epa.gov/effluent-charts#UT0024805.

In the previous permit Northrop Grumman Systems Corporation was allowed to receive 10,000 gallons per week of water generated from rocket motor production at the Alliant Bacchus facility to be treated by Northrop Grumman Systems Corporation's industrial-chemical treatment plant. This practice will continue to be allowed during this permit cycle.

Outfall Number	Location of Discharge Outfalls
001	South Treatment Plant/M-422 at latitude 41°39'29" and longitude 112°26'49 "
002	North Treatment Plant/E-541 and commingling from M-705 at latitude 41°43'03" and longitude 112°26'26 "

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge flows into Blue Creek, and finally into the Great Salt Lake. Blue Creek is classified 2B, 3D, and 4 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 3D -- Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.

Class 4 -- Protected for agricultural uses including irrigation of crops and stock watering.

TOTAL MAXIUM DAILY LOAD (TMDL) REQUIREMENTS

According to the Utah's 2021 303(d) Water Quality Assessment Report "Combined 2018/2020 Integrated Report Version 1.0", the receiving water for the discharge, Blue Creek (UT16020309-002_00) is impaired

for boron, selenium, pH, E. coli, and total dissolved solids (TDS). Aluminum was delisted in this report because the more recent monitoring data is sufficient and is now supporting. A site-specific standard for total dissolved solids was adopted for Blue Creek to address the impairment. The standard is as follows per UAC R317-2-14.1, Footnote (4).

> *Blue Creek and tributaries, Box Elder County, from Bear River Bay, Great Salt Lake to Blue Creek Reservoir: March through October daily maximum 4,900 mg/l and an average of 3,800 mg/l; November through February daily maximum 6,300 mg/l and an average of 4,700 mg/l. Assessments will be based on TDS concentrations measured at the location of STORET 4960740.*

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Based on reasonable potential, the concentration limits in the previous permit for Aluminum and Copper are being removed. Per the Wasteload analysis, the receiving segment of Blue Creek is listed as impaired for selenium without an approved TMDL. Therefore, the selenium limit is being set based on capping current load. Total Cadmium also showed reasonable potential and is also being added to the permit.

A typographical error from the previous permit was also corrected. The previous permit had a maximum weekly average for *E. coli* of 158 No./100 mL. This has been corrected to the secondary water quality standard of 157 No./100 mL. Additionally, perchlorate sampling has been changed from a grab to composite sampling at the request of the facility. This request was made to align the sampling type of this pollutant with others in the permit. Yearly sampling Organic Toxic Pollutants was added to the permit to more accurately classify the facilities waste stream. The final total phosphorous limit from the compliance schedule in the previous permit that became effective on January 1, 2022 has been incorporated into this permit.

Whole Effluent Toxicity testing at the facility is being changed. Previously the facility did acute WET testing. However, based on the discharge from the facility and flow rates in the receiving water, the Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (Biomonitoring), Utah Division of Water Quality, February 2018 indicates Chronic WET testing for the facility would be more appropriate. Due to the high Total Dissolved Solids of the receiving water (Blue Creek has a site specific standard for TDS), the facility was granted an alternate test species of *Daphnia magna* due to the intolerance of TDS by *Ceriodaphnia dubia*. Since the Utah WET Guidance Document indicates Chronic WET testing for the facility and there is no chronic test for *Daphnia magna*, the facility will continue to do acute WET testing for *Daphnia magna.* Additionally, chronic testing of *Ceriodaphnia dubia* are included in this permit as an indicator of toxicity. However, the chronic WET test for results alone for *Ceriodaphnia dubia* do not demonstrate noncompliance with the Narrative Standards. As indicators, the chronic WET test results for *Ceriodaphnia dubia* alone are not used for determining reasonable potential for toxicity or noncompliance with the permit.

BASIS FOR EFFLUENT LIMITATIONS

In accordance with regulations promulgated in 40 Code of Federal Regulations (CFR) Part 122.44 and in Utah Administrative Code (UAC) R317-8-4.2, effluent limitations are derived from Federal technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (UAC R317-1-3.2) or Utah Water Quality Standards (UAC R317-2). In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits or multiple limits have been developed, Best Professional Judgment (BPJ) of the permitting authority may be used where applicable. “Best Professional Judgment” refers to a discretionary, best professional decision made by the permit writer based upon precedent,

prevailing regulatory standards or other relevant information.

Permit limits can also be derived from the WLA, which incorporates Secondary Treatment Standards, Water Quality Standards, including Total Maximum Daily Load (TMDL) impairments as appropriate, Antidegradation Review (ADR), and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were completed as appropriate. An ADR Level I review was performed and concluded that an ADR Level II review was not required for this permit renewal since there are no proposed increases in flow or concentrations from the existing Northrop Grumman operations. The WLA indicates that the effluent limitations will be sufficiently protective of water quality in order to meet State water quality standards in the receiving waters. The WLA and ADR are attached as an addendum to this Fact Sheet.

While Utah secondary Water Quality standards do not apply to industrial facilities, since the facility treats greater than 50,000 gallons of domestic sewage every operational day, limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5), *E. coli* and pH are considered pollutants of concern. The limits for these pollutants were set best professional judgement based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The oil and grease are based on best professional judgment (BPJ). The limits for total ammonia (as N), total cadmium, dissolved selenium, total dissolved solids, and Isopropanol are based on the WLA. Attached is a WLA for this discharge into Blue Creek. It has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level II review is not required since the Level I review shows that water quality impacts are minimal. The permittee is expected to be able to comply with these limitations. Phosphorus limits were set using the Technology Based Phosphorous Effluent Limits (TBPEL).

The facility monitoring data can be found at https://echo.epa.gov/effluent-charts#UT0024805

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 conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance: Outcome A, B, C, or D. These Outcomes provide a frame work for what routine monitoring or effluent limitations are required

A quantitative RP analysis was performed on all toxic metals sampled in the previous permit to determine if there was reasonable potential for the discharges to exceed the applicable water quality standards. Based on the RP analysis, two of the parameters (Cadmium and Selenium) examined exceeded the most stringent chronic or acute water quality standard or were determined to have a reasonable potential to exceed water quality standards. Additionally, quarterly monitoring for toxic metals will still be required to generate RP for the next permit cycle. A copy of the RP analysis is included at the end of this Fact Sheet containing more detailed information regarding the RP analysis.

The permit limitations are permittee as specified below:

Parameter		Effluent Limitations *a			
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD Outfall 001 *b Outfall 002 *b	 0.35 0.16	--	--	--	--
Biological Oxygen Demand (BOD_5), mg/L	25	35	--	--	--
Total Suspended Solids (TSS), mg/L	25	35	--	--	--
Dissolved Oxygen, mg/L	--	--	--	4.5	--
Total Ammonia (as N), mg/L Summer (Jul-Sep) Fall (Oct-Dec) Winter (Jan-Mar) Spring (Apr-Jun)	 5.0 9.0 11.0 6.0	 5.0 9.0 11.0 6.0	 -- -- -- --	 -- -- -- --	 14.0 15.0 13.0 16.0
E. coli, No./100mL	126	157	--	--	--
Ozone, mg/L	--	--	--	--	0.1
pH, Standard Units	--	--	--	6.5	9
Oil & Grease, mg/L	--	--	--	--	10.0
Total Cadmium, Outfall 002 µg/L	--	--	--	--	7.2
Dissolved Selenium, µg/L *c	--	--	--	--	18.4
Total Phosphorus (as P), mg/L (Final) *d, *e,	--	--	1.0	--	--
TDS, mg/L November – February March – October	 4,700 3,800	 -- --	 -- --	 -- --	 6,300 4,900
Isopropanol, mg/L	--	--	--	--	1
Sum, Other Volatile Organics, mg/L	--	--	--	--	2
WET, Chronic Biomonitoring Outfall 001	--	--	--	--	IC_{25}> 18.4% effluent
WET, Chronic Biomonitoring Outfall 002	--	--	--	--	IC_{25}> 9.4% effluent
WET, Acute Biomonitoring Outfall 001, 002	--	--	--	--	LC_{50} > 100% Effluent

SELF-MONITORING AND REPORTING REQUIREMENTS

The facility will have the following self-monitoring requirements. The monitoring frequency is based upon the design flow of the facility's outfalls. 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. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be attached to the DMRs.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b	Continuous	Recorder	MGD
BOD_5,	Monthly	Composite	mg/L
Chemical Oxygen Demand	Monthly	Composite	mg/L
TSS,	Monthly	Composite	mg/L
Dissolved Oxygen, mg/L	2x Monthly	Grab	mg/L
Total Ammonia (as N)	2x Monthly	Composite	mg/L
E. coli	Monthly	Grab	No./100mL
Ozone	3 x Week	Grab	mg/L
pH	2 x Month	Grab	SU
Oil & Grease *f	When Sheen Observed/Monthly	Grab	mg/L
Total Aluminum	Monthly	Composite	µg/L
Total Arsenic	Monthly	Composite	µg/L
Total Cadmium	Monthly	Composite	µg/L
Total Chromium	Monthly	Composite	µg/L
Total Copper	Monthly	Composite	µg/L
Total Lead	Monthly	Composite	µg/L
Total Mercury	Monthly	Composite	µg/L
Total Nickel	Monthly	Composite	µg/L
Total Selenium	Monthly	Composite	µg/L
Total Silver	Monthly	Composite	µg/L
Total Zinc	Monthly	Composite	µg/L
Total Phosphorus, *d, *e			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Solids, Total Dissolved	Monthly	Composite	mg/L
Isopropanol	Monthly	Grab	mg/L
Sum, Other Volatile Organics	Monthly	Grab	mg/L
WET – Biomonitoring *g	Quarterly		
Daphnia magna – Acute	1st & 3rd Quarter	Composite	Pass/Fail
Ceriodaphnia dubia - Chronic	1st & 3rd Quarter	Composite	Report Only
Fathead Minnows - Chronic	2nd & 4th Quarter	Composite	Pass/Fail
Perchlorate	Monthly	Composite	mg/L
Orthophosphate (as P), *e	Monthly		
Effluent		Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) *d, *e	Monthly		
Influent		Composite	mg/L
Effluent		Composite	mg/L
Nitrate, NO3 *e	Monthly	Composite	mg/L
Nitrite, NO2 *e	Monthly	Composite	mg/L

*a See Definitions, *Part VIII*, for definition of terms.
*b If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
*c The receiving segment on Blue Creek is listed as impaired for constituent without an approved TMDL; limit to be set to the water quality standard.
*d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
*e These reflect changes required with the adoption of *UCA R317-1-3.3*, Technology-based Phosphorus Effluent Limits rule.
*f Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
*g The acute *Daphnia magna* and chronic *Ceriodaphnia* will be tested during the 1st and 3rd quarters. Chronic fathead minnows will be tested during the 2nd and 4th quarters.

BIOSOLIDS

For clarification purposes, sewage sludge is considered solids, until treatment or testing shows that the solids are safe, and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids, may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

DESCRIPTION OF TREATMENT AND DISPOSAL

Sludge is generated in NORTHROP GRUMMAN Thiokol Propulsion's M-422 and E-541 Waste Water Treatment Facilities. Both of which are oxidation ditch processes that treat a combination of domestic and industrial wastewater. At both facilities the sludge from the clarifiers is dewatered through belt presses and disposed of onsite ate the Class IIIb permitted landfill.

SELF-MONITORING REQUIREMENTS

Under *40 CFR 503.16(a)(1),* the self-monitoring requirements are based upon the amount of biosolids disposed per year and shall be monitored according to the chart below.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

Northrop Grumman Systems Corporation has disposed of an average of 60 DMT of biosolids a year over the past 5 years, therefore they would only be required to once a year.

Landfill Monitoring

Under *40 CFR 258,* the landfill monitoring requirements include a paint filter test. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill *(40 CFR 258.28(c)(1).*

BIOSOLIDS LIMITATIONS

Heavy Metals

Class A Biosolids for Home Lawn and Garden Use

The intent of the heavy metals regulations of Table 3, *40 CFR 503.13* is to ensure the heavy metals do not build up in the soil in home lawn and gardens to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C*. of the permit) to made available to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions of the information sheet are followed to any reasonable degree, the Class A biosolids will be able to be land applied year after year, to the same lawns and garden plots without any deleterious effects to the environment. The information sheet must be provided to the public, because the permittee is not required, nor able to track the quantity of Class A biosolids that are land applied to home lawns and gardens.

Class A Requirements with Regards to Heavy Metals

If the biosolids are to be applied to a lawn or home garden, the biosolids shall not exceed the maximum heavy metals in Table 3 below. If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

Class B Requirements for Agriculture and Reclamation Sites

The intent of the heavy metals regulations of Tables 1, 2 and 3, of *40 CFR 503.13* is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C*. of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites (if biosolids are only applied to land owned by the permittee, the information sheet requirements are waived). If the biosolids are land applied according to the regulations of *40 CFR 503.13*, to any reasonable degree, the Class B biosolids will be able to be land applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

Class B Requirements With Regards to Heavy Metals

If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation site it must meet at all times:

The maximum heavy metals listed in *40 CFR Part 503.13(b) Table 1* and the heavy metals loading rates in *40 CFR Part 503.13(b) Table 2*; or

The maximum heavy metals in *40 CFR Part 503.13(b) Table 1* and the monthly heavy metals concentrations in *40 CFR Part 503.13(b) Table 3*.

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits [1], (mg/kg)	CPLR [2], (mg/ha)	Pollutant Conc. Limits [3] (mg/kg)	APLR [4], (mg/ha-yr)
Total Arsenic	75	41	41	2.0
Total Cadmium	85	39	39	1.9
Total Copper	4300	1500	1500	75
Total Lead	840	300	300	15
Total Mercury	57	17	17	0.85
Total Molybdenum	75	N/A	N/A	N/A

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits [1], (mg/kg)	CPLR [2], (mg/ha)	Pollutant Conc. Limits [3] (mg/kg)	APLR [4], (mg/ha-yr)
Total Nickel	420	420	420	21
Total Selenium	100	100	100	5.0
Total Zinc	7500	2800	2800	140
1, If the concentration of any 1 (one) of these parameters exceeds the Table 1 limit, the biosolids cannot be land applied or beneficially used in any way.				
2, CPLR - Cumulative Pollutant Loading Rate - The maximum loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially used on agricultural, forestry, or a reclamation site.				
3, If the concentration of any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids cannot be land applied or beneficially used in on a lawn, home garden, or other high potential public contact site. If any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids may be land applied or beneficially reused on an agricultural, forestry, reclamation site, or other high potential public contact site, as long as it meets the requirements of Table 1, Table 2, and Table 4.				
4, APLR - Annual Pollutant Loading Rate - The maximum annual loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially reused on agricultural, forestry, or a reclamation site, when they do not meet Table 3, but do meet Table 1.				

Any violation of these limitations shall be reported in accordance with the requirements of Part III.F.1. of the permit .If the biosolids do not meet these requirements they cannot be land applied.

Pathogens

The Pathogen Control class listed in the table below must be met;

Pathogen Control Class	
503.32 (a)(1) - (5), (7), (8), Class A	503.32 (b)(1) - (5), Class B
B Salmonella species –less than three (3) MPN[1] per four (4) grams total solids (DWB)[2] or Fecal Coliforms – less than 1,000 MPN per gram total solids (DWB).	Fecal Coliforms – less than 2,000,000 MPN or CFU[3] per gram total solids (DWB).
503.32 (a)(6) Class A—Alternative 4	
B Salmonella species –less than three (3) MPN per four (4) grams total solids (DWB) or less than 1,000 MPN Fecal Coliforms per gram total solids (DWB), And - Enteric viruses –less than one (1) plaque forming unit per four (4) grams total solids (DWB) And - Viable helminth ova –less than one (1) per four (4) grams total solids (DWB)	
1 - MPN – Most Probable Number	
2 - DWB – Dry Weight Basis	
3 - CFU – Colony Forming Units	

Class A Requirements for Home Lawn and Garden Use

If biosolids are land applied to home lawns and gardens, the biosolids need to be treated by a specific process to further reduce pathogens (PFRP), and meet a microbiological limit of less than less than 3 most probable number (MPN) of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids. At this time Northrop Grumman Systems Corporation's does not intend to distribute biosolids to the public for use on the lawn and garden and thus is not required meet Class A Biosolids requirements currently.

The practice of sale or giveaway to the public is an acceptable use of biosolids of this quality as long as the biosolids continue to meet Class A standards with respect to pathogens. If the biosolids do not meet Class A pathogen standards the biosolids cannot be sold or given away to the public, and the permittee will need find another method of beneficial use or disposal.

Pathogens Class B

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP). At this time Northrop Grumman Systems Corporation's does not intend to distribute bulk biosolids for land application and thus is not required meet Class B Biosolids requirements currently.

Vector Attraction Reduction (VAR)

If the biosolids are land applied Northrop Grumman Systems Corporation's will be required to meet VAR through the use of a method of listed under *40 CFR 503.33.* At this time Northrop Grumman Systems Corporation's does not intend to distribute biosolids to the public for beneficial use, and will be disposing of them in a landfill. Under *40 CFR 503.33(b)(11)*

If the biosolids do not meet a method of VAR, the biosolids cannot be land applied.

If the permittee intends to use another one of the listed alternatives in *40 CFR 503.33*, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice

Landfill Monitoring

Under *40 CFR 258,* the landfill monitoring requirements include a paint filter test to determine if the biosolids exhibit free liquid. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill *(40 CFR 258.28(c)(1).*

Record Keeping

The record keeping requirements from *40 CFR 503.17* are included under *Part III.G*. of the permit. The amount of time the records must be maintained are dependent on the quality of the biosolids in regards to the metals concentrations. If the biosolids continue to meet the metals limits of *Table 3* of *40 CFR 503.13*, and are sold or given away the records must be retained for a minimum of five years. If the biosolids are disposed in a landfill the records must retained for a minimum of five years.

Reporting

Northrop Grumman Systems Corporation's must report annually as required in *40 CFR 503.18*. This report is to include the results of all monitoring performed in accordance with *Part III.B* of the permit, information on management practices, biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

MONITORING DATA

METALS MONITORING DATA
Northrop Grumman Systems Corporation's was required to sample for metals at least once per year. The monitoring data is summarized below.

Metals Monitoring Data

Metals Monitoring Data,			
Parameter	Table 3, mg/kg (Exceptional Quality)	Average, ug/L	Maximum, ug/L
Arsenic	41.0	0.02	0.02
Cadmium	39.0	0.00135	0.0018
Copper	1,500.0	0.075525	0.19
Lead	300.0	0.02	0.02
Mercury	17.0	0.0003	0.0003
Molybdenum	75.0	0.002	0.005
Nickel	400.0	0.015375	0.024
Selenium	36.0	0.03	0.03
Zinc	2,800.0	0.61975	2.39

PATHOGEN MONITORING DATA
Northrop Grumman Systems Corporation's landfills all biosolids generated at the facility, therefore they are not required

STORM WATER

Separate storm water permits may be required based on the types of activities occurring on site.

Permit coverage under the Multi Sector General Permit (MSGP) for Storm Water Discharges from Industrial Activities is required based on the Standard Industrial Classification (SIC) code for the facility and the types of industrial activities occurring. If the facility is not already covered, it has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation. Previously storm water discharge requirements and coverage were combined in this individual permit. These have been separated to provide consistency among permittees, electronic reporting for storm water discharge monitoring reports, and increase flexibility to changing site conditions.

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturb an acre or more, or is part of a common plan of development or sale that is an acre or greater. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction.

Information on storm water permit requirements can be found at http://stormwater.utah.gov

PRETREATMENT REQUIREMENTS

Any process wastewater that the permittee discharges to a POTW, 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 pretreatment requirements found in UAC R317-8-8, and any specific local discharge limitations developed by the POTW accepting the waste.

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

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

Since the permittee is a major industrial discharger, the renewal permit will again require whole effluent toxicity (WET) testing. For major facilities under 1 MGD, the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control recommends quarterly WET testing. As a result, the facility will be required to conduct Chronic quarterly biomonitoring or Acute Quarterly biomonitoring as described in the permit. New concentrations are listed in the table below and were discussed in the changes section above. The IC25 is the inhibition concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.

The permit contains the standard requirements for accelerated testing upon failure of a WET test and a PTI (Preliminary Toxicity Investigation) and TRE (Toxicity Reduction Evaluation) as necessary. The permit also contains a toxicity limitation re-opener provision. This provision allows for modification of the permit at any time to include WET limitations and/or increased WET monitoring, 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 and Reviewed by
Lonnie Shull, Discharge Permit Writer, Biomonitoring
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Mike Allred, TMDL/Watershed
Chris Shope, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE INFORMATION

Began: May 2, 2023
Ended: June 1, 2023

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

The Public Noticed of the draft permit was published on the DWQ public notices website for at least 30 days as required per UAC R317-8-6.5.

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

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

Responsiveness Summary

Northrup Grumman provided comment to the draft permit on May31, 2023. Those comments were responded to on June 20, 2023. In their comments, the facility asked for a reanalysis of Reasonable potential for cadmium at Outfall 002. As a result of that reanalysis, the effluent limit for cadmium at Outfall 002 will be removed from the permit. Since this is a substantive change, a public notice period will be reopened because of the removal of this effluent limit. The original cadmium limits for Outfall 002 will be in effect until the conclusion of that public notice period. All other comments resulted in changes that were deemed minor and did not require additional action. The permit was issued effective July 1, 2023.

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ATTACHMENT 1

Effluent Monitoring Data

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Wasteload Analysis

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ATTACHMENT 4

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at water Quality. There are four outcomes for the RP Analysis[1]. They are;

Outcome A: A new effluent limitation will be placed in the permit.
Outcome B: No new effluent limitation. Routine monitoring requirements will be placed or increased from what they are in the permit,
Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit,
Outcome D: No limitation or routine monitoring requirements are in the permit.

(REASONABLE POTENTIAL LANGUAGE)

Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at some of the metals is needed. A copy of the initial screening is included in the "Effluent Metals and RP Screening Results" table in this attachment. The initial screening check for metals showed that the full model needed to be run on

The RP model was run on (metal) using the most recent data back through 2022 This resulted in between 10 and 112 data points and that there is a Reasonable Potential for a chronic or acute limit for Arsenic and Selenium at Outfall 001 and Aluminum at Outfall001 . Reviewing the data showed that there could be at least one outlier in the data. The EPA ProUCL model was used to evaluate the data. It showed that outliers existed for all of these metals. These outliers were eliminated from the data and RP was run again. After removing the outliers, none of these metals showed RP for acute or chronic as the Maximum Effluent Concentration was lower than the Maximum allowable concentration from the current Wasteload Analysis. This result indicates that the inclusion of an effluent limit for (metal) is not required at this time, and that routine monitoring requirements can be added or increased in the permit.(Outcome C from Reasonable Potential Guide)

Additionally, after reviewing the current Wasteload analysis, it was discovered that the minimum detection limit for Mercury was higher than the chronic MAC from the Wasteload. Even with most of the Mercury results as non-detect this still indicated RP for chronic mercury. As a result, the facility collected 10 samples of ultra trace mercury with a detection limit below the MAC. After running RP at both 95% and 99% confidence limits, it was found there was no reasonable potential for the facility to exceed the MAC for mercury.

A Summary of the RP Model inputs and outputs are included in the table below.

The Metals Initial Screening Table and RP Outputs Table are included in this attachment.

RP input/output summary

2023 Summary Results of Reasonable Potential Analysis for NORTHROP GRUMMAN (UT0021725)

Parameter	Outfall	No. of Samples	MEC*1 mg/L	Water Quality Standard MAC*2		Outcome/Result
				Acute mg/L	Chronic mg/L	
Total Aluminum /b	001	56	0.366	0.75	NA	MEC < MAC*4
Total Arsenic b/	001	50	0.0131	1.314	1.618	MEC < MAC*4
Total Cadmium	001	25	0.0059	0.007	0.032	MEC < MAC *3
Total Chromium	001	56	0.024	7.413	3.094	MEC < MAC*4
Total Copper	001	112	0.0987	0.195	0.351	MEC < MAC*4

[1] See Reasonable Potential Analysis Guidance for definitions of terms

Total Lead	001	31	0.0126	1.177	0.147	MEC < MAC*4
Total Mercury a/	001	10	0.0253	10.036	0.063	MEC < MAC*4
Total Nickel	001	56	0.003	6.321	2.228	MEC < MAC*4
Total Selenium b/	001	55	0.0592	0.002	NA	MEC > MAC *3
Total Silver	001	26	0.0042	0.144	No Standard	MEC < MAC*4
Total Zinc	001	56	0.281	1.531	5.029	MEC < MAC*4
Total Aluminum b/	002	58	0.324	0.75	NA	MEC < MAC*4
Total Arsenic	002	56	0.0111	1.314	1.618	MEC < MAC*4
Total Cadmium	002	23	0.0091	0.007	0.032	MEC > MAC *3
Total Chromium	002	56	0.137	7.413	3.094	MEC < MAC*4
Total Copper	002	56	0.101	0.195	0.351	MEC < MAC*4
Total Lead	002	25	0.0082 3	1.177	0.147	MEC < MAC*4
Total Mercury /a	002	10	0.0075 3	10.036	0.063	MEC < MAC*4
Total Nickel /a	002	56	60.4	6.321	2.228	MEC < MAC*4
Total Selenium	002	56	0.0571	0.002	NA	MEC < MAC *3
Total Silver	002	27	0.0108	0.144	No Standard	MEC < MAC*4
Total Zinc b/	002	56	1.65	1.531	5.029	MEC < MAC*4

a/ Units in µg/L
b/ Outlier(s) removed

*1 MEC – Maximum expected effluent concentration as determined from existing data set and sufficiently sensitive method detection limits.

*2 MAC – Maximum allowable concentration from current Water Quality Standards.

*3 MEC Greater Than MAC – New Acute or Chronic limit required for Metals (Outcome A)

*4 MEC less than MAC – No Acute or Chronic limit required for metals (Outcome C).

Based upon the policy "Reasonable Potential Analysis Guidance", developed by the Utah Division of Water Quality and implemented on September 10, 2015; it was determined not to include any total metal effluent limits in the 2019 renewal permit. This is because the data points reviewed were well below the Water Standards and/or applicable method detection limits. Metals monitoring will continue however, as detailed in the permit. This will be re-evaluated during the next permit cycle as appropriate.