

Permit No. UT0024805
Major Industrial

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

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

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

ATK Launch Systems Inc.

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

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

This **modified** permit shall become effective on January 3, 2020.

This permit expires at midnight on March 31, 2022.

Signed this 3rd day of January, 2020.



Erica Brown Gaddis, PhD
Director

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I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Definitions.

1. The "7-day (and weekly) average" is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week 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 the Saturday.
2. The "30-day (and monthly) average" is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
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.
5. "Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
6. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
7. "Co-located industrial activity" means when a facility has industrial activities being conducted onsite that are described under more than one of the coverage sections of *Appendix II* in the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity. Facilities with co-located industrial activities shall comply with all applicable monitoring and pollution prevention plan requirements of each section in which a co-located industrial activity is described.

8. "Commercial Treatment and Disposal Facilities" means facilities that receive, on a commercial basis, any produced hazardous waste (not their own) and treat or dispose of those wastes as a service to the generators. Such facilities treating and/or disposing exclusively residential hazardous wastes are not included in this definition.
9. "Composite samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the composite sample period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:
 - a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
 - b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;
 - c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,
 - d. Continuous collection of sample, with sample collection rate proportional to flow rate.
10. "CWA" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
11. "Daily Maximum" ("Daily Max.") is the maximum value allowable in any single sample or instantaneous measurement.
12. "Daily Minimum" ("Daily Min.") is the minimum value allowable in any single sample or instantaneous measurement.
13. "EPA" means the United States Environmental Protection Agency.
14. "Flow-weighted composite sample" means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.
15. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream. The sample is taken without regard to the flow in the wastestream and over a period of time not to exceed fifteen (15) minutes.

16. "Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a *UPDES* permit (other than the *UPDES* permit for discharges from the municipal separate storm sewer) and discharges from fire fighting activities, fire hydrant flushings, potable water sources including waterline flushings, uncontaminated ground water (including dewatering ground water infiltration), foundation or footing drains where flows are not contaminated with process materials such as solvents, springs, riparian habitats, wetlands, irrigation water, exterior building washdown where there are no chemical or abrasive additives, pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used, and air conditioning condensate.
17. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
18. "Landfill" means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.
19. "Land application unit" means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.
20. "NOI" means "notice of intent", it is an application form that is used to obtain coverage under the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity.
21. "NOT" means "notice of termination", it is a form used to terminate coverage under the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity.
22. "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharges. This term does not include return flows from irrigated agriculture or agriculture storm water runoff.
23. "Runoff coefficient" means the fraction of total rainfall that will appear at a conveyance as runoff.
24. "Section 313 water priority chemical" means a chemical or chemical categories that:

- a. Are listed at *40 CFR 372.65* pursuant to *Section 313* of the *Emergency Planning and Community Right-to-Know Act (EPCRA)* (also known as *Title III of the Superfund Amendments and Reauthorization Act (SARA)* of 1986);
 - b. Are present at or above threshold levels at a facility subject to *EPCRA Section 313* reporting requirements; and
 - c. Meet at least one of the following criteria:
 - (1) Are listed in *Appendix D* of *40 CFR Part 122* on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances);
 - (2) Are listed as a hazardous substance pursuant to *Section 311(b)(2)(A)* of the *CWA* at *40 CFR 116.4*; or
 - (3) Are pollutants for which EPA has published acute or chronic water quality criteria. See *Appendix III* of this permit. This appendix was revised based on final rulemaking EPA published in the *Federal Register* November 30, 1994.
25. "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.
26. "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under *Section 101(14)* of *CERCLA*; any chemical the facility is required to report pursuant to *EPCRA Section 313*; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.
27. "Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under *Section 311* of the *Clean Water Act* (see *40 CFR 110.10* and *40 CFR 117.21*) or *Section 102* of *CERCLA* (see *40 CFR 302.4*).
28. "Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

29. “Storm water associated with industrial activity” (*UAC R317-8-3.8(6)(c) & (d)*) means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the *UPDES* program. For the categories of industries identified in paragraphs (*a*) through (*j*) of this definition, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined in *40 CFR Part 401*); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph (*k*) of this definition, the term includes only storm water discharges from all areas (except access roads and rail lines) listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs (*a*) to (*k*) of this definition) include those facilities designated under *UAC R317-8-3.8(1)(a)5*. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:
- a. Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under *40 CFR Subchapter N* (except facilities with toxic pollutant effluent standards that are exempted under category (*k*) of this definition);
 - b. Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, 373;
 - c. Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except

- for areas of coal mining operations no longer meeting the definition of a reclamation area under *40 CFR 434.11(l)* because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations that have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but that have an identifiable owner/operator;
- d. Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;
 - e. Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under *Subtitle D* of RCRA;
 - f. Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;
 - g. Steam electric power generating facilities, including coal handling sites;
 - h. Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45 and 5171 that have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or that are otherwise identified under paragraphs (a) to (g) or (I) to (k) of this subsection are associated with industrial activity;
 - i. Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under *40 CFR Part 403*. Not included are farm lands, domestic gardens or lands used for sludge

management where sludge is beneficially reused and that are not physically located in the confines of the facility, or areas that are in compliance with *40 CFR Part 503*;

- j. Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than 5 acres of total land area that are not part of a larger common plan of development or sale;
 - k. Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and that are not otherwise included within categories (a) to (j))
30. "SWDMR" means "storm water discharge monitoring report", a report of the results of storm water monitoring required by the permit. The Division of Water Quality provides the storm water discharge monitoring report form.
31. "Time-weighted composite" means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.
32. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
33. "Waste pile" means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.
34. "Biosolids," means any material or material derived from sewage solids that have been biologically treated.
35. "Dry Weight-Basis," means 100 percent solids (i.e. zero percent moisture).
36. "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).
37. "Pathogen," means an organism that is capable of producing an infection or disease in a susceptible host.

38. “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.
39. “Runoff” is rainwater, leachate, or other liquid that drains over any part of a land surface and runs off the land surface.
40. “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.
41. “Total Solids” are the materials in the biosolids that remain as a residue if the biosolids are dried at 103° or 105° Celsius.
42. “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.
43. “Vector Attraction” is the characteristic of biosolids that attracts rodents, flies, mosquitos or other organisms capable of transporting infectious agents.
44. “Animals” for the purpose of this permit are domestic livestock.
45. “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.
46. “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.
47. “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.
48. “Application Site or Land Application Site” means all contiguous areas of a users’ property intended for sludge application.

49. “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.
50. “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*.
51. “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.
52. “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.
53. “Monthly Average” is the arithmetic mean of all measurements taken during the month.
54. “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.

B. Description of Discharge Point.

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

<u>Outfall Number</u>	<u>Location of Discharge Point(s)</u>
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 "

C. Narrative Standard.

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

D. Specific Limitations and Self-monitoring Requirements.

1. Toxicity Limitations for Outfall 001 and 002

Effective immediately, and lasting through the life of this permit, there shall be no acute toxicity in the discharge as defined in *Part I*, and determined by test procedures described in *Part I.D.3* of this permit

2. 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:

Parameter	Effluent Limitations Outfall 001 and 002 a/			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Total Flow, MGD				
001	0.35	NA	NA	NA
002	0.16	NA	NA	NA
BOD ₅ , mg/L	25	35	NA	NA
TSS, mg/L	25	35	NA	NA
DO, mg/L	NA	NA	4.5	NA
COD, mg/L	NA	NA	NA	NA
Ammonia, mg/L				
Summer	5	NA	NA	14
Fall	9	NA	NA	15
Winter	11	NA	NA	13
Spring	6	NA	NA	16
Isopropanol, mg/L	NA	NA	NA	1
Sum other vol. Organics, mg/L	NA	NA	NA	2
TDS, mg/L				
November – February	4,700	NA	NA	6,300
March – October	3,800	NA	NA	4,900
pH, SU	NA	NA	6.5	9.0
E. coli, No./100 mL	126	158	NA	NA
Total Aluminum, mg/L	NA	NA	NA	2
Total Copper, mg/L	0.111 h/	NA	NA	0.125 h/
Ozone, mg/L	NA	NA	NA	0.1 b/
Oil & Grease, mg/L	NA	NA	NA	10
WET testing	NA	NA	LC ₅₀ >100% effluent	NA

NA – Not Applicable

Phosphorous Effluent Limitations		
Parameter	Current	New
	Annual Average	Annual Average
Interim Total Phosphorous, mg/L (Effective January 1, 2020 – December 31, 2021)	No Limit	2.8 (Interim Limit)
Final Total Phosphorous, mg/L, (Effective January 1, 2022)	No Limit	1.0

Self-Monitoring Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow	Continuous	Recorder	MGD
BOD ₅	Monthly	Composite	mg/L
TSS	Monthly	Composite	mg/L
DO f/	2 X Monthly c/	Grab	mg/L
COD	Monthly	Composite	mg/L
Ammonia	2 X Monthly c/	Composite	mg/L
Isopropanol	Monthly	Grab	mg/L
Volatile Organic	Monthly	Grab	mg/L
TDS	2 X Monthly c/	Composite	mg/L
pH	2 X Monthly c/	Grab	Standard Units
<i>E. coli</i>	Monthly	Grab	No./100 mL
Total Aluminum	Monthly	Composite	mg/L
Ozone	3 X Week	Grab	mg/L
Oil & Grease	d/	Grab	mg/L
WET testing	Quarterly	Composite	Pass/Fail
Perchlorate	Monthly	Grab	mg/L
Total Silver	Monthly	Composite	mg/L
Total Arsenic	Monthly	Composite	mg/L
Total Cadmium	Monthly	Composite	mg/L
Total Chromium	Monthly	Composite	mg/L
Total Copper	Monthly	Composite	mg/L
Total Lead	Monthly	Composite	mg/L
Total Mercury, g/	Monthly	Composite	mg/L
Total Nickel	Monthly	Composite	mg/L
Total Selenium	Monthly	Composite	mg/L
Total Zinc	Monthly	Composite	mg/L
Sulfate e/	2 X Monthly c/	Composite	mg/L
Nitrate as N e/	2 X Monthly c/	Composite	mg/L
Nitrite as N e/	2 X Monthly c/	Composite	mg/L
Orthophosphate, (as P)	Monthly	Composite	mg/L
Phosphorus, Total			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N)			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L

Nitrite-Nitrate	Monthly	Composite	mg/L
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- a/ See Definitions, Part VIII, for definition of terms
- b/ A concentration greater than 0.1 mg/L is allowed at the treatment plant as long as, the end of pipe, at the outfall to the stream does not exceed 0.1 mg/L. If sampling occurs at the discharge point, prior to mixing with the receiving stream, then the resample must be taken within 60 minutes of the sample being taken from the Outfall. Also if this occurs, then this sampling event must be noted on the DMR.
- c/ Sampling is required each half of the month and between 10 to 21 days apart.
- d/ A sample is only required when sheen is observed or there is a reason to think oil is present.
- e/ Monitoring will only need to be conducted if water is being trucked to permittee from the Bacchus facility. At least one sample must be taken if water is received. If no sampling occurs a NODI9 (no discharge) will be reported on the DMR.
- f/ Monitoring can be done of the effluent before the receiving stream if the limit for DO is not met at the treatment facility. If sampling occurs at the discharge point, prior to mixing with the receiving stream, then the resample must be taken within 60 minutes of the sample being taken from the Outfall. Also if this occurs, then this sampling event must be noted on the DMR.
- g/ Analysis for mercury must have a minimum detection limit of 0.000026 mg/L.
- h/ The limit for copper will only apply to Outfall 001.

3. Whole Effluent Testing - Acute Toxicity.

Starting immediately, the permittee shall quarterly conduct acute static replacement toxicity tests on a composite sample of the final effluent. The sample shall be collected at Outfall 001 and 002.

The monitoring frequency for acute tests shall be quarterly 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.D.4, Accelerated Testing*). 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. Based on the facility's demographic sampling on the weekend will not be required.

The replacement static 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*, and the present *Region VIII EPA NPDES Acute Test Conditions - Static Renewal Whole Effluent Toxicity Test*. The permittee shall alternate between the 48-hour static replacement toxicity test using Daphnia magna and the acute 96-hour static replacement toxicity test using Pimephales promelas (fathead minnow).

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.

Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the reporting calendar month, 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 the latest revision of the *Region VIII Guidance for Acute Whole Effluent Reporting* and shall include all chemical and physical data as specified.

4. Accelerated Testing.

When acute toxicity is indicated during routine biomonitoring 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 biomonitoring to establish whether a pattern of toxicity exists. Accelerated testing will begin within seven days after the permittee becomes aware of the test result. Accelerated testing shall be conducted as specified under *Part I.D.5., Pattern of Toxicity*. If the accelerated testing demonstrates no pattern of toxicity, routine monitoring shall be resumed.

5. 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 100 percent effluent on the single species found to be more sensitive, once every week for up to five consecutive weeks.

If two (2) consecutive tests (not including the scheduled quarterly or monthly test which triggered the search for a pattern of toxicity) do not result in acute toxicity, 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, and resume routine monitoring.

A pattern of toxicity is established if one of the following occurs:

- a. If two (2) consecutive test results (not including the scheduled quarterly or monthly test which triggered the search for a pattern of toxicity) indicate acute toxicity, this constitutes an established pattern of toxicity.
 - b. If consecutive tests continue to yield differing results each time, the permittee will be required to conduct up to a maximum of five (5) acute tests (not including the scheduled quarterly or monthly test which triggered the search for a pattern of toxicity). If three out of five test results indicate acute toxicity, this will constitute an established pattern of toxicity.
6. Preliminary Toxicity Investigation.
- a. 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 a 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 a spill may have occurred, and similar procedures.
 - b. 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 for approval a control program to control effluent toxicity and shall proceed to implement such plan within seven days following approval. The control program, as submitted to or revised by the Director, may be incorporated into the permit.
 - c. 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 I.D.7, Toxicity Reduction Evaluation*).
 - d. If toxicity spontaneously disappears during the PTI, the permittee shall submit written notification to that effect to the Director as part of the reporting requirements of paragraph a. of this section.
7. Toxicity Reduction Evaluation (TRE).

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

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

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

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

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

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

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

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

II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

- A. **Representative Sampling.** Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Sludge samples shall be collected at a location representative of the quality of sludge immediately prior to the use-disposal practice.
- B. **Monitoring Procedures.** Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10*, unless other test procedures have been specified in this permit.
- C. **Penalties for Tampering.** The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. **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* or as otherwise specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.
- 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 three years from the date of the sample, measurement, report or application. This

period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location.

- H. Reporting of Monitoring Results. Monitoring results obtained during the previous month (quarter) shall be summarized for each month (quarter) and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), post-marked no later than the 28th day of the month following the completed reporting period or submitted via NetDMR. The first report is due on May 28, 2017. 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 IV.G)*, and submitted to the Director, Division of Water Quality at the following addresses:

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

- I. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance which may seriously endanger health or environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 536-4300, or 24 hour answering service (801) 536-4123.
 - a. The following occurrences of noncompliance shall be reported by telephone, to a live person, to either (801) 536-4300 or (801) 536-4123 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
 - (1) Any noncompliance which may endanger health or the environment;
 - (2) Any unanticipated bypass, which exceeds any effluent limitation in the permit (*See Part III.G, Bypass of Treatment Facilities.*); or
 - (3) Any upset which exceeds any effluent limitation in the permit (*See Part III.H, Upset Conditions.*)
 - b. A violation of a discharge limitation, for any of the pollutants listed in the permit, shall be reported by telephone to the permit writer or (801) 536-4300 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances.

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

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location.
5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

III. COMPLIANCE RESPONSIBILITIES

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

essential maintenance to assure efficient operation. These bypasses are not subject to 2. and 3. of this section.

2. Prohibition of Bypass.

- a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and
 - (3) The permittee submitted notices as required under section G.3.
- b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in sections G.2a. (1), (2) and (3).

3. Notice.

- a. Anticipated bypass. Except as provided above in section G.2. and below in section G. 3.b, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:
 - (1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages;
 - (2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;
 - (3) Description of specific measures to be taken to minimize environmental and public health impacts;

- (4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;
 - (5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and
 - (6) Any additional information requested by the Director.
- b. **Emergency Bypass.** Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in section G.3.a.(1) through (6i) to the extent practicable.
 - c. **Unanticipated bypass.** The permittee shall submit notice of an unanticipated bypass to the Director as required under Part II.I., Twenty Four Hour Reporting. The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.
- H. **Upset Conditions.**
1. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2. of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.
 2. **Conditions necessary for a demonstration of upset.** A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under Part II.I., Twenty-four Hour Notice of Noncompliance Reporting; and,

- d. The permittee complied with any remedial measures required under Part III.D, Duty to Mitigate.
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.
- I. Toxic Pollutants. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of *The Water Quality Act of 1987* for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
 - J. Changes in Discharge of Toxic Substances. Notification shall be provided to the Director as soon as the permittee knows of, or has reason to believe:
 1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. One hundred micrograms per liter (100 ug/L);
 - b. Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(7)* or (10); or,
 - d. The level established by the Director in accordance with *UAC R317-8-4.2(6)*.
 2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. Five hundred micrograms per liter (500 ug/L);
 - b. One milligram per liter (1 mg/L) for antimony;
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(9)*; or,

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

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

IV. GENERAL REQUIREMENTS

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

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

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
- H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

- I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential
- J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.
- K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
- M. Transfers. This permit may be automatically transferred to a new permittee if:
 - 1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;
 - 2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
 - 3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.
- N. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117* 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. A revision to the current Water Quality Management Plan is approved and adopted which calls for different effluent limitations than contained in this permit.
- P. Toxicity Limitation -Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include, whole effluent toxicity (WET) limitations, a compliance date, a compliance schedule, a change in the whole effluent toxicity (biomonitoring) protocol, additional or modified numerical limitations, or any other conditions related to the control of toxicants if one or more of the following events occur;
1. Toxicity is detected, during the duration of this permit.
 2. The TRE results indicate that compliance with the toxic limits will require an implementation schedule past the date for compliance and the Director agrees with the conclusion.
 3. The TRE results indicate that the toxicant(s) represent pollutant(s) that may be controlled with specific numerical limits, and the Director agrees that numerical controls are the most appropriate course of action.
 4. Following the implementation of numerical control(s) of toxicant(s), the Director agrees that a modified biomonitoring protocol is necessary to compensate for those toxicants that are controlled numerically.
 5. The TRE reveals other unique conditions or characteristics which, in the opinion of the Director, justify the incorporation of unanticipated special conditions in the permit.
- Q. Storm Water.
1. The permittee is required to obtain coverage under the general multi-sector permit that is applicable to the facility.
 2. Reopener Provision. At any time during the duration (life) of this permit, this

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

V. 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/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.
- 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 V.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, (mg/kg)	CPLR ¹ , (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR ² , (mg/ha-yr)
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

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*.
 - 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*. 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

1 CPLR -- Cumulative Pollutant Loading Rate
 2 APLR – Annual Pollutant Loading Rate

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.

Pathogen Control Class	
Class A	Class B
B Salmonella species –less than three (3) MPN ³ per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids)	Fecal Coliforms –less than 2,000,000 colony forming units (CFU) per gram total solids
Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
Viable helminth ova –less than one (1) MPN per four (4) grams total solids	

3. Vector Attraction Reduction Requirements.

³ MPN –Most Probable Number

- a. The permittee will meet vector attraction reduction through use of one of the methods listed in *40 CFR 503.33*. ATK is meeting the requirements through the following methods.
- (1) ATK dewateres the solids then disposes of them at the onsite landfill for disposal.

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 (<i>40 CFR Part 503.16, 503.26. and 503.46</i>)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290 ⁴	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

- b. Sample collection, preservation and analysis shall be performed in a manner consistent with the requirements of *40 CFR 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.

⁴ Permittee produced 70 Tons in 2015. Accordingly, they will sample at least once per year.

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 V, 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 V.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 V.B.1.*) to be exceeded.
- (11) Biosolids subject to the cumulative pollutant loading rates in Table 2 (*Part V.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 V* 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 V.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 IV.G)*, and submitted to the Utah Division of Water Quality by NetDMR⁵ or at the following address:
- Original to: Biosolids Coordinator
Utah Division of Water Quality
PO Box 144870
Salt Lake City Utah, 84114-4870

⁵ Starting January 1, 2017 monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Annual Biosolids Reports should also be submitted through this 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 V.B.1*), the Class A pathogen requirements in *Part V.B.2* and the vector attraction reduction requirements in *Part V.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 V.B.1*).
 - b. A description of how the pathogen reduction requirements in *Part V.B.2* were met.
 - c. A description of how the vector attraction reduction requirements in *Part V.B.3* were met.
 - d. A description of how the management practices in *Part V.C* were met (if necessary).
 - e. The following certification statement:

"I certify under the penalty of law, that the heavy metals requirements in *Part V.B.1*, the pathogen requirements in *Part V.B.2*, the vector attraction requirements in *Part V.B.3*, the management practices in *Part V.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."

- H. 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

**FACT SHEET STATEMENT OF BASIS
ATK LAUNCH SYSTEMS
PERMIT MODIFICATION
UPDES PERMIT NUMBER: UT0024805
MAJOR INDUSTRIAL**

FACILITY CONTACTS

Blair Palmer
PO Box 707
Brigham City, Utah 84302-0689

DESCRIPTION OF PERMIT MODIFICATIONS

On December 16, 2014, the Utah Water Quality Board adopted *Utah Administrative Code (UAC) R317-1-3.3, Technology-Based Limits for Controlling Phosphorous Pollution*. The Technology-Based Phosphorous Effluent Limits (TBPEL) establishes new regulations for the discharge of phosphorus to surface waters and is self-implementing. The TBPEL rule includes the following requirements for non-lagoon wastewater treatment plants:

The TBPEL requires that all non-lagoon wastewater treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus. This TBPEL shall be achieved by January 1, 2020 unless a variance has been granted by DWQ. November 23, 2019, DWQ approved the **ATK LAUNCH SYSTEMS** variance request not to extend beyond **January 1, 2022** and with an interim total phosphorous annual average limit of **2.8** mg/L beginning January 1, 2020. This permit modification is incorporating the approved variance with the interim limits and dates that were previously public noticed in the local newspaper, in which no comments were received.

The permit effluent limits will incorporate the following changes:

Effluent Limitations Changes		
Parameter	Current	New
	Annual Average	Annual Average
Interim Total Phosphorous, mg/L (Effective January 1, 2020 – January 1, 2022)	No Limit	2.8 (Interim Limit)
Final Total Phosphorous, mg/L, (Effective January 1, 2022)	No Limit	1.0

PERMIT DURATION

It is recommended that this permit modification be effective through the current permit expiration date, **March 31, 2022**.

Drafted by
Lonnie Shull
Environmental Scientist
Utah Division of Water Quality
Permit Modification Drafted December 23, 2019

DWQ-2019-020084

**FACT SHEET STATEMENT OF BASIS
ATK LAUNCH SYSTEMS INC.
UPDES PERMIT NO. UT0024805
UPDES BIOSOLIDS PERMIT NUMBER: UTL-024805
RENEWAL PERMIT
MAJOR INDUSTRIAL**

FACILITY CONTACTS

George Gooch
Environmental Compliance Manager
435-863-2018

Blair Palmer
Environmental Engineer
435-863-2430

Facility Address

9160 North Highway 83
Promontory, Utah 84302

Mailing Address

P.O. Box 707
Brigham City, Utah 84302-0689

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.

ATK Launch System'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 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.

ATK Launch System'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 of at the ATK Launch System Class IIb 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.

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

In the previous permit ATK Launch System 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 ATK Launch System's industrial-chemical treatment plant. This practice will continue to be allowed during this permit cycle.

In the previous permit, ATK Launch System requested approval from the DWQ to treat an additional 10,000 gallons per week of wastewater from Alliant's Bacchus facility from their nitroglycerin process. The wastewater, from the nitroglycerin process, is treated with a high temperature caustic hydrolysis at the Alliant Bacchus facility. This wastewater would receive additional treatment at ATK Launch System to remove nitrates, nitrites, and sulfates. Additional monitoring of these constituents has been added to the permit.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Ammonia limits are more stringent than the previous permit. The ammonia effluent limits are based on the waste load analysis and are due to variations in the computer model. The TDS limits are less stringent than the existing permit as a result of changes to the Utah Water Quality Standards.

UAC R317-1-3.3, Technology-based Phosphorus Effluent Limits (TBPEL), establishes new regulations for the discharge of phosphorus to surface waters. The TBPEL rule includes the following requirements for non-lagoon wastewater treatment plants:

1. All non-lagoon treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus. This **TBPEL shall be achieved by January 1, 2020.**

2. The Director may authorize a variance to the TBPEL under the conditions listed in *UAC R317-3.3.C*. Demonstrations that a variance is applicable must be made by **January 1, 2018**.
3. All discharging treatment works are required to implement, at a minimum, monthly monitoring of the following **beginning July 1, 2015**:
 - a. Influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations;
 - b. Effluent for total phosphorus and orthophosphate (as P), ammonia, nitrate-nitrite and total Kjeldahl nitrogen (as N);
 - c. All monitoring shall be based on 24-hour composite samples by use of an automatic sampler or a minimum of four grab samples collected a minimum of two hours apart.
 - d. Discharge Monitoring Reports for your facility will be updated by DWQ to include the above mentioned parameters prior to the July 2015 monitoring period.

Therefore, the permit will include requirements for monthly composite sampling of total ammonia, orthophosphate, phosphorus, total kjeldahl nitrogen (TKN), and nitrate-nitrate.

Biosolids requirements are being added to the permit for the first time during this renewal.

TOTAL MAXIMUM DAILY LOAD (TMDL) CONSIDERATIONS

This facility ultimately discharges to Blue Creek which is listed on Utah's 303(d) list of impaired waterbodies. Blue Creek has been identified as impaired for TDS, pH, aluminum and selenium. Due to the listing, the facility will be required to self-monitor for selenium at both outfalls. The monitoring will assist in better quantifying the loading of this pollutant of concern into Blue Creek. If the data indicates that a selenium effluent limit is needed, then the permit will be reopened and a limit will be included. After ten samples have been collected, a reasonable potential analysis will be run to determine if a permit limit is necessary. Aluminum will continue to be monitored and the renewal permit will include an effluent limit that is the same as the current permit limit.

Currently, Blue Creek is not on the priority list for developing a TMDL to address the impairment. When this process begins, DWQ will notify the permittee so that they may be involved in the process. This process may result in pollutant load reductions and wasteload allocations. Wasteload allocations would then be translated to effluent limits in UPDES permits.

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) R317-2-13.7:

Class 2B -protected for secondary contact recreation such as boating, wading or similar uses.

Class 3D -protected for waterfowl, shore birds and other water-oriented wild life 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.

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.

Quantitative RP analysis was performed on aluminum, copper, silver, and zinc to determine if RP is present and exceeds the applicable water quality standards. The RP analysis, for copper and zinc, was based on a sample set of three effluent samples. RP analysis for copper at both outfalls indicates it has a reasonable potential to exceed water quality standards. Based on the RP analysis an effluent limitation for copper will be included for Outfall 001. In addition, RP analysis for zinc at Outfall 001 indicates it has a reasonable potential to exceed water quality standards. However, this was based on a sample set of three using the default multiplier and a maximum detected concentration of less than half the water quality criteria. This was also the case for copper at Outfall 002. Based on the permit writer's best professional judgment, zinc at Outfall 001 and copper at Outfall 002, will be monitored on a monthly basis. Also due to the lack of information available, monthly monitoring will be required for arsenic, cadmium, chromium, lead, mercury, nickel, and selenium. After ten samples have been collected, a reasonable potential analysis will be run to determine if permit limits are necessary for these parameters. If necessary, the permit will be reopened and a limit(s) will be added. This change will occur without a public notice as the modification is in agreement with R317-8-5.6(3).

BASIS FOR EFFLUENT LIMITATIONS

The total suspended solids (TSS), BOD₅, E. coli and pH limits are based on current Utah Secondary Treatment Standards, UAC R 317-1-3.2.

The limit for aluminum is consistent with the current permit limit. The limits for ammonia and dissolved oxygen (DO) are based on the waste load analysis. The limits for isopropanol, sum other volatile organics, ozone and oil and grease are based on prior permits. The TDS limits are based on the new site specific standard.

Since there is no stream standard for perchlorate and the effluent is normally less than 1 mg/L, an effluent standard is not considered necessary at this time.

There are no applicable effluent limitation guidelines (i.e. technology based standards) for space propulsion units. Initially the discharges from the photographic area in buildings M508 and M197 were limited by federal effluent limitation guidelines at 40 CFR 459. The silver (Ag) mass will no longer be limited at these outfalls because there has been less production than regulated by the photographic guidelines. The discharge concentrations have been less than the 161 ug/L limit set by the waste load analysis. If the monthly average production increases to more than 1600 square feet per day, the permittee is to notify the Director.

The Wasteload Analysis indicates that these limitations should be sufficiently protective of water quality in order to meet State water quality standards in the receiving water. Based upon effluent monitoring data, the permittee is expected to be able to comply with the limitations listed in the Effluent Limitations Outfall 001 and 002 Table.

SELF-MONITORING AND REPORTING REQUIREMENTS

The following effluent self-monitoring and monthly reporting requirements are based on the *Utah Monitoring, Recording and Reporting Frequency Guidelines*. Silver, COD and perchlorate

Parameter	Effluent Limitations Outfall 001 and 002			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Total Flow, MGD				
001	0.35	NA	NA	NA
002	0.16	NA	NA	NA
BOD ₅	25	35	NA	NA
TSS	25	35	NA	NA
DO	NA	NA	4.5	NA
COD	NA	NA	NA	NA
Ammonia				
Summer	5	NA	NA	14
Fall	9	NA	NA	15
Winter	11	NA	NA	13
Spring	6	NA	NA	16
Isopropanol	NA	NA	NA	1
Sum other vol. Organics	NA	NA	NA	2
TDS				
November – February	4,700	NA	NA	6,300
March – October	3,800	NA	NA	4,900
pH	NA	NA	6.5	9.0
E. coli	126	158	NA	NA
Total Aluminum	NA	NA	NA	2
Total Copper, 001	0.111	NA	NA	0.125
Ozone	NA	NA	NA	0.1
Oil & Grease	NA	NA	NA	10
WET testing	NA	NA	LC ₅₀ >100% effluent	NA

will continue to be monitored. Selenium is being required to be monitored to support a future TMDL on Blue Creek.

Self-Monitoring Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow	Continuous	Recorder	MGD
BOD ₅	Monthly	Composite	mg/L
TSS	Monthly	Composite	mg/L
DO	2 X Monthly	Grab	mg/L
COD	Monthly	Composite	mg/L
Ammonia	2 X Monthly	Composite	mg/L
Isopropanol	Monthly	Grab	mg/L
Volatile Organic	Monthly	Grab	mg/L
TDS	2 X Monthly	Composite	mg/L
pH	2 X Monthly	Grab	Standard Units
<i>E. coli</i>	Monthly	Grab	No./100 mL
Total Aluminum	Monthly	Composite	mg/L
Ozone	3 X Week	Grab	mg/L
Oil & Grease	If sheen is observed or believed to be present	Grab	mg/L
WET testing	Quarterly	Composite	Pass/Fail
Perchlorate	Monthly	Grab	mg/L
Total Silver	Monthly	Composite	mg/L
Total Arsenic	Monthly	Composite	mg/L
Total Cadmium	Monthly	Composite	mg/L
Total Chromium	Monthly	Composite	mg/L
Total Copper	Monthly	Composite	mg/L
Total Lead	Monthly	Composite	mg/L
Total Mercury	Monthly	Composite	mg/L
Total Nickel	Monthly	Composite	mg/L
Total Selenium	Monthly	Composite	mg/L
Total Zinc	Monthly	Composite	mg/L
Sulfate	2 X Monthly	Composite	mg/L
Nitrate as N	2 X Monthly	Composite	mg/L
Nitrite as N	2 X Monthly	Composite	mg/L
Orthophosphate, (as P)	Monthly	Composite	mg/L
Phosphorus, Total Influent Effluent	Monthly Monthly	Composite Composite	mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N) Influent Effluent	Monthly Monthly	Composite Composite	mg/L mg/L
Nitrite-Nitrate	Monthly	Composite	mg/L

Reports shall be made on Discharge Monitoring Report (DMR) forms or via NetDMR and are due 28 days after the end of the month. Lab sheets for biomonitoring must be attached to the biomonitoring DMR.

PRETREATMENT REQUIREMENTS

The permittee does not discharge to another wastewater treatment facility, but rather treats and discharges all of the facility's process wastewater. Any wastewater discharged to the sanitary sewer, either as a direct discharge or as a hauled waste, is subject to Federal, State and local pretreatment regulations. Pursuant to Section 307 of *The 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 wastewater.

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

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

A limitation of no acute toxicity will be included in the permit since the permittee is a major discharger. Since the discharge is to a Class 2B, 3D, and 4 stream, there will be no chronic testing or limits at this time. However, the permit will contain a toxicity limitation reopener provision. Acute toxicity tests will be conducted alternating *Daphnia magna* and *Pimephales promelas* (fathead minnows) quarterly as detailed in the permit. The permit will contain the standard requirements for accelerated testing upon failure of a WET test, and a PTI and TRE as necessary.

STORM WATER

ATK is required to be covered by the multi sector general permit for storm water discharges. ATK has been issued a separate Storm water permit and will manage its Storm water in accordance with the applicable requirements of that permit.

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

BIOSOLIDS REQUIREMENTS

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.

SUBSTANTIAL BIOSOLIDS TREATMENT CHANGES

This is the first time Biosolids requirements have been included in the ATK permit.

DESCRIPTION OF TREATMENT AND DISPOSAL

Sludge is generated in ATK Launch System'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 at 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

In 2015, ATK disposed of 70 tons of biosolids; therefore they need to sample at least 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 be 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 1 and the monthly average pollutant concentrations in Table 3 (see Table 1 and 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, (mg/kg)	CPLR ¹ , (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR ² , (mg/ha-yr)
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

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	
Class A	Class B
B Salmonella species –less than three (3) MPN ³ per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids)	Fecal Coliforms –less than 2,000,000 colony forming units (CFU) per gram total solids
Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
Viable helminth ova –less than one (1) MPN per four (4) grams total solids	

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

¹ CPLR -- Cumulative Pollutant Loading Rate

² APLR – Annual Pollutant Loading Rate

³ MPN –Most Probable Number

than 1,000 most probable number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids.

ATK does not intend to give away biosolids for land application on home lawns or gardens, and will therefore not be required to meet PFRP. If the permittee changes their intentions in the future, they will need to meet a specific PFRP, 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

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). ATK does not intend to land apply the biosolids and will therefore not be required to meet PSRP. If the permittee intends to land apply in the future, they will need to meet a specific PSRP, 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

Vector Attraction Reduction (VAR)

If the biosolids are land applied ATK will be required to meet VAR through the use of a method of listed under *40 CFR 503.33*. ATK does not intend to land apply the biosolids and will therefore not be required to meet VAR. If the permittee intends to land apply in the future, they need to meet 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* is 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

ATK 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.

PERMIT DURATION

Is it recommended that this permit be effective for a period of five (5) years.

PUBLIC NOTICE INFORMATION

The permit was public noticed in the Herald Journal. The public notice was open for comment from February 15, 2017 until March 21, 2017. No comments were received during the public notice period.

Drafted by
Jennifer Robinson, Discharge
Daniel Griffin, Biosolids
Mike Herkimer, WET
Nicholas von Stackelberg, WLA

ATTACHMENT I
Wasteload Analysis

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ATTACHMENT II
Reasonable Potential Analysis

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**Utah Division of Water Quality
Statement of Basis
ADDENDUM
Wasteload Analysis and Antidegradation Level I Review**

Date: November 30, 2016
Facility: ATK Launch Systems, Inc.
UPDES No. UT0024805
Receiving water: Blue Creek (2B, 3D, 4)

This addendum summarizes the wasteload analysis that was performed to determine water quality based effluent limits (WQBEL) for this discharge. Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses (UAC R317-2-8). Projected concentrations are compared to numeric water quality standards to determine acceptability. The numeric criteria in this wasteload analysis may be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

Discharge

Outfall 001 (South Plant): Blue Creek → Bear River Migratory Bird Refuge → Bear River Bay of Great Salt Lake

The maximum daily design discharge is 0.50 MGD and the maximum monthly design discharge is 0.35 MGD for the facility.

Outfall 002 (North Plant): Blue Creek → Bear River Migratory Bird Refuge → Bear River Bay of Great Salt Lake

The maximum daily design discharge is 0.25 MGD and the maximum monthly design discharge is 0.16 MGD for the facility.

Receiving Water

The receiving water for Outfall 001 and 002 is Blue Creek, which is tributary to the Bear River Migratory Bird Refuge, and Bear River Bay of the Great Salt Lake. Per UAC R317-2-13.7(a), the designated beneficial uses for Blue Creek and tributaries, from Great Salt Lake to Blue Creek Reservoir is 2B, 3D, and 4.

- *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.*

Utah Division of Water Quality
Wasteload Analysis
ATK Launch Systems Inc.
UPDES No. UT0024805

Typically, the critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Due to a lack of flow records for Blue Creek, the 20th percentile of flow measurements was calculated for all records and for the irrigation season. The sources of flow data was from DWQ sampling at 4960740 Blue Creek above ATK at U83 Crossing from 2000 to 2009 and ATK Launch Systems sampling at the same location from 2003 to 2014. Since the flow records provided by ATK are more recent, they are considered more representative of current conditions at the site. The 20th percentile flow rate for the irrigation season (March – October) was selected as the critical low flow for the wasteload allocation.

Table 1: Critical low flow (cfs)

Season	Blue Creek at UT-83 above ATK
Annual	3.5
Irrigation	3.0

Blue Creek water quality was characterized based on samples collected from monitoring station 4960740 Blue Creek above ATK at U83 Crossing from 2000 to 2010.

TMDL

Blue Creek is listed as impaired for aluminum, selenium, pH and TDS according to the 2012/2014 303(d) list. There isn't an approved TMDL for aluminum and selenium; therefore, the limits will be based on capping the load from the facility at current levels. For pH, the effluent limits were set equal to the water quality criteria, which are the same as secondary standards. A site specific standard was adopted for TDS that addresses the impairment (refer to TDS section below).

Mixing Zone

The maximum allowable mixing zone is 15 minutes of travel time for acute conditions, not to exceed 50% of stream width, and 2,500 feet for chronic conditions, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone.

A tracer study was conducted in 1997 at Outfall 001 and the discharge was determined to be fully mixed 200 feet downstream from the discharge location (Moellmer 1997). Chronic limits were calculated using 100% of the streamflow and acute limits were calculated using 50% of the critical low flow.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were total suspended solids (TSS), total dissolved solids (TDS), dissolved oxygen (DO), BOD₅, nitrate/nitrite (NO₃), total ammonia (TAN), dissolved metals, volatile organic compounds (VOC), and pH, as determined in consultation with the UPDES Permit Writer.

TDS

A site specific standard for TDS was adopted into Utah Administrative Code. Per UAC R317-2-14 Table 2.14.1:

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.

WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC₅₀ (lethal concentration, 50%) percent effluent for acute toxicity and the IC₂₅ (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC₅₀ is typically 100% effluent and does not need to be determined by the WLA.

Table 2: WET Limits for IC₂₅

Outfall	Percent Effluent
Outfall 001	15%
Outfall 002	8%

Wasteload Allocation Methods

Since both ATK Launch Systems and Autoliv discharge to Blue Creek, the wasteload allocation evaluated the combined effects of each discharge. The permitted concentration was allocated proportionally to the flow, i.e. the same concentration limit was applied to each outfall.

Effluent limits were determined for conservative constituents using a simple mass balance mixing analysis (UDWQ 2012). The mass balance analysis is summarized in Appendix A.

The water quality standard for chronic ammonia toxicity is dependent on temperature and pH, and the water quality standard for acute ammonia toxicity is dependent on pH. The AMMTOX Model developed by University of Colorado and adapted by Utah DWQ and EPA Region VIII was used to determine ammonia effluent limits (Lewis et al. 2002). The analysis is summarized in Appendix B.

Due to the lack of monitoring data, the effects of TP, TN, DO and BOD₅ in the effluent on the DO in the downstream receiving waters was not assessed. It is presumed that secondary standards for BOD₅ and minimum DO limits that match instream criteria would be sufficiently protective of the receiving water. Additional data should be collected during the permit cycle to support evaluation of compliance with the DO criteria.

Utah Division of Water Quality
Wasteload Analysis
ATK Launch Systems Inc.
UPDES No. UT0024805

Effluent Limits

Table 3 summarizes selected WQBELs for the parameters of concern. The complete list of WQBELs is attached in Appendix A. Models and supporting documentation are available for review upon request.

Table 3: Water Quality Based Effluent Limits Summary

Effluent Constituent	Acute			Chronic		
	Standard	Limit	Averaging Period	Standard	Limit	Averaging Period
Flow Outfall 001 (MGD)		0.5	1 day		0.35	30 days
Flow Outfall 002 (MGD)		0.25	1 day		0.16	30 days
<i>Water quality limits apply to both Outfalls 001 and 002</i>						
Ammonia (mg/L)	Varies		1 hour	Varies		30 days
Summer (Jul-Sep)		14			5	
Fall (Oct-Dec)		15			9	
Winter (Jan-Mar)		13			11	
Spring (Apr-Jun)		16			6	
Total Dissolved Solids (mg/L)						
November – February	6,300	6,300	1 day	4,700	4,700	30 days
March - October	4,900	4,900	1 day	3,800	3,800	30 days
Dissolved Oxygen Minimum (mg/L)	3.0	3.0	Instant	5.0	5.0	30 days
BOD ₅ (mg/L)	N/A	35.0	7 day	N/A	25.0	30 days
Aluminum, Total Recoverable (µg/L)	750	*	1 hour	N/A	N/A	N/A
Selenium, Total Recoverable (µg/L)	18.4	*	1 hour	4.6	*	4 days

*: Receiving segment listed as impaired without an approved TMDL: limit to be set based on capping current load.

Antidegradation Level I Review

The objective of the Level I ADR is to ensure the protection of existing uses, defined as the beneficial uses attained in the receiving water on or after November 28, 1975. No evidence is known that the existing uses deviate from the designated beneficial uses for the receiving water. Therefore, the beneficial uses will be protected if the discharge remains below the WQBELs presented in this wasteload. A Level II Antidegradation Review (ADR) is not required for this discharge since the pollutant concentration and load is not increasing under this permit renewal.

Prepared by:

Nicholas von Stackelberg, P.E.
Standards and Technical Services Section

Documents:

WLA Document: *atk_wla_2016-11-30.docx*
Wasteload Analysis: *atk_autoliv_wla_2016.xlsm*
AMMTOX Model: *atk_autoliv_ammtox_reach_model_2014.xls*

**Utah Division of Water Quality
Wasteload Analysis
ATK Launch Systems Inc.
UPDES No. UT0024805**

References:

Lewis, B., J. Saunders, and M. Murphy. 2002. Ammonia Toxicity Model (AMMTOX, Version2): A Tool for Determining Effluent Ammonia Limits. University of Colorado, Center for Limnology.

Moellmer, W.O. 1997. Blue Creek Dye Study Memorandum dated 10/20/1997. Utah Division of Water Quality.

Utah Division of Water Quality. 2012. *Utah Wasteload Analysis Procedures Version 1.0.*

Date: 11/30/2016

WASTELOAD ANALYSIS [WLA]

**Appendix A: Mass Balance Mixing Analysis for Conservative Constituents
Combined WLA for ATK and Autoliv**

Discharger:	ATK Launch Systems Inc.	Autoliv
Outfall:	001 & 002	001
Receiving Stream:	Blue Creek	
Stream Classification:	2B, 3D, 4	
Aquatic Life Class 3:	3D	
Agriculture Class 4:	Yes	
Direct Drinking Water Source:	No	
Important Fishery for Human Consumption:	No	
Season:	Annual	

Stream Flow:	
Acute:	1.50 cfs
Chronic:	3.00 cfs
Stream Hardness:	515 mg/l as CaCO3

Effluent Flow:	ATK	Autoliv	Combined
Max. Daily	0.75 MGD	0.03 MGD	0.78
Ave. Monthly	0.51 MGD	0.03 MGD	0.54
Effluent Hardness:	300 mg/l as CaCO3		

Mixed Flow:		Dilution Fact. 1.24
Acute:	2.71 cfs	Dilution Fact. 3.59
Chronic:	3.84 cfs	
Mixed Hardness:	400 mg/l as CaCO3	Not to Exceed 400 mg/L

Aquatic Wildlife Criteria (Class 3 Waters)

	Standard 30-Day Average	Standard Instantaneous	Upstream Concentration	Chronic Effluent Limit	Acute Effluent Limit
Dissolved Oxygen - Minimum (mg/L)	5.0	3.0		5.0	3.0
pH - Minimum		6.5			6.5
pH - Maximum		9.0			9.0

Chronic Metals, µg/L	Total Recoverable Standard	Conversion Factor	Dissolved Standard	Upstream Concentration	Dissolved Effluent Limit	Recoverable Effluent Limit
Aluminum ¹	87	1.000	87	14	N/A	N/A
Arsenic	150	1.000	150	35	563	563
Cadmium	0.76	0.851	0.64	0.13	2.49	2.92
Chromium III	268	0.860	231	6.4	1,036	1,205
ChromiumVI	11.0	1.000	11.0	6.4	27.5	27.5
Copper	30.5	0.960	29.3	4.1	120	125
Cyanide ²	5.2	1.000	5.2	3.5	11.4	11.4
Lead	18.6	0.589	10.9	0.2	49.4	83.8
Mercury ²	0.012	1.000	0.012	0.008	0.026	0.026
Nickel	169	0.997	168	6.7	747	750
Selenium	4.6	1.000	4.6	6.1		CL ³
Tributylin ²	0.072	1.000	0.072	0.048	0.16	0.16
Zinc	388	0.986	382	19	1,689	1,713

Acute Metals, µg/L	Total Recoverable Standard	Conversion Factor	Dissolved Standard	Upstream Concentration	Dissolved Effluent Limit	Total Recoverable Effluent
Aluminum ³	750	1.000	750	14		CL ³
Arsenic	340	1.000	340	35	719	719
Cadmium	8.7	0.886	7.7	0.13	17.2	19.4
Chromium III	5612	0.316	1773	6.4	3,970	12,562
ChromiumVI	16.0	1.000	16.0	6.4	27.9	27.9
Copper	51.7	0.960	49.6	4.1	106	111
Cyanide	22.0	1.000	22.0	3.5	45.0	45.0
Iron	1000	1.000	1000	36	2,198	2,198
Lead	476.8	0.589	280.8	0.2	630	1,069
Mercury	2.400	1.000	2.400	0.008	5.373	5.373
Nickel	1516	0.998	1513	6.7	3,385	3392
Selenium	18.4	1.000	18.4	6.1	33.7	33.7
Silver	41.1	0.850	34.9	0.7	77	91
Tributylin	0.460	1.000	0.460	0.048	0.97	0.97
Zinc	388	0.978	379	19	828	846

1: Where the pH is equal to or greater than 7.0 and the hardness is equal to or greater than 50 ppm as CaCO₃ in the receiving water after mixing, the 87 µg/L chronic criterion (expressed as total recoverable) will not apply, and aluminum will be regulated based on compliance with the 750 µg/L acute criterion (expressed as total recoverable).

2: Background concentration assumed 67% of chronic standard.

3: Receiving segment listed as impaired for constituent without an approved TMDL; limit to be set based on capping current load.

Utah Division of Water Quality

	Chronic Standard	Acute Standard	Upstream Concentration	Chronic Effluent Limit	Acute Effluent Limit
Inorganics, µg/L					
Chlorine, Total Residual (TRC)	11.0	19.0	11.0	11.0	28.9
Hydrogen Sulfide (un-dissociated)		2.0	1.0		3.2
Phenol (Maximum)		0.10	0.05		0.16
Radiological pCi/l					
Gross Alpha		15.00	7.50		978.3
Organics, µg/L					
Acrolein	3.00	3.00	1.50	8.4	4.9
Aldrin		1.50	0.75		2.4
Chlordane	0.0043	1.20	0.0022	0.0120	2.7
Chlorpyrifos	0.041	0.083	0.02		0.16
DDT, DDE	0.0010	0.55	0.0005	0.0028	1.23
Diazinon	0.17	0.17	0.09		0.28
Dieldrin	0.056	0.24	0.028	0.157	0.50
Alpha-Endosulfan	0.056	0.11	0.028	0.157	0.21
Beta-Endosulfan	0.056	0.11	0.028	0.157	0.21
Endrin	0.036	0.086	0.018	0.101	0.171
Heptachlor	0.0038	0.26	0.0019	0.0106	0.58
Heptachlor epoxide	0.0038	0.26	0.0019	0.0106	0.58
Lindane	0.08	1.00	0.04	0.22	2.19
Methoxychlor		0.03	0.02		0.05
Mirex		0.001	0.0005		0.002
Nonylphenol	6.6	28.00	3.30		58.7
Parathion	0.013	0.066	0.007		0.14
PCB's	0.014		0.007	0.039	
Pentachlorophenol (varies with pH)	15.00	19.00	7.50	41.9	33.3
Toxaphene	0.0002	0.73	0.0001	0.0006	1.64
WET Limits, IC₂₅					
		Percent Effluent			
ATK Outfall 001		15%			
ATK Outfall 002		8%			
Autoliv Outfall 001		2%			

Agricultural Criteria (Class 4 Waters)

Constituent - Maximum	Unit	Standard	Upstream Concentration	Effluent Limit
Total Dissolved Solids ¹				
Maximum Daily: Mar - Oct	mg/l	4900	N/A	4900
Maximum Daily: Nov - Feb	mg/l	6300	N/A	6300
Average: Mar - Oct	mg/l	3800	N/A	3800
Average: Nov - Feb	mg/l	4700	N/A	4700
Arsenic	µg/L	100	50	194
Boron	µg/L	750	375	1452
Cadmium	µg/L	10	5	19
Chromium	µg/L	100	50	194
Copper	µg/L	200	100	387
Lead	µg/L	100	50	194
Selenium	µg/L	50	25	97

1: Site Specific Standard - 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.

Parameter	Class 1C (Water and Organism)		Class 3 (Organism Only)	
	Standard	Upstream Concentration	Standard	Acute Effluent Limitation
Toxic Organics				
Antimony	5.6	2.8	640	1432
Arsenic				
Beryllium				
Cadmium				
Chromium III				
Chromium VI				
Copper	1300	650		
Lead				
Mercury				
Nickel	100	50	4600	10256
Selenium			4200	9421
Silver				
Thallium	0.24	0.12	0.47	0.91
Zinc	7400	3700	26000	53721
Cyanide	140	70	140	227
Asbestos (million fibers/L)	7	3.5		
2,3,7,8-TCDD Dioxin	5.00E-09	2.50E-09	5.1E-09	8.33206E-09
Acrolein	6	3	9	16.5
Acrylonitrile	0.051	0.0255	0.250	0.53
Alachlor	2	1		
Atrazine	3	1.5		
Benzene	2.2	1.1	51	113
Bromoform	4.3	2.15	140	311
Carbofuran	40	20		
Carbon Tetrachloride	0.23	0.115	1.6	3.4
Chlorobenzene	100	50	1600	3527
Chlorodibromomethane	0.4	0.2	13	28.9
Chloroethane				
2-Chloroethylvinyl Ether				
Chloroform	5.7	2.85	470	1051
Dalapon	200	100		
Di(2ethylhexyl)adipate	400	200		
Dibromochloropropane	0.2	0.1		
Dichlorobromomethane	0.55	0.275	17	37.8
1,1-Dichloroethane				
1,2-Dichloroethane	0.38	0.19	37	83
1,1-Dichloroethylene	7	3.5	7100	15922
Dichloroethylene (cis-1,2)	70	35		
Dinose	7	3.5		
Diquat	20	10		
1,2-Dichloropropane	0.5	0.25	15	33.3
1,3-Dichloropropene	0.34	0.17	21	46.9
Endothall	100	50		
Ethylbenzene	530	265	2100	4381
Ethylene Dibromide	0.05	0.025		
Glyphosate	700	350		
Haloacetic acids	60	30		
Methyl Bromide	47	23.5	1500	3335
Methyl Chloride				
Methylene Chloride	4.6	2.3	590	1321
Ocamyl (vidate)	200	100		
Picloram	500	250		
Simazine	4	2		
Styrene	100	50		
1,1,2,2-Tetrachloroethane	0.17	0.085	4	8.9
Tetrachloroethylene	0.69	0.345	3.3	7.0
Toluene	1000	500	15000	33025
1,2 -Trans-Dichloroethyle	100	50	10000	22369
1,1,1-Trichloroethane	200	100		
1,1,2-Trichloroethane	0.59	0.295	16	35.5
Trichloroethylene	2.5	1.25	30	66
Vinyl Chloride	0.025	0.0125	2.4	5.4
Xylenes	10000	5000		
2-Chlorophenol	81	40.5	150	286
2,4-Dichlorophenol	77	38.5	290	603
2,4-Dimethylphenol	380	190	850	1670
2-Methyl-4,6-Dinitrophenol	13	6.5	280	620
2,4-Dinitrophenol	69	34.5	5300	11846
2-Nitrophenol				
4-Nitrophenol				
3-Methyl-4-Chlorophenol				
Penetachlorophenol	0.27	0.135	3	0.0

Utah Division of Water Quality

Parameter	Maximum Conc., µg/L	Class 1C (Water and Organism)		Class 3 (Organism Only)	
		Standard	Upstream Concentration	Acute Effluent Limitation	Standard
Toxic Organics					
Phenol	10000		5000		1922851
2,4,6-Trichlorophenol	1.4		0.7	2.4	4.5
Acenaphthene	670		335	990	1804
Acenaphthylene					
Anthracene	8300		4150	40000	84565
Benzidine	0.000086		0.000043	0.0002	0.00040
Benzo(a)Anthracene	0.0038		0.0019	0.018	0.03801
Benzo(a)Pyrene	0.0038		0.0019	0.018	0.03801
Benzo(b)Fluoranthene	0.0038		0.0019	0.018	0.03801
BenzoghiPerylene					
Benzo(k)Fluoranthene	0.0038		0.0019	0.018	0.03801
Bis(2-Chloroethoxy)Methane					
Bis(2-Chloroethyl)Ether	0.03		0.015	0.53	1.2
Bis(2-Chloroisopropyl)Ether	1400		700	65000	144931
Bis(2-Ethylhexyl)Phthalate	1.2		0.6	2.2	4.2
4-Bromophenyl Phenyl Ether					
Butylbenzyl Phthalate	1500		750	1900	3330
4-Chlorophenyl Phenyl Ether					
Chrysene	0.0038		0.0019	0.018	0.03801
Dibenzo(a, h)Anthracene	0.0038		0.0019	0.018	0.03801
1,2-Dichlorobenzene	420		210	1300	2655
1,3-Dichlorobenzene	320		160	960	1954
1,4-Dichlorobenzene	63		31.5	190	387
3,3-Dichlorobenzidine	0.021		0.0105	0.028	0.04975
Diethyl Phthalate	17000		8500	44000	88130
Dimethyl Phthalate	270000		135000	1100000	2299592
Di-n-Butyl Phthalate	2000		1000	4500	8851
2,4-Dinitrotoluene	0.11		0.055	3.4	7.6
2,6-Dinitrotoluene					
Di-n-Octyl Phthalate					
1,2-Diphenylhydrazine	0.036		0.018	0.2	0.43
Fluoranthene	130		65	140	233
Fluorene	1100		550	5300	11205
Hexachlorobenzene	0.00028		0.00014	0.00029	0.00048
Hexachlorobutidine	0.44		0.22	18	40.1
Hexachloroethane	1.4		0.7	3.3	6.5
Hexachlorocyclopentadiene	40		20	1100	2443
Ideno 1,2,3-cdPyrene	0.0038		0.0019	0.018	0.03801
Isophorone	35		17.5	960	2132
Naphthalene					
Nitrobenzene	17		8.5	690	1537
N-Nitrosodimethylamine	0.00069		0.000345	3	6.7
N-Nitrosodi-n-Propylamine	0.005		0.0025	0.51	1.1
N-Nitrosodiphenylamine	3.3		1.65	6	11.4
Phenanthrene					
Pyrene	830		415	4000	8457
1,2,4-Trichlorobenzene	35		17.5	70	135
Aldrin	0.000049		0.0000245	0.00005	0.00008
alpha-BHC	0.0026		0.0013	0.0049	0.00938
beta-BHC	0.0091		0.00455	0.017	0.03248
gamma-BHC (Lindane)	0.2		0.1	1.8	3.9
delta-BHC					
Chlordane	0.0008		0.0004	0.00081	0.00132
4,4-DDT	0.00022		0.00011	0.00022	0.00036
4,4-DDE	0.00022		0.00011	0.00022	0.00036
4,4-DDD	0.00031		0.000155	0.00031	0.00050
Dieldrin	0.000052		0.000026	0.000054	0.00009
alpha-Endosulfan	62		31	89	161
beta-Endosulfan	62		31	89	161
Endosulfan Sulfate	62		31	89	161
Endrin	0.059		0.0295	0.06	0.09791
Endrin Aldehyde	0.029		0.0145	0.3	0.7
Heptachlor	0.000079		0.0000395	0.000079	0.00013
Heptachlor Epoxide	0.000039		0.0000195	0.000039	6.32405E-05
Polychlorinated Biphenyls	0.000064		0.000032	0.000064	0.00010
PCB's					
Toxaphene	0.00028		0.00014	0.00028	0.00045

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Summary - Dissolved Metals, µg/L

	Class 1C Human Health (Drinking Water Only)	Class 1C Human Health (Drinking Water + Organism)	Class 3 Human Health (Organism Only)	Class 3 Acute Aquatic Wildlife	Class 4 Agricultural	Acute Most Stringent
Aluminum				0		0
Antimony			1,432.1			1,432
Arsenic				719.1	193.5	193.5
Barium						0.0
Beryllium						0.0
Cadmium				17.2	19.4	17.2
Chromium (Total)					193.5	193.5
Chromium (III)				3,970		3,970
Chromium (VI)				27.9		27.9
Copper				106.2	387.1	106.2
Cyanide			0.0	45.0		0.0
Iron				2,198		2,198
Lead				629.7	193.5	193.5
Mercury				5.4		5.4
Nickel			10,256.1	3,385		3,385
Selenium			9,421.0	33.7	96.8	33.7
Silver				77.4		77.4
Thallium						0.00
Tributyltin				1.0		0.97
Zinc				827.8		827.8

Summary - Total Recoverable Metals, µg/L

	Chronic Total Recoverable Limits	Acute Most Stringent Dissolved Limits	Total Recoverable to Dissolved Fraction Conversion Factor	Acute Most Stringent Total Recoverable Limits
Aluminum	N/A	0	1.000	0
Antimony		1432.1		1,432.1
Arsenic	563	194	1.000	194
Barium		0	1.000	0
Beryllium		0.0		0.0
Cadmium	2.9	17.2	0.886	19.4
Chromium (Total)		194		194
Chromium (III)	1205	3970	0.316	12,562
Chromium (VI)	28	28	1.000	28
Copper	125	106	0.960	111
Cyanide	11.4	0		0
Iron		2198	1.000	2,198
Lead	84	194	0.589	328.6
Mercury	0.026	5.4	0.850	6.3
Nickel	749.7	3385	0.998	3,392
Selenium	CL3	34	1.000	34
Silver		77	0.850	91
Thallium		0.00		0.0
Tributyltin	0.16	0.97		1.0
Zinc	1713	828	0.978	846

Total Recoverable to Dissolved Fraction Conversion Factor [Laboratory Correction Factor] EPA 823-B 96-007 June 1996

	Acute Factor	Chronic Factor
Aluminum	1.000	1.000
Antimony		
Arsenic	1.000	1.000
Barium	1.000	1.000
Beryllium		
Cadmium	0.886	0.851
Chromium III	0.316	0.860
Chromium VI	1.000	1.000
Copper	0.960	0.960
Cyanide		
Iron	1.000	1.000
Lead	0.589	0.589
Mercury	0.850	1.000
Nickel	0.998	0.997
Selenium	1.000	1.000
Silver	0.850	1.000
Thallium		
Tributyltin		
Zinc	0.978	0.986

WASTELOAD ANALYSIS [WLA]
Appendix B: AMMTOX Model

Date: 11/6/2014

Discharging Facility:	ATK Launch Systems Inc. & Autoliv	
Permit Flow [MGD]:	Max. Daily	Ave. Monthly
ATK Outfall 001	0.50	0.35
ATK Outfall 002	0.25	0.16
Autoliv Outfall 001	0.03	0.03

Receiving Water:	Blue Creek	
Stream Classification:	2B, 3D, 4	
Stream Flows [cfs]:	2.4 All Seasons	Critical Low Flow

Fully Mixed:	NO
Acute River Width:	50%
Chronic River Width:	100%

Modeling Information

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

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

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

- (1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.
- (2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

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

Model Input

Current Upstream Information

Season	Critical Low			
	Flow cfs	Temp. Deg. C	pH Ave	NH3 mg/L as N
Summer	2.4	22.0	7.90	0.10
Fall	2.4	7.3	7.80	0.10
Winter	2.4	2.5	7.70	0.10
Spring	2.4	12.8	7.80	0.10

Projected Discharge Information

Season	ATK Outfall 001 Flow (MGD)		Temp. Deg. C	pH Ave
	Max Daily	Ave Monthly		
Summer	0.5	0.35	20.4	7.90
Fall	0.5	0.35	12.0	7.80
Winter	0.5	0.35	6.0	7.70
Spring	0.5	0.35	14.6	7.80

ATK Outfall 002	Flow (MGD)		Temp.	pH
	Season	Max Daily	Ave Monthly	Deg. C
Summer	0.25	0.16	20.4	8.00
Fall	0.25	0.16	12.0	8.10
Winter	0.25	0.16	6.0	8.10
Spring	0.25	0.16	14.6	8.10

Autoliv Outfall 001	Flow (MGD)		Temp.	pH
	Season	Max Daily	Ave Monthly	Deg. C
Summer	0.03	0.03	17.0	7.50
Fall	0.03	0.03	15.0	7.50
Winter	0.03	0.03	12.0	7.50
Spring	0.03	0.03	15.0	7.50

Effluent Limitations

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

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

Effluent Limitations for Protection of Aquatic Wildlife (Assumed Class 3D Waters)

Temperature (deg C)	Maximum
Instantaneous	27.0
Change	4.0

pH	Concentration
Minimum	6.5
Maximum	9.0

Ammonia-Total (mg/L)

Season	Chronic (30-day ave)			Acute (1-hour ave)		
	Standard	Background	Limit	Standard	Background	Limit
Summer	Varies	0.10	5.0	Varies	0.10	14.0
Fall	Varies	0.10	9.0	Varies	0.10	15.0
Winter	Varies	0.10	11.0	Varies	0.10	13.0
Spring	Varies	0.10	6.0	Varies	0.10	16.0

	Outfall 001 99%		Outfall 001 95%		Outfall 002 99%		Outfall 002 95%	
	RP Acute	RP Chronic	RP Acute	RP Chronic	RP Acute	RP Chronic	RP Acute	RP Chronic
POC								
Aluminum	NO	N/A	No	N/A	NO	N/A	No	N/A
Copper	YES	YES	Yes	Yes	YES	YES	Yes	Yes
Silver	NO	N/A	No	N/A	NO	N/A	No	N/A
Zinc	YES	NO	Yes	No	NO	NO	No	No
Arsenic	<p>Sampling will be required due to no data being available to run RP</p>							
Cadmium								
Chromium								
Lead								
Mercury								
Nickel								
Selenium								