Fact Sheet

The U.S. Environmental Protection Agency (EPA) Proposes to Reissue a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) to the:

City of Hagerman Wastewater Treatment Plant

Public Comment Start Date: February 9, 2016
Public Comment Expiration Date: March 10, 2016

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The EPA Proposes To Reissue NPDES Permit
The EPA proposes to reissue the NPDES Permit for the facility referenced above. The Draft wastewater treatment plant (WWTP) NPDES Permit (Draft Permit) will place conditions on the discharge of pollutants from the City of Hagerman WWTP to surface waters of the United States (U.S.) when issued as a Final Permit. In order to ensure the protection of water quality and human health, the Draft Permit includes limits on the types and amounts of pollutants that can be discharged from the facility.

This Fact Sheet includes:
- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations and other conditions for the facility
- a map and description of the discharge location
- technical material supporting the conditions in the Permit

State Certification
The EPA is requesting that the Idaho Department of Environmental Quality (IDEQ) certify the NPDES Permit for this facility, under Section 401 of the Clean Water Act (CWA). This Draft Permit incudes any requirements provided by IDEQ in their draft 401 certification. IDEQ provided a draft certification for this Draft Permit and will provide a final certification for the Proposed Final Permit. Comments regarding the IDEQ draft CWA 401 certification should be directed to:

Idaho Department of Environmental Quality
Twin Falls Regional Office

650 Addison Avenue West, Suite 110
Twin Falls, ID 83301

Public Comment
Persons wishing to comment on, or request a Public Hearing for the Draft Permit may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address, and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to the EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, the EPA's Regional Director for the Office of Water and Watersheds will make a final decision regarding Permit issuance. If no substantive comments are received, the tentative conditions in the Draft Permit will become final, and the Permit will become effective upon issuance. If substantive comments are received, the EPA will address the comments and issue the Permit. The Permit will become effective no less than 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days, pursuant to 40 CFR 124.19.

Documents are Available for Review
The Draft Permit and related documents can be reviewed or obtained by visiting or contacting the EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday at the address below. The Draft Permit, Fact Sheet, and other information can also be found by visiting the Region 10 NPDES website at http://epa.gov/r10earth/waterpermits.htm.

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OWW-130
Seattle, Washington 98101
(206) 553-0523 or
Toll Free 1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

The Draft Permit and Fact Sheet are also available at:

EPA Idaho Operations Office
950 W. Bannock Street, Suite 900
Boise, ID 83702
(208) 378-5746

IDEQ
Twin Falls Regional Office
650 Addison Avenue West, Suite 110
Twin Falls, ID 83301
(208) 736-2190

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Acronyms

1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
30B3	Biologically-based design flow intended to ensure an excursion frequency of less than once every three years, for a 30-day average flow.
30Q10	30 day, 10 year low flow
AML	Average Monthly Limit
AWL	Average Weekly Limit
BE	Biological Evaluation
BOD_5	Biochemical oxygen demand, five-day
°C	Degrees Celsius
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
EFH	Essential Fish Habitat
ELG	Effluent Limitation Guidelines
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FR	Federal Register
gpd	Gallons per day
HUC	Hydrologic Unit Code
ICIS	Integrated Compliance Information System
IDEQ	Idaho Department of Environmental Quality
LA	Load Allocation
lbs/day	Pounds per day
LTA	Long Term Average
mg/L	Milligrams per liter
ml	milliliters

ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit
N	Nitrogen
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
POTW	Publicly Owned Treatment Works
QAP	Quality Assurance Plan
RP	Reasonable Potential
SS	Suspended Solids
SSO	Sanitary Sewer Overflow
s.u.	Standard Units
TBEL	Technology-Based Effluent Limit
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TRC	Total Residual Chlorine
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
TSS	Total suspended solids
USFWS	U.S. Fish and Wildlife Service
WLA	Wasteload Allocation
WQBEL	Water Quality-Based Effluent Limit
WQS	Water Quality Standards
WWTP	Wastewater Treatment Plant

I. Applicant

A. General Information

This Fact Sheet provides information on the Draft Permit for the following entity:

City of Hagerman
Wastewater Treatment Facility
NPDES Permit # ID0025941

Physical Address:
South of City, NW1/4, S23, T7S, R13E
Hagerman, ID 83332

Mailing Address:
P.O. Box 158
Hagerman, ID 83332

Contact:
Noel Weir, Mayor
(208) 837-6636

B. Permit History

The most recent NPDES Permit for the City of Hagerman WWTP was issued on September 14, 2007, became effective on November 1, 2007, and expired on October 31, 2012 (Previous Permit). An NPDES application for Permit issuance was signed and submitted by the Permittee on May 3, 2012. Pursuant to 40 CFR 122.6, the Previous Permit has been administratively extended and remains fully effective and enforceable until such time as a new Permit is issued to the facility.

II. Facility Information

A. Treatment Plant Description

Service Area

The City of Hagerman is located in south central Idaho, in Gooding County. The City owns and operates the municipal WWTP located in Hagerman, Idaho, that provides secondary treatment and disinfection of wastewater prior to discharging to the Snake River. The facility discharges from September through June each year. The collection system has no combined sewers. The facility serves a resident population of 823. The WWTP receives wastewater from domestic and commercial sources. There are no significant industrial dischargers to the treatment plant.

Treatment Process

The maximum monthly design flow of the facility is 0.15 million gallons per day (mgd); continued from the Previous Permit. The 2012 NPDES Form 2A Permit application lists the

average daily design flow at 0.17 mgd. No upgrades to the plant increasing the design capacity have been completed since this Previous Permit was issued. Therefore, EPA retained the 0.15 mgd of the Previous Permit for the calculations in this Permit.

The treatment system consists of influent flow monitoring, a partially aerated lagoon, a facultative lagoon, a rock filter (inactive), a lagoon outlet structure, chlorine disinfection, and discharge to the Snake River through an outfall pipe, 150 feet from shore and 20 feet below the water surface. Sewage sludge generated by the facility has been stored in the lagoon.

Details about the wastewater treatment process as well as a map showing the location of the treatment facility and discharge are included in Appendix A. The facility is classified as a minor facility in the NPDES universe. Current EPA policy classifies publicly owned treatment works (POTWs) discharging at 1 mgd or greater or having an approved pretreatment program as Major facilities. Since the City of Hagerman WWTP is discharging at less than 1 mgd, and does not have an approved pretreatment program, EPA has classified the POTW as a minor facility.

The City of Hagerman WWTP requested, in their 2012 NPDES Permit application to the EPA, approval of a year-round discharge, which would increase the total annual loading of pollutants to the Snake River, a water body known to be currently impaired for total phosphorus (TP), bacteria, and total suspended solids (TSS). Because of the continued impairment of the Snake River, even after the implementation of the EPA-approved Total Maximum Daily Load (TMDL) watershed plan for Snake River recovery, the EPA cannot approve the facility's request for additional coverage under the CWA. This determination was made in coordination with the Idaho Department of Environmental Quality (IDEQ). Therefore, permitting of the seasonal discharge between September 1st and June 30th remains in the Draft Permit.

Outfall Description

The facility discharges to the Snake River near the City of Hagerman, Idaho, from September 1st through June 30th of each year. Outfall 001 is located latitude 42.811665 North and longitude 114.934761 West. This portion of the Snake River is located in the Upper Snake – Rock River Basin. Flows in this segment of the Snake River are controlled by the Milner Dam, located approximately 30 miles upstream of Twin Falls.

B. Background Information

Effluent Characterization

In order to determine the potential pollutants of concern present in the facility's effluent, the EPA evaluated data available in discharge monitoring reports (DMRs), the NPDES Application Form 2A, and the nature of the discharge.

The wastewater treatment process for this facility includes both primary and secondary treatment, as well as chlorine disinfection. Pollutants expected to be in the discharge of a typical sewage treatment plant using chlorine disinfection include five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), *E. coli* bacteria, total residual chlorine (TRC), pH, ammonia, temperature, phosphorus, and dissolved oxygen (DO).

The effluent concentrations and monitoring results reported in the monthly DMRs indicated repeated elevated concentrations of pH and TSS in the effluent, above the limits set by the Previous Permit.

Based on all the above information, the complete list of pollutants of concern to be evaluated for this Permit as follows:

- 5-day Biological Oxygen Demand ($BOD_{5)}$
- Total Suspended Solids (TSS)
- *E. coli* bacteria
- Total Residual Chlorine (TRC)
- pH
- Temperature
- Phosphorus
- DO
- Ammonia
- Total Kjeldahl Nitrogen (TKN)
- Nitrate + Nitrite
- Oil and Grease
- Total Dissolved Solids (TDS)

Compliance History

The EPA reviewed the effluent monitoring data stored in the EPA Integrated Compliance Information System (ICIS) database from November 2007 – December 2014. This data comes from the facility's DMRs. The DMR data submitted by the facility during this time period is presented in Appendix B, and both the limit and reporting violations are summarized below:

Table 1. City of Hagerman WWTP Effluent Limit Violations

Parameter	Limit	Units	Number of Limit Violations	Number of Non-Reporting Violations
Temperature	Report – Monthly Average	ºC	--	17
Temperature	Report – Daily Maximum	ºC	--	15
BOD_5 Influent	Report – Monthly Average	mg/L	--	4
BOD_5	Monthly Average	lb/day	--	15
BOD_5	Weekly Average	lb/day	--	15
BOD_5	Monthly Average	mg/L	7	4
BOD_5	Weekly Average	mg/L	2	4
pH	Instantaneous Minimum	Standard units	--	15
pH	Instantaneous Maximum	Standard units	13	15
TSS Influent	Report – Monthly Average	mg/L	--	4

TSS	Weekly Average	mg/L	8	6
TSS	Weekly Average	lb/day	21	16
TSS	Monthly Average	mg/L	7	4
TSS	Monthly Average	lb/day	27	15
Nitrogen, Ammonia as N	Daily Maximum	mg/L	--	4
Nitrogen, Ammonia as N	Daily Maximum	lb/day	--	16
Total Phosphorus	Monthly Average	lb/day	2	16
Total Phosphorus	Weekly Average	lb/day	2	16
E. coli	Instantaneous Maximum	#/100 mL	--	16
E. coli	Monthly Geometric Mean	#/100 mL	5	4
Flow	Monthly Average	mgd	--	17
Flow	Daily Maximum	mgd	--	16
TRC	Monthly Average	µg/L	--	16
TRC	Monthly Average	lb/day	2	15
TRC	Maximum Daily	µg/L	--	15
TRC	Maximum Daily	lb/day	1	15
BOD_5 % Removal	Monthly Average	%	6	4
TSS % Removal	Monthly Average	%	19	4

III. Receiving Water

This facility discharges to the Snake River near the City of Hagerman, Idaho. The State of Idaho WQS designate this segment of the Snake River for the beneficial uses of cold water aquatic life, primary contact recreation, and salmonid spawning.

A. Water Quality Standards

Overview

Section 301(b)(1)(C) of the CWA requires the development of effluent limitations in NPDES permits that are determined to be necessary in order to meet state and tribal water quality standards (WQS) for surface waters. Federal regulations found at 40 CFR 122.4(d) require that the effluent limitations and other conditions included in NPDES permits ensure compliance with the WQS of the receiving water, and waters downstream of the receiving water. A state or tribe's WQS for surface water are composed of designated use classifications, numeric and/or narrative water quality criteria set at levels to protect those designated uses and an antidegradation policy with implementation procedures, in order to protect the water quality into the future [40 CFR 131.10, 131.11, and 131.12].

The use classification system designates the beneficial uses of each water body over which the state or tribe has jurisdiction. Uses can be designated for drinking water supply, contact recreation, and aquatic life protection, among others. Narrative provisions are developed and numeric water quality criteria are derived by the state or tribe to ensure that the beneficial uses of each water body are attained and maintained. The antidegradation policy represents a three-tiered approach to protecting and maintaining current water quality and uses into the future.

Designated Beneficial Uses

The overall objective of CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Section 101(a)(2) of the CWA states that water quality should provide for the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water, wherever attainable. This provision is sometimes referred to as the "fishable/swimmable" goal of the CWA. Consistent with this goal, states are required to designate all waters of the U.S. within the state with fishable/swimmable use designations unless the state can meet the requirements found at 40 CFR 131.10 to remove or "downgrade" the fishable/swimmable uses through a use attainability analysis.

At Outfall 001, the Snake River has been designated for cold water aquatic life, salmonid spawning, and primary contact recreation (IDAPA 58.01.02.) In addition, the Idaho WQS require all waters of the State of Idaho to be protected for industrial and agricultural water supply, wildlife habitats and aesthetics (IDAPA 58.01.02.100.03.b and c, 100.04 and 100.05).

Surface Water Quality Criteria

The criteria applicable to this portion of the Snake River are found in the following sections of the State of Idaho WQS:

a) The narrative criteria applicable to all surface waters of the State are found at IDAPA 58.01.02.200 (General Surface Water Quality Criteria);

b) The numeric criteria for toxic substances for the protection of aquatic life and secondary contact recreation are found at IDAPA 58.01.02.210 (Numeric Criteria for Toxic Substances for Waters Designated for Aquatic Life, Recreation, or Domestic Water Supply Use);

c) Additional numeric criteria necessary for the protection of aquatic life can be found at IDAPA 58.01.02.250 (Surface Water Quality Criteria for Aquatic Life Use Designations);

d) Numeric criteria necessary for the protection of recreation uses can be found at IDAPA 58.01.02.251 (Surface Water Quality Criteria for Recreation Use Designations); and,

e) Water quality criteria for agricultural water supply can be found in the EPA's *Water Quality Criteria 1972*, also referred to as the "Blue Book" (EPA R3-73-033) (See also IDAPA 58.01.02.252.02)

Antidegradation

The antidegradation policy of a state's WQS represents a three-tiered approach to protecting and maintaining current water quality and uses into the future. Tier I of antidegradation protection applies to all water bodies under the CWA and ensures that existing in-stream water uses and the water quality necessary to protect those uses will be maintained and protected. Tier II protection applies to any water bodies considered to be high quality waters (where the water quality exceeds levels necessary to support propagation of fish, shellfish, wildlife, and recreation in and on the water) and provides that water quality will be

maintained and protected unless allowing for lower water quality is deemed by the state as necessary to accommodate important economic or social development in the area. In allowing any lowering of water quality, the state must ensure adequate water quality to fully protect existing uses, as well as designated uses. Tier III protection applies to water bodies that have been designated by the state as outstanding national resource waters and provides that water quality is to be maintained and protected.

B. Receiving Water Low Flow Conditions

The EPA *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (EPA, 1991) and the State of Idaho WQS recommend the receiving water flow conditions for use in calculating water quality-based effluent limits (WQBELs) for point source dischargers using steady-state modeling. The TSD and the Idaho WQS state that WQBELs intended to protect aquatic life uses should be based on the lowest seven (7) day average flow rate expected to occur once every 10 years for protection at the level of the chronic criterion (7Q10), and the lowest one (1) day average flow rate expected to occur once every 10 years for protection at the level of the acute criterion (1Q10). The EPA uses a biologically-based flow rate designed to protect the receiving water for ammonia at an excursion frequency (violations of the water quality criteria derived for protection of the water body and aquatic life from ammonia) of no more than once every three (3) years for a 30 day average flow (30B3). This evaluation criterion aligns with basing the numeric ammonia criteria on the 30-day average concentration not to be exceeded more than once every three (3) years. The lowest 30-day average flow rate expected to occur once every 10 years may be used for ammonia in cases where seasonal variation in flow is used (30Q10). The State of Idaho WQS recommend the lowest 30-day average flow rate expected to occur once every five (5) years (30Q5), for WQBELs intended to protect human health from non-carcinogens, and the harmonic mean flow rate for protecting human health from carcinogens. The low flow conditions of a receiving water body are used to assess the need for and develop WQBELs.

EPA developed this Permit using Snake River flow data from the U.S. Geological Survey Gaging Station #13094000 SNAKE RIVER NEAR BUHL ID. The gaging station is 20 miles upstream of the facility, but it is the closest monitoring station upstream.

Table 2. Low Flow Data for the Snake River at USGS Gaging Station 13094000

Flow	cfs in thousands
1Q10	1230
7Q10	1250
30Q10	1460
30Q5	1490

C. Receiving Water Quality

Ambient data from the Snake River at Shoestring Bridge (SR 03) was collected from 1989 through 2014. The monitoring data was collected by numerous sources including, but not limited to; the University of Idaho, private contractors, and the IDEQ. The table below

summarizes the receiving water data that was used to assess the need for and develop water quality based effluent limits for this Draft Permit.

Table 3. Receiving Water Quality Data for Snake River Segment

Receiving Water Quality Data			
Parameter	**Units**	**Percentile**	**Value**
Temperature	°C	95th	19.9
pH	Standard units	5th – 95th	7.85 – 8.7
Ammonia	mg/L	Maximum	0.45

D. Water Quality Limited Waters

Any waterbody for which the water quality does not, and/or is not expected to, meet the applicable WQS is defined as a "water quality limited segment." Section 303(d) of the CWA requires states to develop a Total Maximum Daily Load (TMDL) pollutant management plan for water bodies determined to be water quality limited segments. A TMDL is a detailed analysis of the water body to determine its assimilative capacity. The assimilative capacity of a water body is the amount of loading of a pollutant that the water body can absorb without causing or contributing to a violation of WQS. Once the assimilative capacity of the water body has been determined, the TMDL will allocate that capacity among all the point and non-point pollutant sources in the area, taking into account natural background levels and a margin of safety. Allocations for non-point sources are known as "load allocations" (LAs) and typically involve the implementation of best management practices (BMPs) for pollution source control. The allocations for point sources, known as "waste load allocations" (WLAs), are implemented through effluent limitations in NPDES permits. Effluent limitations for point sources must be consistent with the applicable TMDL WLAs.

The State of Idaho's 2012 Integrated Report Category 5 [related to CWA Section 303(d)] lists this segment of the Snake River (Box Canyon Creek to Lower Salmon Falls) as impaired for total phosphorus (TP), total suspended solids (TSS) and other flow regime alterations. The assessment unit (AU) corresponding to this segment of the Snake River is ID17040212SK005_07.

The Previous Permit contained a requirement for continuous recording of influent, effluent, and receiving water temperature. However, recent discussions with IDEQ indicate that this segment of the Snake River is meeting the designated use for temperature and continuous receiving water temperature is no longer required.

On March 25, 1997, IDEQ submitted *The Middle Snake River Watershed Management Plan,* which included WLAs for TP for the City of Hagerman WWTP. EPA approved the TMDL on April 25, 1997, and minor corrections and final publication of the TMDL were completed on January 29, 1998. In 2000, EPA approved IDEQ's *Upper Snake Rock Watershed Management Plan* (IDEQ, 1999) and the supplementary information provided by IDEQ in July 2000, which included WLAs for TP and TSS for the City of Hagerman. http://www.epa.gov/waters/tmdldocs/TMDL%20Exec%20Summary%20Upper%20Snake%20July%202000.pdf

In April 2010, IDEQ submitted the *Upper Snake Rock/Middle Snake TMDLs 5-Year TMDL Review* to the EPA, which stated that the Snake River was still not meeting the TP criteria in the Idaho WQS, even after the approval and implementation of the 1997 and 1999 TMDL Watershed Management Plans. Because the Snake River is still impaired for TP, there is no assimilative capacity in the River for any additional phosphorus loading. The City of Hagerman has been discharging seasonally under their NPDES Permit for a number of years. The WWTP requested, in their 2012 NPDES Permit application to the EPA, approval of a year-round discharge instead, which would increase the total annual loading of TP to an impaired water body. Because of the continued impairment of the Snake River, the EPA cannot approve the facility's request for additional coverage under the CWA, so permitting of the seasonal discharge remains in the Draft Permit.

The Snake River is able to now meet the applicable TSS criteria due to efforts since the 1999 TMDL watershed management plan was issued and implemented.

The WLAs for TP and TSS from the *1999 Upper Snake Rock TMDL* that were included as limits in the Previous Permit are retained in this Draft Permit.

IV. Effluent Limitations

A. Basis for Effluent Limitations

In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based effluent limits (TBELs) or water quality-based effluent limits (WQBELs). TBELs are set nationally according to the level of treatment that is technologically and economically achievable at a national scale. A WQBEL is designed to ensure that the WQS applicable to a water body are being met. The basis for all of the effluent limits included in the Draft Permit are provided below.

B. Technology-Based Effluent Limits

Federal Secondary Treatment Effluent Limits

The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as "secondary treatment," which all POTWs were required to meet by July 1, 1977. The EPA has developed and promulgated "secondary treatment" effluent limitations, which are found in 40 CFR 133.102. These TBELs apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by application of secondary treatment for BOD_5, TSS, and pH. The federally promulgated secondary treatment effluent limits are listed in the table below.

Table 4. Federal Secondary Treatment Limits

Secondary Treatment Effluent Limits (40 CFR 133.102)

Parameter	30-day average	7-day average
BOD_5	30 mg/L	45 mg/L
TSS	30 mg/L	45 mg/L
Removal for BOD_5 and TSS (concentration)	85% (minimum)	---
pH	within the limits of 6.0 - 9.0 s.u.	

Mass-Based Limits

The federal regulation at 40 CFR 122.45(f) requires that effluent limits be expressed in terms of mass, if possible. The regulation at 40 CFR 122.45(b)(1) requires that effluent limitations for POTWs be calculated based on the design flow of the facility. The mass based limits are expressed in pounds per day and are calculated as follows:

Mass based limit (lbs/day) = concentration limit (mg/L) × design flow (mgd) × 8.34[1]

Chlorine (TRC)

Chlorine is often used to disinfect municipal wastewater prior to discharge. The City of Hagerman WWTP uses chlorine disinfection. A 0.5 mg/L average monthly limit for total residual chlorine (TRC) is derived from standard operating practices and is considered a technology based limit. The Water Pollution Control Federation's *Chlorination of Wastewater* (1976) states that a properly designed and maintained wastewater treatment plant can achieve adequate disinfection if a 0.5 mg/L chlorine residual is maintained after 15 minutes of contact time. Therefore, a WWTP that provides adequate chlorine contact time can meet a 0.5 mg/L TRC limit on a monthly average basis. In addition to average monthly limits (AMLs), NPDES regulations require effluent limits for POTWs to be expressed as average weekly limits (AWLs) unless impracticable. For TBELs, the AWL is 1.5 times the AML, consistent with the "secondary treatment" limits for BOD_5 and TSS. This results in an AWL for TRC of 0.75 mg/L.

Since the federal regulations at 40 CFR 122.45 (b) and (f) require limitations for POTWs to be expressed as mass-based limits using the design flow of the facility, mass-based limits for chlorine are calculated as follows:

Monthly average Limit= 0.5 mg/L × 0.15 mgd × 8.34 = 0.63 lbs/day

Weekly average Limit = 0.75 mg/L × 0.15 mgd × 8.34 = 0.94 lbs/day

C. Water Quality-Based Effluent Limits

Statutory and Regulatory Basis

Section 301(b)(1)(C) of the CWA requires the development of limitations in Permits necessary to meet state or tribal WQS. Point source discharges to state or tribal waters must also comply with limitations imposed by the state or tribe as part of its certification of each NPDES Permit developed under section 401 of the CWA. The federal regulation at 40 CFR

[1] 8.34 is a conversion factor with units (lb ×L)/(mg × gallon×10^6)

122.4(d) prohibits the issuance of an NPDES Permit that does not ensure compliance with the WQS of all affected states (i.e., the WQS of the receiving water body and downstream waters).

The NPDES regulations require that point source permits include limits for all pollutants or parameters which are or may be discharged in an amount which will cause, have the reasonable potential (RP) to cause, or to contribute to an excursion above any state or tribal WQS, including narrative criteria for water quality, and that the level of water quality to be achieved by limits on point sources must be derived from and comply with all applicable state or tribal WQS [40 CFR 122.44(d)(1)].

40 CFR 122.4(d)(1) requires the permitting authority to make this evaluation (called a "reasonable potential analysis or RPA") using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The Permit limits must be stringent enough to ensure that state or tribal WQS are met, and must be consistent with any available WLA provided by an EPA-approved TMDL assessment, if applicable. In the case of an available TMDL, the WLA provided by the TMDL for a particular pollutant will override the mass-based calculations, when it is the more stringent of the two options.

RPAs

The EPA projects the downstream receiving water concentration for each pollutant of concern when evaluating the RP to cause or contribute to an excursion above any State/Tribal water quality criterion. The EPA uses the concentration of the pollutant in the effluent and receiving water and, if appropriate, the dilution available from the receiving water, to project the receiving water concentration. If the projected concentration of the pollutant in the receiving water exceeds the numeric criterion for that specific pollutant, then the discharge has the RP to cause or contribute to an excursion above the applicable WQS, and a WQBEL is required.

Sometimes it may be appropriate to allow a small area of the receiving water to provide dilution of the effluent. These areas are called mixing zones. Mixing zone allowances will increase the mass loadings of the pollutant to the water body and will decrease treatment requirements. Mixing zones can be used only when there is adequate receiving water flow volume and the concentration of the pollutant in the receiving water is less than the criterion necessary to protect the designated uses of the water body. Mixing zones must be authorized by the State in their CWA 401 certification of the Permit. In the last CWA 401 certification for this Permit, the IDEQ authorized a mixing zone in the Snake River for total residual chlorine (TRC) and Total ammonia as N (ammonia).

Pollutants Present with Reasonable Potential

EPA conducted a reasonable potential analysis (RP/RPA) of the possibility for the TRC and ammonia concentrations present in the facility's effluent to cause or contribute to an exceedance of the Idaho WQS for these parameters, therefore impairing the Snake River. The DMR data from the facility on TRC concentrations were used in the analysis, and results

showed that there is no RP for the effluent to exceed the TRC water quality criteria applicable to the Snake River. Therefore, there is no WQBEL TRC limit included in the Draft Permit. The TBELs (both concentration and mass-based) calculated above remain the most stringent limits, and are therefore included in the Draft Permit. More discussion on the limits included in this Permit can be found below. In addition, TRC will continue to be monitored three (3) times a week, for the life of the Permit.

The DMR data from the facility on ammonia concentrations were also used in the analysis, and results showed that there is no RP to exceed the ammonia water quality criteria applicable to the Snake River with a 0.5% mixing zone in the Snake River. The preliminary IDEQ CWA Section 401 certification grants a 0.5% mixing zone in the Snake River to the facility; therefore, there is no RP to exceed and there are no limits included in the Draft Permit on ammonia. However, the ammonia concentrations in both the effluent and the receiving water will be monitored once a month during this Permit cycle, in order to collect additional data that may inform the next Permit.

Table 5. Reasonable Potential Analysis for Ammonia and TRC

Reasonable Potential Analysis (RPA) and Water Quality Effluent Limit (WQBEL) Calculations

Facility Name	City of Hagerman
Design Flow (MGD)	0.15

Dilution Factors	(IDAPA 58.01.02 03. b)	Annual Crit. Flows
Aquatic Life - Acute Criteria - Criterion Max. Concentration (CMC)	**1Q10**	**107.0**
Aquatic Life - Chronic Criteria - Criterion Continuous Concentration (CCC)	**7Q10 or 4B3**	**108.7**
Ammonia	**30B3/30Q10** (seasonal)	**1703.2**
Human Health - Non-Carcinogen	**30Q5**	**1606.3**
Human Health - carcinogen	**Harmonic Mean Flow**	**1.0**

Receiving Water Data		Notes:	Annual Crit. Flows
Hardness, as mg/L $CaCO_3$	*** Enter Hardness on WQ Criteria tab ***	5th % at critical flows	
Temperature, °C	Temperature, °C	95th percentile	19.868
pH, S.U.	pH, S.U.	95th percentile	8.7

Pollutants of Concern			AMMONIA, default: cold water, fish early life stages present	CHLORINE (Total Residual)
Effluent Data	**Number of Samples in Data Set (n)**		58	46
	Coefficient of Variation (CV) = Std. Dev./Mean (default CV = 0.6)		1	0.44
	Effluent Concentration, µg/L (Max. or 95th Percentile) - (C_e)		7,550	770
	Calculated 50th % Effluent Conc. (when n>10), Human Health Only			
Dilution Factors	Aquatic Life - Acute	1Q10	107.012	107.012
	Aquatic Life - Chronic	7Q10 or 4B3	-	108.735
	Ammonia	30B3 or 30Q10	1,703.219	-
	Human Health - Non-Carcinogen	30Q5	-	1,606.257
	Human Health - carcinogen	Harmonic Mean	-	1.000
Receiving Water Data	**90th Percentile Conc., µg/L - (C_u)**			
	Geometric Mean, µg/L, Human Health Criteria Only			
Applicable Water Quality Criteria	Aquatic Life Criteria, µg/L	Acute	1,473	19
	Aquatic Life Criteria, µg/L	Chronic	551	11
	Human Health Water and Organism, µg/L		--	--
	Human Health, Organism Only, µg/L		--	--
	Metals Criteria Translator, decimal (or default use Conversion Factor)	Acute	--	0.000
		Chronic	--	0.000
	Carcinogen (Y/N), Human Health Criteria Only		--	--

Aquatic Life Reasonable Potential Analysis

σ	$\sigma^2=\ln(CV^2+1)$		0.833	0.424
P_n	$=(1-\text{confidence level})^{1/n}$, where confidence level =	**99%**	0.924	0.905
Multiplier (TSD p. 57)	$=\exp(z\sigma-0.5\sigma^2)/\exp[\text{normsinv}(P_n)-0.5\sigma^2]$, where	**99%**	2.1	1.5
Statistically projected critical discharge concentration (C_e)			15920.95	1185.45
Predicted max. conc.(ug/L) at Edge-of-Mixing Zone		Acute	148.78	11.08
(note: for metals, concentration as dissolved using conversion factor as translator)		Chronic	9.35	10.90
Reasonable Potential to exceed Aquatic Life Criteria			**NO**	**NO**

Procedure for Deriving Water Quality-based Effluent Limits

The first step in developing a WQBEL is to develop a WLA for the pollutant. A WLA is the concentration or loading of a pollutant that the Permittee may discharge without causing or contributing to an exceedance of WQS in the receiving water. WLAs are determined in one of the following ways:

1. TMDL-Based WLA

Where the receiving water quality does not meet WQS, Section 303(d) of the CWA requires States to develop TMDLs, in order to ensure that these waters will come into compliance with WQS. A TMDL determines of the amount of a pollutant from point, non-point, and natural background sources that may be discharged to a water body without causing the water body to exceed the criterion for that pollutant. Any loading above this capacity risks violating WQS. For those water bodies that will not meet WQS even after the imposition of TBELs, WLAs are developed for each discharger and included in the TMDL developed by the State (and approved by the EPA).

The *Middle Snake River Watershed Management Plan* (March 1997) established a TP WLA for the City of Hagerman. The *Upper Snake Rock Watershed Management Plan*, and the supplementary information provided by IDEQ in July 2000 was approved by EPA in August 2000, and contains TSS and fecal coliform WLAs as well for the City of Hagerman. In August 2005 IDEQ submitted the *Upper Snake Rock TMDL Modification* to EPA for review and approval. The TMDL modification contained TSS and TP WLAs for aquaculture facilities, as well as revised TSS WLAs for several municipal WWTPs, including the City of Hagerman. On September 14, 2005, EPA approved the WLAs for the aquaculture facilities, but did not approve the revised TSS WLAs for the municipal WWTPs, therefore, the WLAs in the *Upper Snake Rock Watershed Management Plan*, and the supplementary information provided by IDEQ in July 2000 for TSS and TP were used to derive the proposed limits in this Draft Permit.

2. Mixing zone based WLA

When the State authorizes a mixing zone for the discharge, the WLA is calculated by using a simple mass balance equation. The equation takes into account the available dilution provided by the mixing zone and the background concentrations of the pollutant.

3. Criterion as the WLA

In some cases a mixing zone cannot be authorized, either because the receiving water is at, or exceeds, the criterion; the receiving water flow is too low to provide dilution; or the facility can achieve the effluent limit without a mixing zone. In such cases, the criterion becomes the WLA. Establishing the criterion as the WLA ensures that the effluent discharge will not contribute to an exceedance of the criteria. As discussed previously, the mass-based limits were derived by using a calculation including the concentration, the facility's flow, and a conversion factor.

Once the WLA has been developed, the EPA applies the statistical permit limit derivation approach described in Chapter 5 of the *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001, March 1991, hereafter referred to as the TSD) to obtain monthly average, weekly average, and/or daily maximum permit limits. This approach takes into account effluent variability, sampling frequency, and Idaho's WQS.

D. Anti-backsliding Provisions

Section 402(o) of the CWA and 40 CFR 122.44 (l) generally prohibit the renewal, reissuance, or modification of an existing NPDES Permit that contains effluent limits, Permit conditions, or standards that are less stringent than those established in the previous Permit (i.e., anti-backsliding) with limited exceptions. Section 402(o)(1) of the CWA states that a Permit may not be reissued with less-stringent limits if those limits were established based on Sections 301(b)(1)(C), 303(d), or 303(e) (i.e. WQBELs or limits established in accordance with State treatment standards) except in compliance with Section 303(d)(4). Section 402(o)(1) also prohibits backsliding on TBELs established using best professional judgment (BPJ) (i.e. based on Section 402(a)(1)(B)).

Section 303(d)(4) of the CWA states that, for water bodies where the water quality meets or exceeds the level necessary to support the water body's designated uses, WQBELs may be revised as long as the revision is consistent with the State's antidegradation policy. Additionally, Section 402(o)(2) contains exceptions to the general prohibition on backsliding in 402(o)(1). According to the EPA NPDES Permit Writers' Manual (EPA-833-K-10-001), the 402(o)(2) exceptions are applicable to WQBELs (except for 402(o)(2)(B)(ii) and 402(o)(2)(D)) and are independent of the requirements of 303(d)(4). Therefore, WQBELs may be relaxed as long as either the 402(o)(2) exceptions or the requirements of 303(d)(4) are satisfied.

The effluent concentration limit for TRC in the Draft Permit (AML) is a little less stringent than the AML for TRC in the Previous Permit (The AWL is a little more stringent here, and the mass-based limits are almost exactly the same). The EPA conducted a reasonable potential analysis for TRC using updated effluent quality monitoring and receiving water flow data. The analysis showed no RP for TRC. Therefore, the TRC limits in the Draft Permit were revised to be based on the TBELs for TRC. The limits may be relaxed because the revision meets the exception under CWA 401(o)(1)(3), that is, the revision is based on new information, and complies with the state WQS, including the state's antidegradation policy.

As discussed further below, the mass-based limits for TSS and TP were also recalculated in the Draft Permit, in order to be consistent with the assumptions and the averaging periods for the WLAs for the Hagerman WWTP in the Upper Snake/Rock TMDL. These revisions are not considered backsliding, because the revised limits comply with state WQS, including antidegradation, as they are consistent with the TMDL WLAs.

E. Antidegradation

The proposed issuance of an NPDES Permit triggers the need to ensure that the conditions in the Permit ensure that Tier I, II, and III of the State's antidegradation policy are met. The IDEQ has completed an antidegradation review, which is included in the draft CWA 401 water quality certification for this Draft Permit. Refer to Appendix D for the State's Draft 401 certification. The EPA has reviewed IDEQ's antidegradation analysis and finds that it is

consistent with the State of Idaho's 401 certification requirements and antidegradation implementation procedures. Comments on the 401 certification, including the antidegradation review, can be submitted to the IDEQ as stated above on Page 1 of this Fact Sheet (see State Certification). This Draft Permit includes any requirements provided by IDEQ as a part of their antidegradation analysis or 401 certification.

F. Facility Specific Limits

The final effluent limits for each parameter in NPDES Permits are the more stringent of technology treatment requirements, WQBELs, WLAs, or limits retained as the result of anti-backsliding analysis or to meet the State's antidegradation policy. See the table of proposed limits in Section IV.G of this Fact Sheet. The discussion below details each parameter in the table.

Floating, Suspended, Submerged Matter

The Idaho WQS have a narrative provision for floating, suspended, or submerged matter that has been incorporated into the Draft Permit as an effluent limitation. Narrative criteria describe the desired water quality goal and can be used in instances where numeric criteria have not been developed or are not appropriate for the condition.

Biochemical Oxygen Demand, five-day (BOD_5)

All secondary treatment facilities are subject to the federal technology-based requirements for BOD_5. These requirements state that the 30-day average must not exceed 30 mg/L, the 7-day average must not exceed 45 mg/L, and the 30-day average percent removal must not be less than 85 percent. As there is no WQS for BOD, the TBELs will be the proposed limits in the Draft Permit, along with the mass loadings that correspond with the concentration limits.

The Draft Permit retains the existing BOD_5 concentration and mass-based loading limits of 30 mg/L (37.5 lbs/day) AML, 45 mg/L (56.3 lbs/day) AWL, and an AML of >85% removal.

Total Suspended Solids (TSS)

The Idaho WQS state that sediment shall not exceed quantities which impair designated beneficial uses. (IDAPA 58.01.02.200). The Upper Snake Rock TMDL assigned a WLA for TSS of 1.4 tons/year for the City of Hagerman WWTP (see Table 104 of the 1999 TMDL). When an effluent limit is based on a WLA from a TMDL, the NPDES regulations at 40 CFR 122.44(d)(vii) state that the effluent limit must be derived from and comply with the applicable WQS and be consistent with the assumptions and requirements of any approved WLA. Also, the federal NPDES regulation at 40 CFR 122.45(d)(2) require that effluent limitations for continuous discharges from POTWs be expressed as average monthly and average weekly limits, unless impracticable. Additionally, the terms "average monthly limit" and "average weekly limit" are defined in 40 CFR 122.2 as being arithmetic (as opposed to geometric) averages. In translating the WLA into Permit limits, the EPA followed procedures in the TSD. The first step in developing limits is to determine the time frame over which the WLAs apply.

The mean annual load, converted to pounds/day helps the EPA to propose permit limits for

TSS, following the procedures specified in the TSD. 1.4 tons/year converts to 7 lbs/day (1.4 x 2000/365). There are 2000 pounds in one ton and 365 days in one year. The 7 lbs/day becomes the long term average (LTA) that's used to calculate the AML and AWL for TSS; which means that the EPA can convert the mean annual load allocation of TSS in the TMDL into average monthly and weekly effluent limits for TSS, in pounds per day.

The LTA is the starting point, and using the TSD, you can derive a multiplier for the LTA, in order to arrive at the AML. Afterwards, you can derive a multiplier for the AML, in order to arrive at the AWL. For Hagerman, using 7 lbs/day as the starting point, the AWL for TSS is 13.7 lbs/day and the MDL for TSS is 34.7 lbs/day.

The objective in setting effluent limits is to establish limits that will result in the effluent meeting the LTA under normal operating conditions virtually all the time (consistent with the WLA in the TMDL). Having both an AML and AWL also ensures good performance of the treatment system. Setting an AWL establishes an upper bound on effluent values used to determine the monthly average and provides a measure of effluent compliance during operational periods between monthly sampling.

As in the Previous Permit, the AWL was calculated by multiplying the AML by the following relationship (see Table 5-3 of the TSD):

Table 6. TSS Limit Calculations from the LTA

Multiplier to Calculate Permit Limits from LTA Reference: TSD Page 103

Number of Samples per Month (n)			4
Coefficient of Variation (CV) = Std. Dev./Mean			1.01
σ = std deviation	$\sigma^2=\ln(CV^2+1)$		0.839
Average Monthly Limit (AML),	$\exp(z\sigma_n-0.5z\sigma_n^2)$; where % probability basis =	95%	1.95
Maximum Daily Limit (MDL),	$\exp(z\sigma-0.5z\sigma^2)$; where % probability basis=	99%	4.95

Calculation:	**LTA, Limiting**	**x**	**Multiplier**	**=**	**Limit**
AML = LTA, limiting x Multiplier	7	x	1.95	=	13.68
MDL = LTA, limiting x Multiplier	0	x	4.95	=	0

Multiplier to Calculate Average Weekly Limit (AWL) from Average Monthly Limit

Number of Samples per Month Set (n)			4
Number of Samples per Week Set (n/4)			1
Coefficient of Variation (CV) = Std. Dev./Mean			1.01
σ = std deviation	$\sigma^2=\ln(CV^2+1)$		0.839
Average Monthly Limit (AML),	$\exp(z\sigma_n-0.5z\sigma_n^2)$; where % probability basis =	95%	1.95
Average Weekly Limit (AWL),	$\exp(z\sigma_{n/4}-0.5z\sigma_{n/4}^2)$; where % probability basis =	99%	4.95
Ratio AWL/AML			**2.53**

Adapted from TSD Page 106, where n= (default AWL/AML Multiplier = 1.5)

Calculation:	**AML**	**x**	**Multiplier**	**= AWL**
AWL = AML x Multiplier	13.68	x	2.53	= 34.64

The Draft Permit retains the concentration limits, at the secondary treatment standards, but proposed new limits from the Previous Permit: TSS limits: 30 mg/L (13.7 lbs/day) AML, 45 mg/L (34.7 lbs/day) AWL, and >85% removal.

The objective in setting effluent limits is to establish limits that will result in the effluent meeting the WLA under normal operating conditions virtually all the time. Developing both an AML and an AWL for POTWs is consistent with the requirements of the EPA's regulations and also assures that the long-term average (LTA) loading requirements of TSS

to the river system, as specified in the management plan, is being met. Having both an AML and AWL also ensures good performance of the treatment system. Setting an AWL establishes an upper bound on effluent values used to determine the monthly average and provides a measure of effluent compliance during operational periods between monthly sampling.

Bacteria /E. coli

The Idaho WQS state that waters of the State of Idaho that are designated for primary contact recreation uses are not to contain *E. coli* bacteria in concentrations exceeding 126 organisms per 100 ml based on a minimum of five samples taken every three (3) to seven (7) days over a 30-day period. Therefore, as the Snake River is designated for primary contact recreation, the Draft Permit contains a monthly geometric mean effluent limit for *E. coli* of 126 organisms per 100 mL [IDAPA 58.01.02.251.01.a].

The Idaho WQS also state that a water sample that exceeds certain "single sample maximum" values indicates a likely exceedance of the geometric mean criterion, although it is not, in and of itself, a violation of WQS. For waters designated for primary contact recreation, the "single sample maximum" value is 406 organisms per 100 mL [IDAPA 58.01.02.251.01.b.ii].

The goal of a WQBEL is to ensure a low probability that WQS will be exceeded in the receiving water as a result of a discharge, while considering the variability of the pollutant in the effluent. Because a single sample value exceeding 406 organisms per 100 ml indicates a likely exceedance of the geometric mean criterion, the EPA has imposed an instantaneous (single grab sample) maximum effluent limit for *E. coli* of 406 organisms per 100 ml, in addition to a monthly geometric mean limit of 126 organisms per 100 ml, which directly implements the water quality criterion for primary contact recreation for *E. coli*. This will ensure that the discharge will have a low probability of exceeding the WQS for *E. coli*.

Regulations at 40 CFR 122.45(d)(2) require that effluent limitations for continuous discharges from POTWs be expressed as average monthly and average weekly limits, unless impracticable. Additionally, the terms "average monthly limit" and "average weekly limit" are defined in 40 CFR 122.2 as being arithmetic (as opposed to geometric) averages. It is impracticable to properly implement a 30-day geometric mean criterion in a Permit using monthly and weekly arithmetic average limits. The geometric mean of a given data set is equal to the arithmetic mean of that data set if and only if all of the values in that data set are equal. Otherwise, the geometric mean is always less than the arithmetic mean. In order to ensure that the effluent limits are "derived from and comply with" the geometric mean water quality criterion, as required by 40 CFR 122.44(d)(1)(vii)(A), it is necessary to express the effluent limits as a monthly geometric mean and an instantaneous maximum limit.

The Draft Permit retains the existing *E. coli* limits: 126 colonies/100 mL AML based on a geometric mean of all samples taken during the month and 406 colonies/100 mL as an instantaneous maximum limit.

Chlorine (TRC)

For the details on calculating the proposed TRC limits in the Draft Permit, see the section above under Technology Based Limits.

As discussed above, there are State of Idaho water quality criteria promulgated for TRC; therefore, it is necessary to analyze the RP of the facility to cause or contribute to a violation of those criteria in order to determine which is more stringent – the TBEL or the WQBEL.

The Idaho WQS, at IDAPA 58.01.02.210, establish an acute TRC criterion of 19 µg /L, and a chronic TRC criterion of 11 µg/L for the protection of aquatic life. As shown in the table above, the discharge from the facility at current TRC concentrations does not have the RP to cause or contribute to a violation of the water quality criteria for TRC. Therefore, EPA is proposing the TBELs (concentration based and mass based) as the limits for TRC in this Draft Permit.

Federal regulations require Permit limits for POTWs to be expressed as an AML and an AWL unless impracticable. While this is not a concern with pollutants that are not toxic, such as TSS or phosphorus, it is a significant concern when toxic pollutants, such as TRC or ammonia, are being discharged. Imposing a maximum daily limit (MDL) instead of an AWL will ensure that spikes do not occur, and will be protective of aquatic life – meeting the Idaho WQS. For these reasons, EPA Region 10 considers it impracticable to develop an AWL for TRC.

However, as there is no RP for TRC and no WQBEL calculated in the Draft Permit, the previously calculated TBELs apply. The minimum size mixing zone that results in no reasonable potential for both the acute and chronic TRC criterion, based on the EPA's calculations, is a **2% mixing zone in the Snake River** (with 1Q10 and 7Q10 flow). IDEQ's 401 certification of the Draft Permit includes authorization for a 2% mixing zone for TRC; and therefore the limits included in the Draft Permit are the TBELs discussed above on page 15.

Phosphorus

The 1997 TMDL assigned a WLA for total phosphorus (TP) of 5.7 lbs/day for the City of Hagerman WWTP (see Table 24 of the 1997 TMDL). The federal regulation at 40 CFR 122.44(d)(vii)(B) requires the EPA to incorporate effluent limits based on WLAs from the State's watershed management plan into NPDES Permits. TP limits were incorporated into the 1999 NPDES Permit and maintained in the Previous Permit. However, similarly to the TSS discussion above, the TP limits from the Previous Permit were recalculated for this Draft Permit.

The Draft Permit proposed TP limits calculated to be consistent with the TMDL WLA and the procedures in the TSD for deriving effluent limits. The WLA of 5.7 lbs/day is considered to be the AML, as the pounds/day limit in the TMDL is the same each season, and therefore, each month. The AWL was calculated with a multiplier, and TP data from the DMRs, as instructed in the TSD. The AWL for TP is 12.3 lbs/day.

Table 7. TP Limit Calculations from the AML

Multiplier to Calculate Average Weekly Limit (AWL) from Average Monthly Limit

Number of Samples per Month Set (n)			4
Number of Samples per Week Set (n/4)			1
Coefficient of Variation (CV) = Std. Dev./Mean			0.7
σ = std deviation	$\sigma^2=\ln(CV^2+1)$		0.631
Average Monthly Limit (AML),	$\exp(z\sigma_n-0.5z\sigma_n^2)$; where % probability basis =	95%	1.65
Average Weekly Limit (AWL),	$\exp(z\sigma_{n/4}-0.5z\sigma_{n/4}^2)$; where % probability basis =	99%	3.56
Ratio AWL/AML			**2.16**

Adapted from TSD Page 106, where n=
(default AWL/AML Multiplier = 1.5)
CV for TP monthly loading from DMR dataset

Calculation:	AML	x	Multiplier	=	AWL
AWL = AML x Multiplier	5.7	x	2.16	=	12.29

Therefore, the Draft Permit proposes TP limits based on the WLA in the TMDL: 5.7 lbs/day AML and 12.3 lbs/day AWL.

pH

The TBEL for pH at 40 CFR 133, require POTWs to be within the range of 6.0 - 9.0 standard units (s.u.). The Idaho WQS, at IDAPA 58.01.02.250.01.a, requires pH values in the river to be within the range of 6.5 to 9.0 s.u.

When there are both WQBELs and TBELs, the more stringent of the two will be the proposed limits in an NPDES Permit. In this case, the WQBEL is the more stringent limit, and will be proposed to ensure protection of the receiving water.

Therefore, the Draft Permit proposed to retain the pH limit range of 6.5 to 9.0 s.u. from the Previous Permit.

G. Proposed Effluent Limitations

Narrative Limitations

The Permittee must not discharge floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses.

Numeric Limitations

The table below presents the proposed effluent limits.

Table 8. Proposed Effluent Limits for the City of Hagerman WWTP

Proposed Effluent Limits for the City of Hagerman WWTP					
Parameter	**Units**	**Effluent Limits**			
		Average Monthly Limit	**Average Weekly Limit**	**Maximum Daily Limit**	**Basis for Limit**
Floating, Suspended, Submerged Matter	Visual Observation	See Part I.B.1 of the Permit			Idaho WQS
Five-Day Biochemical Oxygen Demand	mg/L	30	45	---	Federal Secondary Treatment Regulations [40 CFR 133]

Proposed Effluent Limits for the City of Hagerman WWTP					
Parameter	Units	Effluent Limits			
		Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Basis for Limit
(BOD_5)[1]	lbs/day	37.5	56.3	---	40 CFR 122.45(f)
BOD_5 Removal	percent	85 minimum	---	---	40 CFR 133
Total Suspended Solids (TSS)[1]	mg/L	30	45	---	Federal Secondary Treatment Regulations [40 CFR 133]
	lbs/day	13.7	34.7	---	TMDL WLA
TSS Removal	percent	85 minimum	---	---	40 CFR 133
E. coli[2]	#/100 ml	126 (geometric mean)	---	406 (instantaneous maximum)	Idaho WQS
Total Residual Chlorine[1, 2]	mg/L	0.5		0.75	Idaho WQS
	lbs/day	0.63		0.94	40 CFR 122.45(f)
Total Phosphorus	lbs/day	5.7	12.3	---	TMDL WLA
pH	s.u.	pH must not be less than 6.5 standard units nor greater than 9.0 standard units			Idaho WQS

1. Loading (in lbs/day) is calculated by multiplying the concentration in mg/L by the flow in mgd and a conversion factor of 8.34. If the concentration is measured in µg/L, the conversion factor is 0.00834. For more information on calculating, averaging, and reporting loads and concentrations see the *NPDES Self-Monitoring System User Guide* (EPA 833-B-85-100, March 1985).
2. Reporting is required within 24 hours of a MDL or instantaneous maximum limit violation.

H. Effluent Limit Changes

In their Permit application, the discharger requested the following two revisions to existing Permit conditions:

- That the EPA revise the effluent mass limits for TSS to either the secondary treatment standard or the WLA in the 2005 Upper Snake/Rock TMDL Modification; and,
- That the EPA allow for year-round discharge (January 1 – December 31) to the Snake River.

The EPA was not able to revise the conditions for this Draft Permit. The 2005 TMDL Modification to TSS for municipal WWTPs was not approved by the EPA, therefore, the requirements and conditions found in the 1999 Upper Snake/Rock TMDL continue to apply. If a future modification to the TMDL is approved by EPA, the WLAs for the Hagerman WWTP can be revisited; but at this time, the only approved WLA for the City of Hagerman for TSS is from 1999.

In addition, the previous seasonal discharge requirements are carried over to this Draft Permit. The Snake River continues to be listed as impaired for a number of pollutants,

including TP, and the flow in the river has decreased over the past several years. Therefore, any additional loadings to the Snake River of pollutants identified as inhibiting the Snake River from fully supporting the designated uses assigned to it are not warranted at this time. IDEQ was consulted on the discharge request and agrees with EPA that the additional loading of pollutants, by increasing the time frame of the City of Hagerman's authority to discharge, is unable to be granted at this time. IDEQ has relayed that position to the Hagerman WWTP in personal communications.

Table 9. Changes in Effluent Limits from Previous Permit

Parameter	Previous Permit	Draft Permit
Floating, Suspended, Solid Matter	--	Included the narrative provision as an effluent limitation, visual observation 1/month
Total Residual Chlorine	481 µg/L AML	500 µg/L (0.5 mg/L)AML
	794 µg/L MDL	750 µg/L (0.75 mg/L) MDL
	0.6 lbs/day AML and 1.0 lbs/day MDL	0.63 lbs/day AML and 0.94 lbs/day MDL
Total Suspended Solids	30 mg/L AML (7.7 lbs/day) and 45 mg/L MDL (15.5 lbs/day)	30 mg/L AML (13.7 lbs/day) and 45 mg/L AWL (34.7 lbs/day)
Total Phosphorus	5.7 lbs/day AML and 11.4 lbs/day AWL	5.7 lbs/day AML and 12.3 lbs/day AWL

V. Monitoring Requirements

A. Basis for Effluent and Surface Water Monitoring

Section 308 of the CWA and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality.

The Draft Permit also requires the Permittee to perform effluent monitoring required by the NPDES Form 2A Application, so that this data will be available when the Permittee applies for a renewal of its NPDES permit. This includes the Permittee performing the effluent monitoring required by Parts A.12 and B.6 of the NPDES Form 2A Application so that this data will be available when the Permittee applies for a renewal of its NPDES Permit.

The Permittee is responsible for conducting the monitoring and for reporting results on DMRs or on the application for renewal, as appropriate, to the EPA.

B. Influent and Effluent Monitoring

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required by the Permit. These samples must be used for averaging if they are conducted using the

EPA-approved test methods (generally found in 40 CFR 136) or as specified in the Draft Permit.

The table below presents the proposed influent and effluent monitoring requirements in the Draft Permit. The influent sampling location must be prior to the first treatment unit. The effluent sampling location must be after the last treatment unit and prior to discharge to the receiving water. The samples must be representative of the volume and nature of the monitored discharge. If no discharge occurs during the reporting period, "no discharge" shall be reported on the DMR.

Table 10. Proposed Monitoring Requirements for the Hagerman WWTP

Proposed Influent and Effluent Monitoring Requirements for the Hagerman WWTP				
Parameter	**Units**	**Sample Location**	**Sample Frequency**	**Sample Type**
Flow	mgd	Effluent	Continuous	Recording
Floating, Suspended, Submerged Matter	--	--	1/month	Visual Observation
BOD_5	mg/L	Influent & Effluent	2/month	24-hour composite
	lbs/day	Influent & Effluent	2/month	Calculation[1]
	% Removal	--	1/month	Calculation[2]
TSS	mg/L	Influent & Effluent	1/week	24-hour composite
	lbs/day	Influent & Effluent	1/week	Calculation[1]
	% Removal	--	1/month	Calculation[2]
Temperature[3]	°C	Effluent	5/week	Grab
pH	standard units	Effluent	5/week	Grab
E. coli [4]	#/100 ml	Effluent	5/month	Grab
Total Residual Chlorine	µg/L	Effluent	3/week	Grab
	lbs/day	Effluent	3/week	Calculation[1]
Total Ammonia (as N)	mg/L	Effluent	1/month	24-hour composite
Total Phosphorus (as P)	mg/L	Effluent	1/week	24-hour composite
	lbs/day	Effluent	1/week	Calculation[1]
Parameters Needed for the NPDES Form 2A Application				
Dissolved Oxygen	mg/L	Effluent	1/year	Grab
Total Kjeldahl Nitrogen (TKN)	mg/L	Effluent	1/year	24-hour composite
Nitrate + Nitrite	mg/L	Effluent	1/year	24-hour composite
Oil and Grease	mg/L	Effluent	1/year	Grab
Total Dissolved Solids (TDS)	mg/L	Effluent	1/year	24-hour composite

Notes:
1. Loading is calculated by multiplying the concentration (in mg/L) by the flow (in mgd) on the day sampling occurred and a conversion factor of 8.34.
2. The monthly average percent removal must be calculated from the arithmetic mean of the influent values and the arithmetic mean of the effluent values for that month, i.e.:.
   (average monthly influent – average monthly effluent) ÷ average monthly influent. Influent and effluent samples must be taken over approximately the same time period.
3. Continuous temperature monitoring means recording temperature in 1-hour intervals, 24 hours per day.
4. The average monthly *E. coli* bacteria counts must not exceed a geometric mean of 126/100 mL based on a minimum of five samples taken every 3-7 days within a calendar month. See Part VI of the Draft Permit for a definition of geometric mean.

C. Changes in Effluent Monitoring Requirements

The changes in monitoring requirements from the Previous Permit include:

- The addition of the once a month visual observation of the receiving water, in order to report floating, suspended, or submerged matter in excess of the narrative criterion;
- Temperature monitoring has been changed from a continuously recorded monitoring requirement to five times a week grab samples, due to this segment of the Snake River (Snake River Segment 5) meeting temperature standards and not being listed in the 2012 Integrated Report as impaired; and,
- The addition of the once a year monitoring of the required parameters for the NPDES Form 2A application.

D. Surface Water Monitoring

In general, surface water monitoring may be required for pollutants of concern to assess the assimilative capacity of the receiving water for the pollutant. In addition, surface water monitoring may be required for pollutants upon which the water quality criteria are dependent and to collect data for TMDL development if the facility discharges to an impaired water body.

The table below presents the surface water monitoring requirements in the Draft Permit. Surface water monitoring results must be submitted to EPA and IDEQ with the DMR.

The changes in the surface water monitoring requirements from the Previous Permit include:

- pH monitoring of the receiving water is continuing in this Draft Permit for the life of the Permit;
- Continuously recorded temperature monitoring of the receiving water has been removed from the Draft Permit and replaced with a once a week grab sample;
- Monitoring of Total Ammonia (as N) in the receiving water is continuing in this Draft Permit for the life of the Permit; and,
- Monitoring of Total Phosphorus (TP) in the receiving water has been added to the surface water monitoring requirements in this Draft Permit.

When EPA made a site visit to the Hagerman WWTP during development of the Draft Permit, it was clear that Hagerman and IDEQ still needed to agree on a surface water monitoring location. The WWTP has not reported any of the surface water monitoring data required by the Previous Permit. Therefore, EPA carried over the requirements and added new ones, in order to have the data necessary for determining any changes in the next Permit.

Table 11. Proposed Surface Water Monitoring Requirements for the City of Hagerman WWTP

Proposed Surface Water Monitoring Requirements for the City of Hagerman WWTP				
Parameter	**Units**	**Sample Location[1]**	**Sample Frequency[2]**	**Sample Type**
pH	standard units	Upstream	1/month	Grab
Total Ammonia (as N)	mg/L	Upstream	1/month	Grab
Total Phosphorus (as P)	mg/L	Upstream	1/month	Grab
Temperature	°C	Upstream	1/week	Grab

Notes:
1. Upstream sample locations must be approved by IDEQ.
2. To the extent practicable, surface water sample collection must occur on the same day as effluent sample collection.

E. Electronic Submission of Discharge Monitoring Reports

During the period between the effective date of the Permit and the submission of the October 2016 DMR, the Permittee must either submit monitoring data and other reports in paper form, or must report electronically using NetDMR, a web-based tool that allows Permittees to electronically submit DMRs, and other required reports, via a secure internet connection.

Beginning with the submission of the November 2016 DMR (due December 20, 2016) and thereafter, the Permittee must submit monitoring data and other reports electronically using NetDMR.

The specific requirements regarding the submittal of data and reports in paper form and the use of NetDMR are included in the Draft Permit Part III.B.

VI. Sludge (Biosolids) Requirements

The EPA Region 10 separates wastewater and sludge permitting. The EPA has authority under the CWA to issue separate sludge-only permits for the purposes of regulating biosolids. The EPA may issue a sludge-only permit to each facility at a later date, as appropriate.

Until future issuance of a sludge-only permit, sludge management and disposal activities at each facility continue to be subject to the national sewage sludge standards at 40 CFR Part 503 and any requirements of the State's biosolids program. The Part 503 regulations are self-implementing, which means that facilities must comply with them whether or not a permit has been issued.

VII. Other Permit Conditions

A. Quality Assurance Plan

In order to ensure compliance with the federal regulation at 40 CFR 122.41(e) for proper operation and maintenance, the Draft Permit requires the Permittee to develop procedures to ensure that the monitoring data submitted is accurate and to explain data anomalies if they occur. The City of Hagerman is required to update their existing Quality Assurance Plan (QAP) to meet the requirements of this Draft Permit within 180 days of the effective date of

the final Permit. The QAP must include the standard operating procedures the Permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. The QAP must be retained on site and be made available to the EPA and the IDEQ upon request.

B. Operation and Maintenance Plan

The Draft Permit requires the City of Hagerman to properly operate and maintain all facilities and systems of treatment and control [40 CFR 122.41(d) and (e)]. Proper operation and maintenance (O&M) is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times. The Permittee is required to update their existing O&M Plan to meet the requirements of this Draft Permit within 180 days of the effective date of the final Permit. The O&M Plan must be retained on site and made available to the EPA and the IDEQ upon request.

C. Sanitary Sewer Overflows and Proper Operation and Maintenance of the Collection System

Untreated or partially treated discharges from separate sanitary sewer systems are referred to as sanitary sewer overflows (SSOs). SSOs may present serious risks of human exposure when released to certain areas, such as streets, private property, basements, and receiving waters used for drinking water, fish and shellfish habitat, or contact recreation. Untreated sewage contains pathogens and other pollutants, which are toxic. SSOs are not authorized under this Draft Permit.

Pursuant to the NPDES regulations, discharges from separate sanitary sewer systems authorized by NPDES Permits must meet effluent limitations that are based upon secondary treatment. Further, discharges must meet any more stringent effluent limitations that are established to meet EPA-approved WQS.

The Draft Permit contains language to address SSO reporting and public notice, and operation and maintenance of the collection system. It requires that the Permittee identify SSO occurrences and their causes. In addition, the Draft Permit establishes reporting and record keeping requirements, and requires third party notification of SSOs and the development of an Emergency Response and Public Notification Plan. Finally, the Draft Permit also requires proper O&M of the collection system. The following specific Permit conditions apply:

Proper Operation and Maintenance – The Draft Permit requires proper operation and maintenance of the collection system [40 CFR 122.41(d) and (e)]. SSOs may be indicative of improper operation and maintenance of the collection system. The Permittee may consider the development and implementation of a capacity, management, operation, and maintenance (CMOM) program.

The Permittee may refer to the *Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems* (EPA 305-B-05-

002). This guide identifies some of the criteria used by EPA inspectors to evaluate sewer collection system management, operation and maintenance program activities. Owners/operators can review their own systems against the checklist (found in Chapter 3 of the Guide) to reduce the occurrence of sewer overflows and improve or maintain compliance.

Immediate (24-hour) Reporting – The Permittee is required to notify the EPA of an SSO within 24 hours of the Permittee becoming aware of the overflow [40 CFR 122.41(l)(6)].

Third Party Notice – The Draft Permit requires that the Permittee establish a process to notify specified third parties of SSOs that may endanger health due to a likelihood of human exposure; or unanticipated bypass and upset that exceeds any effluent limitation in the Permit or that may endanger health due to a likelihood of human exposure. The Permittee is required to develop, in consultation with appropriate authorities at the local, county, tribal, and/or state level, a Plan that describes how, under various overflow (and unanticipated bypass and upset) scenarios, the public, as well as other entities, would be notified of overflows that may endanger health. The Plan should identify all overflows that would be reported and to whom, and the specific information that would be reported. The Plan should include a description of lines of communication and the identities of responsible officials [40 CFR 122.41(l)(6)].

Written Reports – The Permittee is required to provide the EPA with a written report within 5 days of the time it became aware of any overflow that is subject to the immediate reporting provision [40 CFR 122.41(l)(6)(i)].

Record Keeping – The Permittee is required to keep records of SSOs. The Permittee must retain the reports submitted to the EPA and other appropriate reports which could include work orders associated with investigation of system problems related to a SSO, and which describe the steps -- either taken or planned -- to reduce, eliminate, and prevent reoccurrence of the SSO [40 CFR 122.41(j)].

Development of an Emergency Response and Public Notification Plan – Under the Draft Permit and pursuant to the regulations cited above, the Permittee must develop and implement an emergency response and public notification plan that identifies measures to protect the public from overflows and unanticipated bypasses or upsets that exceed any effluent limitation in the Permit.

The Permittee must submit written notice to EPA and IDEQ that the plan has been developed and implemented within 180 days of the effective date of this Permit. Any existing Emergency Response and Public Notification Plan may be modified for compliance with this section of the Permit.

D. Design Criteria

The Draft Permit includes design criteria requirements. The provision requires the Permittee to compare influent flow to the facility's design flow and, if necessary, prepare a Facility Plan for maintaining compliance with NPDES Permit effluent limits whenever the actual

influent flow exceeds the facility's design flow for any two (2) months during a 12-month period.

E. Industrial Waste Management Requirements

The EPA implements and enforces the National Pretreatment Program regulations of 40 CFR 403, per authority from sections 204(b)(1)(C), 208(b)(2)(C)(iii), 301(b)(1)(A)(ii), 301(b)(2)(A)(ii), 301(h)(5) and 301(i)(2), 304(e) and (g), 307, 308, 309, 402(b, 405, and 501(a) of the Federal Water Pollutant Control Act as amended by the CWA of 1977. Because Idaho does not have an approved state pretreatment program per 40 CFR 403.10, the EPA is the Approval Authority for Idaho POTWs. Because the City of Hagerman WWTP does not have an approved POTW pretreatment program per 40 CFR 403.8, the EPA is also the Control Authority of industrial users that might introduce pollutants into the City of Hagerman WWTP.

The national specific prohibitions of the General Pretreatment Program are applicable to all nondomestic sources introducing pollutants into a POTW [40 CFR 403.5(b)]. These sources of indirect discharges are more commonly referred to as Industrial Users (IUs).

All IUs, regardless of whether they are subject to any other national, state, or local pretreatment requirements, are subject to the general and specific prohibitions identified in 40 CFR 403.5(a) and (b), respectively. General prohibitions forbid the discharge (the regulations use the term introduction) of any pollutant(s) to a POTW that cause pass through or interference. Pass through and interference are terms with very specific meaning in the regulations. *Pass through is defined as a discharge that exits the POTW into waters of the United States in quantities or concentrations that, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES Permit. Interference is defined as a discharge that, alone or in conjunction with a discharge or discharges from other sources, both (1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use, or disposal and (2) therefore is a cause of a violation of any requirement of the POTW's NPDES Permit*.

Specific prohibitions in 40 CFR 403.5(b) forbid the following eight categories of pollutant discharges:

a) Discharges containing pollutants that create a fire or explosion hazard in the POTW, including waste streams with a closed-cup flashpoint of less than 140 °F (60 °C) using the test methods specified in 40 CFR 261.21;

b) Discharges containing pollutants causing corrosive structural damage to the POTW, but in no case discharges with a pH lower than 5.0, unless the POTW is specifically designed to accommodate such discharges;

c) Discharges containing pollutants in amounts causing obstruction to the flow in the POTW resulting in interference;

d) Discharges of any pollutants released at a flow rate or concentration that will cause interference with the POTW;

e) Discharges of heat in amounts that will inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 104 °F (40 °C) unless the Approval Authority, at the POTW's request, approves alternative temperature limits;

f) Discharges of petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

g) Discharges that result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that could cause acute worker health and safety problems; and,

h) Discharges of trucked or hauled pollutants, except at discharge points designated by the POTW.

Special Conditions II.D.1 and II.D.2 of the Draft Permit remind the City that it cannot authorize discharges which may violate the national specific prohibitions of the General Pretreatment Program.

Because an IU can be as simple as an automated, coin-operated car wash or as complex as an automobile manufacturing plant or a synthetic organic chemical producer, the EPA developed four criteria that define a significant IU (SIU). Many of the General Pretreatment Regulations apply to SIUs as opposed to IUs. Where a smaller IU has the potential to adversely affect the POTW, the POTW would be expected to designate the facility as a SIU.

An SIU is defined in 40 CFR 403.3(v) as any of the following:

a) An IU subject to federal categorical pretreatment standards;

b) An IU that discharges an average of 25,000 gallons per day (gpd) or more of process wastewater to the POTW;

c) An IU that contributes a process waste stream making up 5 percent or more of the average dry-weather hydraulic or organic capacity of the POTW treatment plant; and,

d) An IU designated by the POTW as such because of its reasonable potential to adversely affect the POTW's operation or violate any pretreatment standard or requirement.

To enable the Permittee to determine which industries have the potential to impact the POTW and to establish local limits if necessary to protect both the treatment plant and receiving water body, the EPA is requiring the Permittee to develop a master list of industrial users and submit it to the EPA within two (2) years of the effective date of the Permit. The list will include information specific to each industry's wastewater discharge characteristics.

(See Special Conditions Industrial Waste Management in the Permit.) This process is commonly referred to as an IU Survey. Procedures for designing, implementing, and documenting an IU survey may be found Chapter 2, Industrial Waste Survey in the following document: *Guidance Manual for POTW Pretreatment Program Development*, EPA October, 1983.

Although not a Permit requirement, the Permittee may wish to consider developing the legal authority enforceable in Federal, State or local courts that authorizes or enables the POTW to apply and to enforce the requirement of sections 307 (b) and (c) and 402(b)(8) of the Clean Water Act, as described in 40 CFR 403.8(f)(1). Where the POTW is a municipality, legal authority is typically provided through a sewer use ordinance, which is usually part of the city or county code. The EPA has a Model Pretreatment Ordinance for use by municipalities operating POTWs that are required to develop pretreatment programs to regulate industrial discharges to their systems (EPA, 2007). The model ordinance should also be useful for communities with POTWs that are not required to implement a pretreatment program in drafting local ordinances to control nondomestic dischargers within their jurisdictions.

F. Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs each federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities." The EPA strives to enhance the ability of overburdened communities to participate fully and meaningfully in the permitting process for EPA-issued permits, including NPDES permits. "Overburdened" communities can include minority, low-income, tribal, and indigenous populations or communities that potentially experience disproportionate environmental harms and risks. As part of an agency-wide effort, the EPA Region 10 will consider prioritizing enhanced public involvement opportunities for EPA-issued permits that may involve activities with significant public health or environmental impacts on already overburdened communities. For more information, please visit http://www.epa.gov/compliance/ej/plan-ej/.

As part of the Permit development process, the EPA conducted a screening analysis to determine whether this Permit action could affect overburdened communities. The EPA used a nationally consistent geospatial tool that contains demographic and environmental data for the United States at the Census block group level. This tool is used to identify Permits for which enhanced outreach may be warranted.

The EJ Screen score for the facility was at the 55th percentile (55%ile), and this is below the 80%ile cut-off for engaging in enhanced outreach around the availability of the Draft Permit for review and comment. Therefore, the City of Hagerman WWTP is not considered to be discharging in an EJ community and no enhanced outreach is necessary.

However, regardless of whether or not a WWTP is located near a potentially overburdened community, the EPA encourages Permittees to review (and to consider adopting, where

appropriate) the *Promising Practices for Permit Applicants Seeking EPA-Issued Permits: Ways To Engage Neighboring Communities* (see https://www.federalregister.gov/articles/2013/05/09/2013-10945/epa-activities-to-promote-environmental-justice-in-the-permit-application-process#p-104). Examples of promising practices include: thinking ahead about community's characteristics and the effects of the Permit on the community, engaging the right community leaders, providing progress or status reports, inviting members of the community for tours of the facility, providing informational materials translated into different languages, setting up a hotline for community members to voice concerns or request information, and following up with the community.

G. Standard Permit Provisions

Sections III, IV, and V of the Draft Permit contain standard regulatory language that must be included in all NPDES permits. The standard regulatory language covers requirements such as monitoring, recording, and reporting requirements, compliance responsibilities, and other general requirements.

VIII. Other Legal Requirements

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. A review of the threatened and endangered species located in Twin Falls County, Idaho, designated by the USFWS, finds that this permitting action has no effect on any threatened or endangered species. http://ecos.fws.gov/tess_public/reports/species-by-current-range-county?fips=16083

There are no federally listed, endangered, or threatened species within the vicinity of the discharge under NOAA Fisheries jurisdiction.

B. Essential Fish Habitat

Essential fish habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires the EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect EFH (i.e., reduce quality and/or quantity of EFH). According to information obtained from the NOAA Fisheries website, there is no designated EFH in the vicinity of the Hagerman WWTP discharge. http://www.habitat.noaa.gov/protection/efh/efhmapper/index.html

C. State Certification

Section 401 of the CWA requires the EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with WQS, or treatment standards established pursuant to any State law or regulation.

D. Permit Expiration

The Permit will expire five years from the effective date.

IX. References

EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control.* US Environmental Protection Agency, Office of Water, EPA/505/2-90-001.

Water Pollution Control Federation. Subcommittee on Chlorination of Wastewater. *Chlorination of Wastewater.* Water Pollution Control Federation. Washington, D.C. 1976.

EPA. 2010. *NPDES Permit Writers' Manual.* Environmental Protection Agency, Office of Wastewater Management, EPA-833-K-10-001.

IDEQ WQS

NPDES Permit Application/supplemental materials

IDEQ. 1998. *Middle Snake River Watershed Management Plan.* Idaho Division of Environmental Quality, Twin Falls Regional Office. January 29, 1998

IDEQ. 1999. *The Upper Snake Rock Watershed Management Plan.* Idaho Division of Environmental Quality, Twin Falls Regional Office. December 20, 1999.

IDEQ. 2010. *Upper Snake Rock/Middle Snake TMDLs 5-Year TMDL Review.* Idaho Department of Environmental Quality, Twin Falls Regional Office. April 2010.

Appendix A: Facility Information

General Information

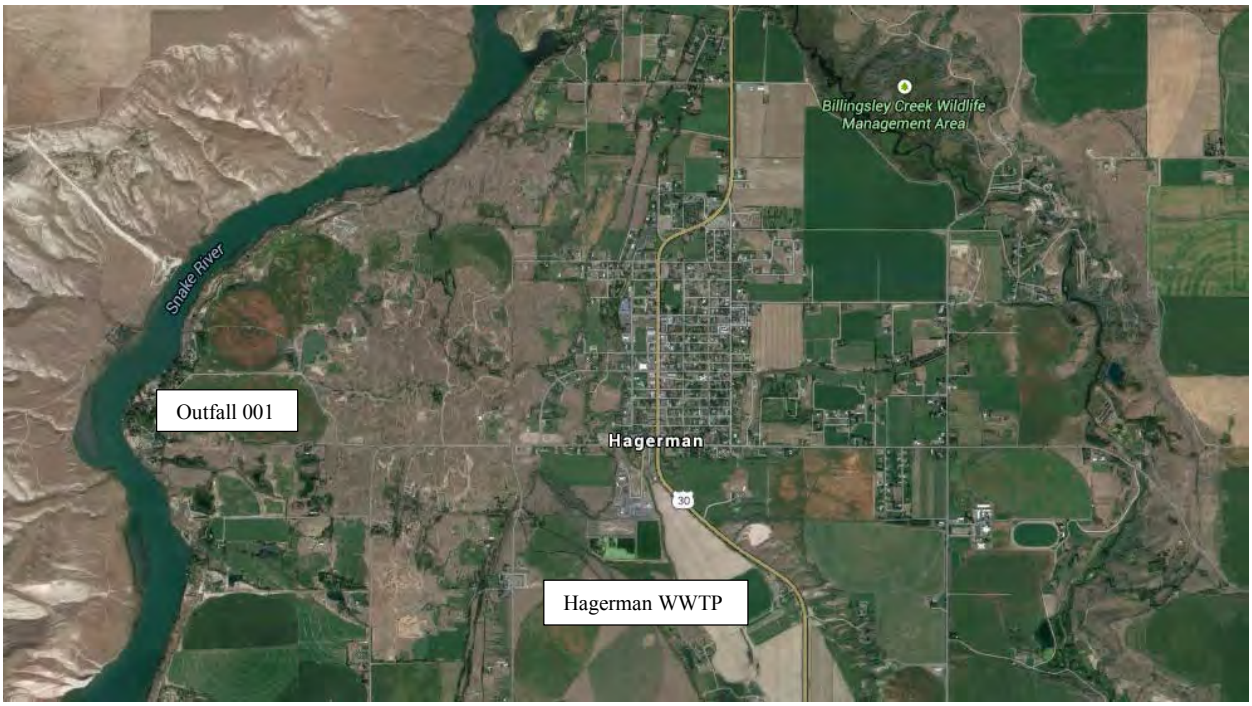
NPDES ID Number:	ID0025941
Physical Location:	NW¼, Section 23, T7S, R13E, B.M. End of Lagoon Rd Hagerman, ID 83332
Mailing Address:	P.O. Box 158 Hagerman, ID 83332
Facility Background:	The Previous Permit became effective on November 1, 2007 and expired on October 31, 2012. An NPDES Application Form 2A for Permit renewal was signed and submitted to EPA on May 3, 2012. The Previous Permit was administratively extended pursuant to 40 CFR 122.6.

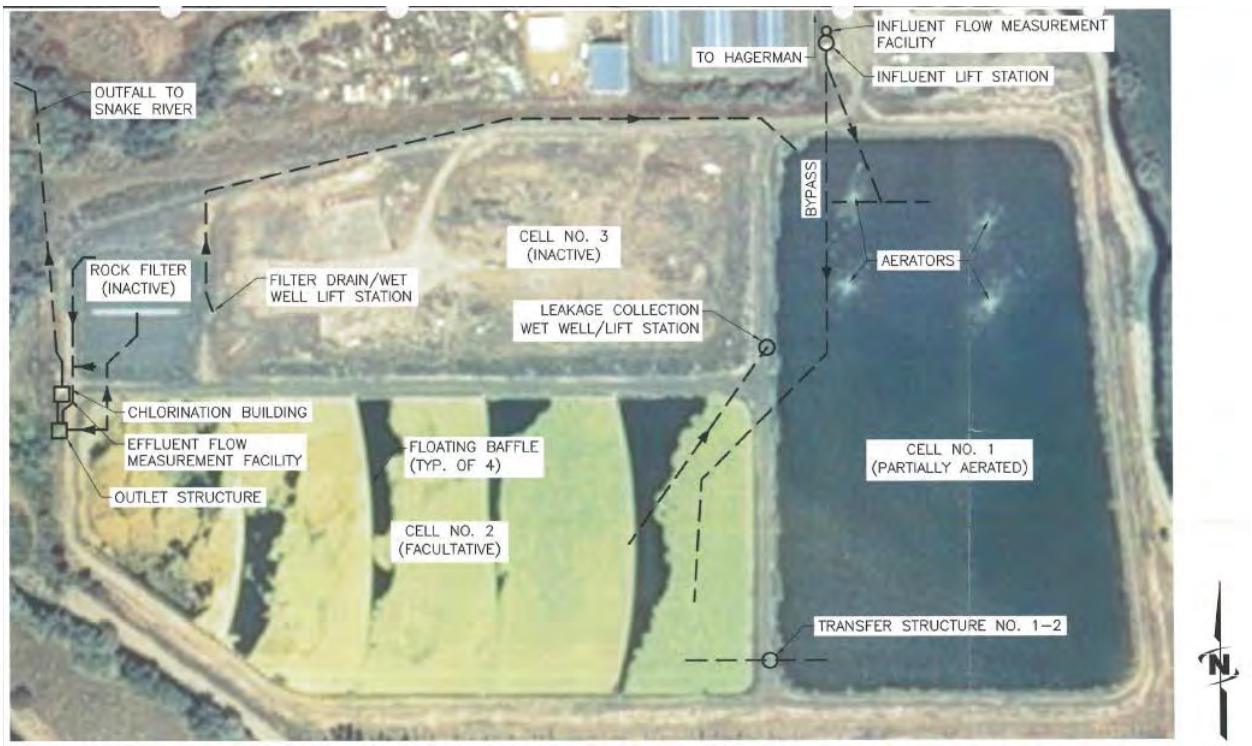
Facility Information

Type of Facility:	Publicly Owned Treatment Works (POTW)
Treatment Train:	**Treatment** • Influent lift station • Biological Lagoons (2) • Chlorine gas disinfection • Effluent flow monitor
Sludge (biosolids) Handling:	Sludge is stored in the lagoon
Flow:	Facility Design flow is 0.15 mgd.
Outfall Location:	Latitude 42° 48′ 40″ North and longitude 114° 54′ 30″ West

Receiving Water Information

Receiving Water:	Snake River
Beneficial Uses:	Cold water aquatic life, salmonid spawning, and primary contact recreation.


Billingsley Creek Wildlife Management Area
Snake River
Outfall 001
Hagerman
30
Hagerman WWTP


INFLUENT FLOW MEASUREMENT FACILITY
TO HAGERMAN
INFLUENT LIFT STATION
OUTFALL TO SNAKE RIVER
BYPASS
CELL NO. 3 (INACTIVE)
AERATORS
ROCK FILTER (INACTIVE)
FILTER DRAIN/WET WELL LIFT STATION
LEAKAGE COLLECTION WET WELL/LIFT STATION
CHLORINATION BUILDING
EFFLUENT FLOW MEASUREMENT FACILITY
FLOATING BAFFLE (TYP. OF 4)
CELL NO. 1 (PARTIALLY AERATED)
OUTLET STRUCTURE
CELL NO. 2 (FACULTATIVE)
TRANSFER STRUCTURE NO. 1-2
N

Appendix B: Facility Discharge Monitoring Report Data Analyzed

Monitoring Location		Eff Gross	Eff Gross	Influent	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Influent	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	% removal	% removal
Parameter Desc		Temp	Temp	BOD	BOD	BOD	BOD	BOD	pH	pH	TSS	TSS	TSS	TSS	TSS	ammon	ammon	Phos	Phos	E. coli	E. coli	Flow	Flow	TRC	TRC	TRC	TRC	BOD	TSS
Average Period		MO AVG	DLY MX	MO AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	INST MIN	INST MAX	MO AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	DAILY MX	DAILY MX	MO AVG	WKLY AVG	MO GEOMN	INST MAX	MO AVG	DLY MX	MO AVG	MO AVG	DLY MX	DLY MX	MO AV MN	MO AV MN
Units		deg C	deg C	mg/L	lb/d	mg/L	lb/d	mg/L	SU	SU	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	lb/d	#/100mL	#/100mL	MGD	MGD	lb/d	ug/L	lb/d	ug/L	%	%
Limits		Report	Report	Report	37.5	30	56.3	45	6.5	9.0	Report	7.7	30	15.5	45	Report	Report	5.7	11.4	126	406	Report	Report	0.6	481	1.0	794	85	85
11/1/2007	11/30/2007	14.4	15.4	249	7.9	8	13	13	8	8.3	167.5	8.2	8.5	15.3	16	1.9	1.9	2.7	3.5	2	2	0.108	0.12	0.3	360.8	0.4	450	96.7	94.3
12/1/2007	12/31/2007	11.8	13.1	243	2.7	3	2.8	3	8	8.3	171.5	6.4	7	15.5	16	2.4	2.6	2.8	4.1	1	1	0.107	0.124	0.3	370	0.4	450	98.7	96.2
1/1/2008	1/31/2008	10.1	10.5	176	7.9	9	13.3	15	8	8.3	157.4	21.7	25	24.8	28	3.6	4.4	5.4	6.8	1	1	0.105	0.128	0.3	365	0.5	450	95.2	83.7
2/1/2008	2/29/2008	10.6	10.8	217	10.1	11.5	14.6	17	8.1	8.3	150.8	30	34	38	43	7.2	8.4	6	7.1	1	1	0.106	0.123	0.4	429.2	0.4	490	94.6	71.9
3/1/2008	3/31/2008	10.4	10.8	396	17.8	19.5	26.3	25	8	8.1	161.3	60.6	73.8	77.8	86	4.7	5.1	4.3	5.5	1.2	3	0.101	0.126	0.3	249.2	0.5	450	94.1	54.3
4/1/2008	4/30/2008	12.7	13.3	709.5	31.1	32.5	34.6	37	8	8.1	225.8	27.2	28.8	54.2	58	2.1	2.1	3.9	4.3	1	1	0.106	0.128	0.3	249.2	0.4	450	95.4	86.5
5/1/2008	5/31/2008	14	14.4	414.5	13.1	15.5	23.6	28	8	8.1	277.3	17	20.5	18.5	22	1.8	2.1	3.7	6.5	1	1	0.1	0.111	0.3	346.7	0.4	400	96	91.9
11/1/2008	11/30/2008	5.6	6	283.5	2.4	3	2.5	3	8	8.1	209.5	4.7	5.8	8.1	10	0.1	0.1	7.7	23.7	1	1	0.097	0.101	0.3	314.2	0.3	400	98.8	97.1
12/1/2008	12/31/2008	5.3	5.8	390.3	12.7	15.3	18.8	23	8	8	198.8	12.8	15	19.8	22	0.5	0.6	3.6	4.1	1	1	0.103	0.112	0.3	336.7	0.4	400	95.6	92.1
1/1/2009	1/31/2009	4.7	5.2	372	32.3	35.5	49.3	51	8	8.1	209.5	21.9	24.5	30	31	0.5	0.6	4.6	5.3	1.8	5	0.106	0.138	0.3	314.2	0.5	450	90.9	88.5
2/1/2009	2/28/2009	5.6	6.4	364	24.8	33	29.3	39	8	8.1	162	12.5	16.3	15	20	2.6	3.5	4.9	5.2	5.5	81	0.093	0.099	0.3	337.5	0.3	450	90	89.4
3/1/2009	3/31/2009	7.7	8.9	367	16.7	23	28	39	8	8.2	207	20.6	27.3	22.7	29	7.2	10.1	4.3	4.8	1	1	0.092	0.098	3	370	3	450	94.4	86.6
4/1/2009	4/30/2009	10.3	11.3	200	29.5	39.5	32.3	43	8	8.1	178	14.7	19.5	35.3	47	0.4	0.5	1.5	2.3	1	1	0.094	0.098	0.3	372.5	0.4	450	84.8	87.9
5/1/2009	5/31/2009	15.2	16.5	307.5	10.5	13	14.4	18	7.8	8.1	180	10.1	12	19.2	24	0.0	0.1	2	2.6	1	1	0.101	0.108	0.3	390.8	0.4	450	94.6	91.9
9/1/2009	9/30/2009	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR
10/1/2009	10/31/2009	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR
11/1/2009	11/30/2009	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR
12/1/2009	12/31/2009	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR	Miss DMR
1/1/2010	1/31/2010	NODI X	0.0	182.5	0.0	4	0.0	5	0.0	0.0	126.3	0.0	9.3	0.0	160	0.0	3.8	0.0	0.0	1339.4	0.0	NODI X	0.0	0.0	NODI X	0.0	0.0	97.8	92.1
2/1/2010	2/28/2010	NODI X	0.0	201.5	0.0	6.5	0.0	7	0.0	0.0	151.5	0.0	20	NODI X	27	NODI X	6	NODI X	NODI X	4.1	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	96.8	89.5
3/1/2010	3/31/2010	NODI X	NODI X	186	NODI X	24.5	NODI X	26	NODI X	NODI X	178.2	NODI X	22.2	NODI X	34	NODI X	0.3	NODI X	NODI X	3.3	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	86.6	88.5
4/1/2010	4/30/2010	NODI X	NODI X	189.5	NODI X	31.5	NODI X	38	NODI X	NODI X	170.3	NODI X	19	NODI X	33	NODI X	0.2	NODI X	NODI X	8103.1	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	83.1	87.1
5/1/2010	5/31/2010	NODI X	NODI X	187.5	NODI X	3.5	NODI X	4	NODI X	NODI X	179	NODI X	6.3	NODI X	9	NODI X	0.1	NODI X	NODI X	16.4	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	98.1	96.4
10/1/2010	10/31/2010	NODI X	NODI X	192	NODI X	4.5	NODI X	6	NODI X	NODI X	164	NODI X	2.5	NODI X	4	NODI X	0.7	NODI X	NODI X	2.7	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	97.7	98.6
11/1/2010	11/30/2010	NODI X	NODI X	167	NODI X	8	NODI X	8	NODI X	NODI X	149.8	NODI X	12.8	NODI X	22	NODI X	2.4	NODI X	NODI X	4.1	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	95.2	91.6
12/1/2010	12/31/2010	NODI X	NODI X	139.5	NODI X	16	NODI X	25	NODI X	NODI X	131	NODI X	21.6	NODI X	27	NODI X	3.8	NODI X	NODI X	3.2	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	87.6	82.9
1/1/2011	1/31/2011	NODI X	NODI X	108	NODI X	18.5	NODI X	19	NODI X	NODI X	123.8	NODI X	22.8	NODI X	25	NODI X	5.6	NODI X	NODI X	4.1	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	82.8	80.2
2/1/2011	2/28/2011	NODI X	NODI X	84	NODI X	11.5	NODI X	20	NODI X	NODI X	111.3	NODI X	24.3	NODI X	33	NODI X	4.1	NODI X	NODI X	60	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	87.4	76.9
3/1/2011	3/31/2011	NODI X	NODI X	116	NODI X	17	NODI X	21	NODI X	NODI X	112.6	NODI X	16	NODI X	23	NODI X	0.4	NODI X	NODI X	76.2	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	85.5	87
4/1/2011	4/30/2011	NODI X	NODI X	172.5	NODI X	2	NODI X	30	NODI X	NODI X	169.5	NODI X	29	NODI X	NODI X	NODI X	1	NODI X	NODI X	540366	NODI X	NODI X	NODI X	Not Reported	Not Reported	Not Reported	Not Reported	87.8	82.7
5/1/2011	5/31/2011	NODI X	NODI X	170	NODI X	17	NODI X	19	NODI X	NODI X	167.3	NODI X	7.8	NODI X	NODI X	NODI X	0.9	NODI X	NODI X	5	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	NODI X	89.8	95.1
10/1/2011	10/31/2011	16.4	16.8	115	3	3.5	3.5	4	8	8.2	155	10.3	12	13	15	0.5	0.6	3.1	3.7	1	4	0.103	0.112	0.1	130	0.1	140	97	92.1
11/1/2011	11/30/2011	16	16.3	171	2.9	5.5	6.4	8	8	8.2	136.4	17.6	21.6	23.4	28	2	2.5	1.7	3.3	0.0	0.0	0.097	0.1	0.1	194.7	0.2	250	97	83.3
12/1/2011	12/31/2011	10.056	10.778	179	4.8	15	19.2	18	8.5	8.9	140.5	27.1	34.3	48	45	0.0	3.2	2.6	4.6	2.7	0.0	0.128	0.141	0.1	230	0.3	270	91.6	81
1/1/2012	1/31/2012	9.1111	9.3333	226	6.3	6	7.4	7	8.4	8.9	123.3	25.5	24.3	32.8	0.0	4.3	4.4	3.1	4.5	601.8	0.0	0.13	0.163	0.2	254.2	0.3	350	97.4	79
2/1/2012	2/29/2012	8.9444	10	238.5	12.5	12.5	18.5	19	8.2	9.3	147.2	47.5	47.6	63.3	66	0.1	0.1	3.7	4.5	0.0	0.0	0.12	0.138	0.2	240	0.4	360	94.4	67
3/1/2012	3/31/2012	10.6	13.5	223	NODI G	23.5	NODI G	27	9	9.3	174	NODI G	26	NODI G	41	NODI G	1.5	NODI G	NODI G	13.5	0.0	NODI G	NODI G	NODI G	186.7	NODI G	340	89.5	85.2
4/1/2012	4/30/2012	14.3	19.8	138.5	24.8	30	33.7	43	9	9.6	149.3	30.7	35.2	64.8	70	0.6	0.6	1.9	3.2	2.7	0.0	0.012	0.012	0.0	157.5	0.3	300	78.9	76.9

Monitoring Location		Eff Gross	Eff Gross	Influent	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Influent	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	Eff Gross	% removal	% removal
Parameter Desc		Temp	Temp	BOD	BOD	BOD	BOD	BOD	pH	pH	TSS	TSS	TSS	TSS	TSS	ammon	ammon	Phos	Phos	E. coli	E. coli	Flow	Flow	TRC	TRC	TRC	TRC	BOD	TSS
Average Period		MO AVG	DLY MX	MO AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	INST MIN	INST MAX	MO AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	DAILY MX	DAILY MX	MO AVG	WKLY AVG	MO GEOMN	INST MAX	MO AVG	DLY MX	MO AVG	MO AVG	DLY MX	DLY MX	MO AV MN	MO AV MN
Units		deg C	deg C	mg/L	lb/d	mg/L	lb/d	mg/L	SU	SU	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	lb/d	#/100mL	#/100mL	MGD	MGD	lb/d	ug/L	lb/d	ug/L	%	%
Limits		Report	Report	Report	37.5	30	56.3	45	6.5	9.0	Report	7.7	30	15.5	45	Report	Report	5.7	11.4	126	406	Report	Report	0.6	481	1.0	794	85	85
5/1/2012	5/31/2012	17.6	17.8	151	0.0	54	0.0	54	9	9.2	162	0.0	36	0.0	36	0.0	0.9	0.0	0.0	2.7	0.0	0.004	0.032	0.06	63.3	0.07	70	64.2	77.8
6/1/2012	6/30/2012	18.5	19.4	198	2.1	13	2.1	13	8.8	9.1	160	9	57	9	57	0.2	1.1	0.1	0.7	2.7	0.0	0.031	0.047	0.0	136.7	0.1	190	93.4	64.4
9/1/2012	9/30/2012	19.6	20.9	127.5	4.2	12.5	6.5	17	8.5	9.1	155	3.1	9.5	5.3	14	0.1	1.3	0.8	1.1	2.7	0.0	0.034	0.031	0.0	136.7	0.1	190	90.2	93.4
10/1/2012	10/31/2012	15.1	18.3	160	4	11	4.2	12	7.9	8.3	193.4	2.1	5.8	4.4	12	0.8	2.1	1.1	1.5	0.0	0.0	0.043	0.047	0.0	189.3	0.1	370	93.1	97
11/1/2012	11/30/2012	11.5	13.9	157	5.7	12	9.6	20	8	8.2	154.8	1.6	3.3	2.3	4	3.1	6.3	1.5	2	2.7	0.0	0.062	0.069	0.2	320.8	0.2	460	91.7	97.8
12/1/2012	12/31/2012	6.9	9.6	171.5	10.1	14.5	17.7	26	8.1	8.8	151	4.3	6	11.3	16	5.4	8.8	2.8	3.1	36.6	0.0	0.089	0.105	0.2	301.7	0.4	450	92	96
1/1/2013	1/31/2013	6.1	8.9	178	7.5	11	9.4	14	8.6	9.1	145.6	9.5	17.3	17.5	26	5.1	7.4	2.7	3.2	0.0	0.0	0.084	0.094	0.2	342.5	0.4	560	93	90.7
2/1/2013	2/28/2013	7.5	9.2	186	3.9	7	4.1	8	8.4	8.7	161.5	10.5	18.8	22.6	34	4.2	5.8	1.4	2.9	3.3	0.0	0.061	0.09	0.1	294.2	0.3	390	96.2	86.1
3/1/2013	3/31/2013	10.8	12.4	155.5	5.2	19	7.2	25	9	9.4	142	8.2	28	10.4	41	1	3.5	0.7	1.1	492.7	0.0	0.038	0.055	0.1	308.2	0.3	720	88	71.8
4/1/2013	4/30/2013	13.7	14.9	166.5	13.5	35	18.1	38	8.1	9.7	131.6	5.2	19.2	9.2	33	0.1	0.1	2.5	9.1	221.4	0.0	0.036	0.059	0.1	81.4	0.9	130	77.9	84.9
5/1/2013	5/31/2013	19.2	19.5	261	0.0	4	0.0	4	8	8	190	0.0	2	0.0	2	0.0	2.7	0.3	1.4	2.7	0.0	0.024	0.032	0.0	66.7	0.0	80	98.5	98.9
9/1/2013	9/30/2013	20.4	21.7	284	0.4	4.5	0.8	6	9	9.2	216	0.5	2.7	1.1	4	0.0	0.1	0.2	0.5	5.3	0.0	0.034	0.091	0.0	146.7	0.1	210	98.3	98.5
10/1/2013	10/31/2013	13.7	15.9	250	2	4	2.3	5	8.6	9	164.4	2.9	4.6	12.5	19	0.0	0.1	1	1.9	3.3	0.0	0.054	0.079	0.1	252	0.3	490	98.1	95.6
11/1/2013	11/30/2013	9.1	11	137	1.2	3	1.6	3	8	9	137	2.1	3.5	3.5	6	0.9	1.7	1.1	2.6	2.7	0.0	0.058	0.083	0.1	250.8	0.3	520	97.8	97.2
12/1/2013	12/31/2013	7.8	9	108	3.8	9	7.6	9	7	9.4	121	8.2	12	16	19	0.0	0.4	1.8	3.6	5	0.0	0.083	0.103	0.1	184.6	0.2	230	91.4	89.9
1/1/2014	1/31/2014	7.9	8.6	129.5	6.5	8.5	6.8	9	8.5	9	125.6	6.3	8.2	15.5	19	0.0	1.3	2.3	3	2.1	10	0.077	0.098	0.1	173.3	0.3	330	93.4	94.1
2/1/2014	2/28/2014	7.6	11.3	124.5	14.4	16	15.1	18	8.2	8.6	110.3	19.8	20.8	37.3	38	3.5	4.5	3.7	40	12.8	326	0.104	0.121	0.2	180.8	0.3	380	87	80.3
3/1/2014	3/31/2014	11.7	12.4	195	8.5	13	10	16	8.7	9.3	166.5	21.5	26.3	40.9	45	4.6	5.4	2.5	3.3	3.4	16	0.09	0.111	0.2	247.5	0.3	380	93.4	84.3
4/1/2014	4/30/2014	14.3	16	230.5	12	30	12.7	42	9	9.8	155	11.4	29.2	14.5	48	0.0	0.1	1	1.7	1.4	5	0.047	0.083	0.2	190	1.3	320	87.5	79.4
5/1/2014	5/31/2014	17	17.8	172	4.3	12.5	5.3	16	7	9	187.3	3.1	10	4.5	14	0.2	0.4	0.4	0.9	1.3	2	0.041	0.048	0.1	166.7	0.1	200	92.8	94.1
9/1/2014	9/30/2014	19.6	21	279	2.8	5	3.8	7	8.2	8.6	302.6	2.9	4.4	8.2	15	0.2	0.03	2	3	14.9	199	0.078	0.129	0.1	134	0.2	230	98.2	98.5
10/1/2014	10/31/2014	16	17.8	298.5	2.2	5	2.9	7	8.1	8.4	311.8	1.1	2.5	2.1	5	0.4	0.4	1.9	2.7	1	2.7	0.072	0.124	0.2	354.2	0.6	740	98.4	99.2
11/1/2014	11/30/2014	9.5	12.8	218.5	1.2	3	1.4	3	8	8.5	272.5	1.5	2.5	2.4	3	0.8	2.8	1.3	2.9	1	1	0.076	0.101	0.2	281.7	0.3	770	98.6	99.1
12/1/2014	12/31/2014	7.6	8.7	245	2.5	3	2.6	3	8.1	8.9	171.8	16.9	15.6	31.8	28	2.7	6.2	2.1	3.1	36	59	0.106	0.136	6.2	200.7	0.3	340	98.7	88.6
Average		11.83	12.63	218.27	8.52	14.33	11.81	18.67	7.87	8.32	169.06	12.58	18.58	20.48	29.50	1.68	2.55	2.42	4.55	9508.40	15.78	0.08	0.09	0.37	248.97	0.39	368.48	92.30	87.64
Minimum		4.7	0	84	0	2	0	3	0	0	110.3	0	2	0	0	0	0.03	0	0	0	0	0.004	0	0	63.3	0	0	64.2	54.3
Maximum		20.4	21.7	709.5	32.3	54	49.3	54	9	9.8	311.8	60.6	73.8	77.8	160	7.2	10.1	7.7	40	540366	326	0.13	0.163	6.2	429.2	3	770	98.8	99.2
Count		45	47	58	46	58	46	58	47	47	58	46	58	45	56	45	58	45	45	58	46	44	45	45	45	45	46	58	58
Standard Deviation		4.36	5.11	101.93	8.52	11.17	11.40	13.43	1.73	1.85	42.74	12.72	13.85	18.66	25.31	2.05	2.54	1.70	6.49	70936.06	56.75	0.03	0.04	0.99	94.90	0.46	163.58	6.38	9.43
CV		0.37	0.40	0.47	1.00	0.78	0.97	0.72	0.22	0.22	0.25	1.01	0.75	0.91	0.86	1.22	1.00	0.70	1.43	7.46	3.60	0.41	0.39	2.71	0.38	1.18	0.44	0.07	0.11
5th Percentile		5.60	5.38	113.95	0.00	3.00	0.00	3.00	7.00	8.00	119.74	0.00	2.50	0.22	3.75	0.00	0.10	0.12	0.54	0.00	0.00	0.03	0.03	0.00	91.12	0.08	92.50	82.22	71.08
95th Percentile		19.52	20.57	391.16	28.33	35.08	33.35	43.00	9.00	9.54	273.22	30.53	37.74	61.48	67.00	5.34	7.55	5.30	8.70	712.44	75.50	0.12	0.14	0.38	372.00	0.84	680.00	98.62	98.65
Count of NODI X	211	13	11	0	11	0	11	0	11	11	0	11	0	12	2	12	0	12	12	0	12	13	12	11	12	11	11	0	0
Count of NODI G	11	0	0	0	1	0	1	0	0	0	0	1	0	1	0	1	0	1	1	0	0	1	1	1	0	1	0	0	0
Count of "Not Reported" results	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
Count of "Missing DMR" results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count of "0" results	73	0	2	0	4	0	4	0	2	2	0	4	0	3	1	10	0	2	2	4	22	0	1	7	0	2	1	0	0

Appendix C: Water Quality Criteria Summary

This appendix provides a summary of water quality criteria applicable to the Snake River.

Idaho WQS include criteria necessary to protect designated beneficial uses. The standards are divided into three sections: General Water Quality Criteria, Surface Water Quality Criteria for Use Classifications, and Site-Specific Surface Water Quality Criteria. The EPA has determined that the criteria listed below are applicable to the Snake River. This determination was based on (1) the applicable beneficial uses of the river (cold water aquatic life, primary contact recreation, and salmonid spawning), (2) the type of facility, (3) a review of the application materials submitted by the Permittee, and (4) the quality of the water in the Snake River.

A. General Criteria (IDAPA 58.01.02.200)

Surface waters of the state shall be free from:

- hazardous materials in concentrations found to be of public health significance or to impair designated beneficial uses;
- toxic substances in concentrations that impair designated beneficial uses;
- deleterious materials in concentrations that impair designated beneficial uses;
- floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses;
- excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses; and,
- oxygen demanding materials in concentrations that would result in an anaerobic water condition.

Surface water level shall not exceed allowable level for:

- radioactive materials; and,
- sediments

B. Surface Water Criteria To Protect Aquatic Life Uses (IDAPA 58.01.02.250)

1. pH: Within the range of 6.5 to 9.0
2. Dissolved Oxygen: Not to exceed 6 mg/L at all times.
3. Temperature: Water temperatures of 22°C or less with a maximum daily average of no greater than 19°C.

C. Surface Water Quality Criteria for Recreational Use Designation (IDAPA 58.01.02.251)

a. Geometric Mean Criterion. Waters designated for primary or secondary contact recreation are not to contain *E. coli* in concentrations exceeding a geometric mean of 126 *E. coli* organisms per 100 ml based on a minimum of 5 samples taken every 3 to 7 days over a 30 day period.

b. Use of Single Sample Values: This section states that a water sample that exceeds certain "single sample maximum" values indicates a likely exceedance of the geometric mean criterion, although it is not, in and of itself, a violation of water quality standards. For waters designated for primary contact recreation, the "single sample maximum" value is 406 organisms per 100 ml (IDAPA 58.01.02.251.01.b.ii.).

D. Surface Water Quality Criteria for Salmonid Spawning Use Designation (IDAPA 58.01.02.250.02.f

The Department shall determine spawning periods on a waterbody specific basis taking into account knowledge of local fisheries biologists, published literature, records of the Idaho Department of Fish and Game, and other appropriate records of spawning and incubation, as further described in the current version of the "Water Body Assessment Guidance" published by the Idaho Department of Environmental Quality. Waters designated for salmonid spawning in areas used for spawning and during the time spawning and incubation occurs, are not to vary from the following characteristics due to human activities.

i. Dissolved Oxygen

(1) Intergravel Dissolved Oxygen

(a) One (1) day minimum of not less than 5.0 mg/l.

(b) Seven (7) day average mean of not less than 6.0 mg/l.

(2) Water column Dissolved Oxygen

(a) One (1) day minimum of not less than 6.0 mg/l or 90% of saturation whichever is greater.

ii. Water temperatures of 13°C or less with a maximum daily average no greater than 9°C.

Appendix D: Preliminary Clean Water Act Section 401 Certification from the Idaho Department of Environmental Quality

Idaho Department of Environmental Quality

Draft §401 Water Quality Certification

January 28, 2016

NPDES Permit Number(s): ID-002594-1, City of Hagerman

Receiving Water Body: Snake River – Box Canyon Creek to Lower Salmon Falls

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NPDES) permits and issue water quality certification decisions.

Based upon its review of the above-referenced permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- Tier 1 Protection. The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier 1 review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier 2 Protection. The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- Tier 3 Protection. The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

Pollutants of Concern

The City of Hagerman Wastewater Treatment Plant (WTP) discharges the following pollutants of concern: BOD_5, total suspended solids (TSS), E. coli, pH, total residual chlorine (TRC), total phosphorus (TP), dissolved oxygen (DO), ammonia (NH_3 as N), temperature, total Kjeldahl nitrogen (TKN), nitrite + nitrate (NOx), oil & grease (O&G), and total dissolved solids (TDS). Effluent limits have been developed for BOD_5, TSS, pH, E. coli and TP. No effluent limits are proposed for TRC, NH3, temperature, TKN, NOx, TDS, O&G, and DO.

Receiving Water Body Level of Protection

The City of Hagerman WTP discharges to the Snake River within the Upper Snake Rock Subbasin assessment unit (AU) ID17040212SK005_07 (Snake River – Box Canyon Creek to Lower Salmon Falls). This AU has the following designated beneficial uses: cold water aquatic life, salmonid spawning and primary contact recreation. In addition to these uses, all waters of the state are protected for agricultural and industrial water supply, wildlife habitat, and aesthetics (IDAPA 58.01.02.100).

According to DEQ's 2012 Integrated Report, this AU is not fully supporting one or more of its assessed uses. The aquatic life uses (coldwater aquatic life and salmonid spawning) are not fully supported. Causes of impairment include TP, TSS and flow regime alterations. As such, DEQ will provide Tier 1 protection (IDAPA 58.01.02.051.01) for the aquatic life uses. The contact recreation beneficial use is unassessed. DEQ must provide an appropriate level of protection for the contact recreation use using information available at this time (IDAPA 58.01.02.052.05.c). Consequently, DEQ reviewed the E. coli data from 1998 through 2010 from two monitoring locations within this AU. The data indicate that the water quality meets or exceeds the recreation use criteria for bacteria. Therefore, DEQ will treat the AU as high quality water for recreation uses.

Protection and Maintenance of Existing Uses (Tier 1 Protection)

As noted above, a Tier 1 review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. In order to protect and maintain designated and existing beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters. The numeric and narrative criteria in the WQS are set at levels that ensure protection of designated beneficial uses. The effluent limitations and associated requirements contained in the

City of Hagerman permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limitations that are consistent with wasteload allocations in the approved TMDL.

Prior to the development of the TMDL, the WQS require the application of the antidegradation policy and implementation provisions to maintain and protect uses (IDAPA 58.01.02.055.04).

The EPA-approved *Upper Snake Rock TMDL* (1997; 2000; and 2005) establishes wasteload allocations for TP, TSS and E. coli. These wasteload allocations are designed to ensure the Snake River will achieve the water quality necessary to support its existing and designated aquatic life beneficial uses and comply with the applicable numeric and narrative criteria. The effluent limitations and associated requirements contained in the City of Hagerman permit are set at levels that comply with these wasteload allocations.

In sum, the effluent limitations and associated requirements contained in the City of Hagerman permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS and the wasteload allocations established in the *Upper Snake Rock TMDL*. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Snake River in compliance with the Tier 1 provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

High-Quality Waters (Tier 2 Protection)

The Snake River is considered high quality for recreational uses. As such, the water quality relevant to recreational use of the Snake River must be maintained and protected, unless a lowering of water quality is deemed necessary to accommodate important social or economic development.

To determine whether degradation will occur, DEQ must evaluate how the permit issuance will affect water quality for each pollutant that is relevant to recreational uses of the Snake River (IDAPA 58.01.02.052.05). These include E. coli and TP.

For a reissued permit or license, the effect on water quality is determined by looking at the difference in water quality that would result from the activity or discharge as authorized in the current permit and the water quality that would result from the activity or discharge as proposed in the reissued permit or license (IDAPA 58.01.02.052.06.a). For a new permit or license, the effect on water quality is determined by reviewing the difference between the existing receiving water quality and the water quality that would result from the activity or discharge as proposed in the new permit or license (IDAPA 58.01.02.052.06.a).

Pollutants with Limits in the Current and Proposed Permit

For pollutants that are currently limited and will have limits under the reissued permit, the current discharge quality is based on the limits in the current permit or license (IDAPA

58.01.02.052.06.a.i), and the future discharge quality is based on the proposed permit limits (IDAPA 58.01.02.052.06.a.ii). For the City of Hagerman permit, this means determining the permit's effect on water quality based upon the limits for TP and E. coli in the current and proposed permits. Table 1 provides a summary of the current permit limits and the proposed or reissued permit limits.

Table 1. Comparison of current and proposed permit limits for pollutants of concern relevant to uses receiving Tier 2 protection.

Parameter	Units	Current or Previous Permit[a]			New or Proposed Permit			Change[b]
		Average Monthly Limit	Average Weekly Limit	Maximum Daily	Average Monthly Limit	Average Weekly Limit	Maximum Daily	
Pollutants with limits in both the current and proposed permit								
BOD_5	mg/L	30	45	---	30	45	---	NC
	lb/day[c]	37.5	56.3	---	37.5	56.3	---	
	% removal	85	---	---	85	---	---	
TSS	mg/L	30	45	---	30	45	---	I in WLA
	lb/day	7.7[d]	15.5	---	13.7	34.7	---	
	% removal	85	---	---	85	---	---	
pH	s.u.	6.5–9.0 all times			6.5–9.0 all times			NC
E. coli	no./100 mL	126	—	406	126	—	406	NC
Pollutants with new limits in the proposed permit								
Total Phosphorus as TP	mg/L	---	---	---	Report	Report	Report	Report
	lb/day	5.7[e]	11.4	---	5.7	12.3	Report	I in WLA
Total Residual Chlorine	µg/L	481	---	794	Report	---	Report	Report
	lb/day	0.6	---	1.0	Report	---	Report	
Pollutants with no limits in either the current and proposed permit								
Flow	mgd	Report	---	Report	Report	---	Report	Report
Total Ammonia as N	mg/L	Report	---	Report	Report	---	Report	Report
	lb/day	---	---	---	Report	---	Report	
Temperature	°C	—	Report	Report	Report	—	Report	Report
TKN-Wet	mg/L	Not included in permit			Report	—	Report	Report
NOx-Wet	mg/L	Not included in permit			Report	—	Report	Report
TDS-Wet	mg/L	Not included in permit			Report	---	Report	Report
O&G-Wet	mg/L	Not included in permit			Report	---	Report	Report
DO-Wet	mg/L	Not included in permit			Report	---	Report	Report

[a] The current permit became effective on November 01, 2007, and expired on October 31, 2012. The draft or proposed permit was issued by EPA on December 17, 2015 with revised effluent limits.
[b] NC = no change in effluent limit from current permit; I = increase of pollutants from current permit; D = decrease of pollutants from current permit. Report = Collect and report data on DMR.
[c] Current Permit: Average Monthly Limit: lb/day = 30 mg/L x 0.15 mgd x 8.34 lb/gal = 37.53 lb/day = 37.5 lb/day; Average Weekly Limit = 45 mg/L x 0.15 mgd x 8.34 lb/gal = 56.295 lb/day = 56.3 lb/day
[d] Based on the WLA in the Upper Snake Rock TMDL (2000). The change in AML and AWL from 7.7 /15.5 lbs/day to 13.7 / 34.7 lbs/day has to do with the statistical calculations used to derive the 13.7 / 34.7 lbs/day WLA from the TMDL WLA, based on EPA's Technical Support Document (TSD) for Water Quality-based Toxics Control (March 1991).
[e] Based on the Mid-Snake TMDL (1997), the Upper Snake Rock TMDL (1999), the Executive Summary TMDL (2000) and the Upper Snake Rock TMDL Modification (2005). The increase from 11.4 to 12.3 lbs/day as the Average Weekly Limit has to do with the conversion from 5.7 lbs/day Average Monthly Limit using a multiplier (2.16) used the same for each season and therefore the same for each month; thus resulting in 12.3 lbs/day.

WLA = Wasteload Allocation; AML = Average Monthly Limit; AWL = Average Weekly Limit.
Wet = Whole Effluent Toxicity testing: TKN = Total Kjeldahl Nitrogen; NOx = Nitrate + Nitrite; TDS = Total Dissolved Solids; O&G = Oil & Grease; DO = Dissolved Oxygen

The proposed permit limits for pollutants of concern (E. coli and TP) that are relevant to recreational uses and have limits in Table 1, are the same as, or slightly more, respectively, than

those in the current permit ("NC" or "I" in change column). However, the slight increase in TP is consistent with the method of calculation of the average weekly limit per EPA. Therefore, no adverse change in water quality and no degradation will result from the discharge of these pollutants.

In sum, DEQ concludes that this discharge permit complies with the Tier 2 provisions of Idaho's WQS (IDAPA 58.01.02.051.02 and IDAPA 58.01.02.052.06).

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

Surface Water Monitoring Requirements

In order to determine the effect of the City of Hagerman WWTP effluent, with regard to IDAPA 58.01.02.250.02.b; and due to safety and access issues in the Snake River by facility staff; temperature monitoring will be conducted at a frequency of 5 instantaneous samples per week of the effluent at a location approved by DEQ. In addition, surface water monitoring for temperature will be at a frequency of once per week at a location upstream of the facility's discharge and approved by DEQ. Additional surface water monitoring of pH, total ammonia as N, and total phosphorus will be conducted once per month.

Mixing Zones

Pursuant to IDAPA 58.01.02.060, DEQ authorizes a mixing zone that utilizes 2% of the critical flow volumes (1Q10 and 7Q10 flow) of the Snake River for total residual chlorine; based on EPA's reasonable potential to exceed analysis in the Fact Sheet (page 24). In addition, DEQ authorizes a mixing zone that utilizes 0.5% of the critical flow volumes (1Q10 and 7Q10) of the Snake River for ammonia; based on EPA's reasonable potential to exceed analysis in the Fact Sheet (page 18).

Other Conditions

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities—including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site-specific criteria, variances, or other new information—shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401.

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the "Rules of Administrative Procedure before the Board of Environmental Quality" (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to Dr. Balthasar Buhidar, Twin Falls Regional Office, (208) 736-2190, or at **Balthasar.buhidar@deq.idaho.gov**.

"DRAFT"
David Anderson
Regional Administrator
Twin Falls Regional Office