

FACT SHEET

United States Environmental Protection Agency (EPA)
Region 10
Park Place Building, 13th Floor
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Seattle, Washington 98101
(206) 553-1214

Date:

Permit No.: ID-002594-1

PROPOSED REISSUANCE OF A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE POLLUTANTS TO WATERS OF THE UNITED STATES, INCLUDING PROVISIONS CONTROLLING THE DISPOSAL OF DOMESTIC SLUDGE PURSUANT TO THE PROVISIONS OF THE CLEAN WATER ACT (CWA) OF 1987

City of Hagerman
110 West Main
Hagerman, Idaho 83332

has applied for reissuance of a NPDES permit to discharge pollutants and store sludge pursuant to the provisions of the CWA. This Fact Sheet includes (a) the tentative determination of the EPA to reissue the permit, (b) information on public comment, public hearing and appeal procedures, (c) the description of the current discharge and of current and future sewage sludge practices, (d) a listing of tentative effluent limitations, schedules of compliance and other conditions, and (e) a description of the discharge location. We call your special attention to the technical material presented in the latter part of this document.

Persons wishing to comment on the tentative determinations contained in the proposed permit reissuance may do so by the expiration date of the Public Notice. All written comments should be submitted to the EPA as described in the Public Comments Section of the attached Public Notice.

After the expiration date of the Public Notice, the Director, Office of Water, will make final determinations with respect to the permit reissuance. The tentative determinations contained in the draft permit will become final conditions if no substantive comments are received during the public notice period.

The permit will become effective 30 days after the final determinations are made, unless a request for an evidentiary hearing is submitted within 30 days after receipt of the final determinations.

The proposed NPDES permit and other related documents are on file and may be inspected at the above address any time between 8:30 a.m. and 4:00 p.m., Monday through Friday. Copies and other information may be requested by writing to the EPA at the above address to the attention of the NPDES Permits Unit, or by calling (206) 553-1214. This material is also available from

the the EPA Idaho Operations Office, 1435 North Orchard Street, Boise, Idaho 83706 and Hagerman Public Library, 290 South State, Hagerman, Idaho 83332.

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TECHNICAL INFORMATION

I. Applicant

City of Hagerman
110 West Main
Post Office Box 158
Hagerman, Idaho 83332

NPDES Permit No.: ID-002594-1
Facility contact: Richard Scruggs, City Superintendent

II. Activity

The City of Hagerman is located in north central Idaho, in Gooding County. The city owns, operates, and has maintenance responsibility for a wastewater treatment plant which treats domestic sewage (SIC 4952) including the storage of sludge in its wastewater lagoons. No industrial wastes are received at this facility.

III. Receiving Water

The effluent from the wastewater treatment facility is discharged, via a pipeline, directly to the main stem of the Snake River, at approximately River Mile 576. The Snake River is designated in the State of Idaho Water Quality Standards and Wastewater Treatment Requirements, 1997, as protected for primary and secondary contact recreation. It is also protected for agricultural water supply, cold water biota, and salmonid spawning [IDAPA 16.01.2150.01.ii]. The United States Geological Survey (USGS) data indicates a 1Q10 of 4,553 CFS and a 7Q10 of 4,893 CFS.

IV. Description of Facility and Discharge

The Hagerman wastewater treatment plant is a two-celled facultative lagoon followed by a rock filter that provides secondary treatment to the influent. The facility does not receive septage pumped from septic tanks, sludge from other sewage treatment works, or other types of trucked-in waste. The first and second cells are sealed and provide primary treatment for biochemical oxygen demand (BOD₅) and total suspended solids (TSS). A portion of the third cell has been converted to contain a rock filter. The remaining portion of the third cell provides for emergency storage and may someday be utilized as a third cell to the treatment process. The sewage sludge generated in the facility will be stored in the existing lagoon for the life of this permit. The effluent is chlorinated, at the lagoon site, for disinfection prior to discharge to the Snake River. This system has been designed to provide proper detention time and mixing to ensure adequate exposure to chlorine, effectively killing bacteria and other pathogenic organisms. Discharge to the Snake River occurs through an outfall pipe, 150 feet from shore and 20 feet below the water surface.

A review of the discharge monitoring reports (DMR) shows that the average flow from the facility is approximately 0.20 MGD while the design flow has been calculated at 0.32 MGD. The facility serves approximately 750 residents of the city of Hagerman. The facility has been in compliance with its effluent limits, including the TSS limits and has a good compliance record for BOD₅.

V. Basis for Permit Conditions

A. General Authority

Sections 101, 301(b), 304, 308, 401, 402 and 405 of the Clean Water Act (the Act) provide the basis for the effluent limitations and other conditions in the draft permit. The EPA evaluates discharges with respect to these sections of the Act and the relevant NPDES regulations in determining which conditions to include in the permit.

In general, the EPA first determines which technology-based limits are required to be incorporated into the permit (40 CFR 122.44(a)). The EPA then evaluates the effluent quality expected to result from these controls, to see if it could result in any exceedances of the water quality standards in the receiving water. If exceedances could occur, the EPA must include water quality-based limits in the permit. The permit limits will reflect whichever limits (technology-based or water quality-based) are most stringent.

Under Section 308 of the Act and 40 CFR 122.44(i), the EPA must include monitoring requirements in the permit to determine compliance with effluent limitations. Effluent and ambient monitoring may also be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality. 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.

1. Statutory Basis for Water Quality-Based Limits

Section 301 (b)(1)(C) of the Act requires the establishment of limitations in permits necessary to meet water quality standards by July 1, 1977. Discharges to state waters must also comply with limitations imposed by the state as part of its certification of NPDES permits under section 401 of the Act.

The NPDES regulation (40 CFR 122.44(d)(1)) implementing section 301 (b)(1)(C) of the Act requires that permits include limits for all pollutants or parameters which "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality."

The regulations require that this evaluation be made 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 limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation.

The regulations also specifically address when toxicity and chemical-specific limits are required. A toxicity limit is required whenever toxicity has the reasonable potential to cause or contribute to an excursion above either a numeric or narrative standard for toxicity. The only exception is where chemical-specific limits will fully achieve the narrative standard. A chemical-specific limit is required whenever an individual pollutant is at a level of concern (as defined at 40 CFR 122.44(d)(1)) relative to the numeric standard for that pollutant.

B. Permit Limit Derivation

In deriving permit limits, reported effluent values are compared to wasteload allocations to determine if limits are needed for individual toxicants. The wasteload allocation is the concentration (or loading) of a pollutant that may be discharged by the permittee without causing or contributing to a violation of water quality standards in the receiving water. It is calculated based on the available dilution, if appropriate, background concentrations, and the water quality standard. Generally, separate wasteload allocations are calculated for each criterion: acute aquatic life, chronic aquatic life, and human health. The most stringent wasteload allocation is then used as the wasteload allocation.

As discussed above, 40 CFR 122.44(d)(1) addresses “reasonable potential” to cause or contribute to an excursion above water quality standards and requires consideration of all point and non-point sources when establishing water quality-based limits on point sources. Chapter 3 of EPA’s *Technical Support Document for Water Quality-based Toxics Control* (TSD, 1991) recommends finding that a permittee has “reasonable potential” if it cannot be demonstrated with a high confidence level that the upper bound of the log normal distribution of effluent concentrations is below the receiving water criteria at specified low-flow conditions, i.e. being within a percentage of the wasteload allocation. The percentage increases as the uncertainty decreases. Uncertainty decreases with increased numbers of samples. The percentage is also based on the coefficient of variation (a measure of the variability) of the data. When there are not enough data to reliably determine a coefficient of variation, the TSD recommends using 0.6 as a default value. For this permit, consideration was given to the Snake River by establishing a total maximum daily load (TMDL) for phosphorus. A TMDL is the sum of all wasteload allocations, load allocations, background, and a margin of safety. See section C below, for a discussion of wasteload allocations and TMDLs.

The current permit limits for fecal coliform bacteria, pH, and chlorine residual were compared with water quality standards to determine whether more stringent

limits were necessary to ensure compliance with water quality standards.

After reviewing Idaho water quality standards effluent data, EPA determined that technology based limits were appropriate for discharges from the Hagerman facility. The limits which EPA is proposing in the draft permit for each parameter are discussed below. The proposed permit limits will ensure that both the wasteload allocations and criteria are met.

1. Biological Oxygen Demand and Total Suspended Solids

Section 301(b)(1)(B) of the Act requires that discharges from publicly owned treatment works (POTWs) meet secondary treatment by July 1, 1977. The Hagerman facility is a waste stabilization pond (lagoon) that falls under the special considerations of 40 CFR Part 133.103(c) and, therefore, allowed to meet the secondary treatment limits provided in 40 CFR Part 133.105 and the state regulations (IDAPA 16.01.02420). These limits are as follows for BOD₅ and TSS:

Parameter	Monthly Average	Weekly Average	Percent Removal
Biological Oxygen Demand (BOD ₅)	45 mg/L 63 lb/day	65 mg/L 95 lbs/day	65%
Total Suspended Solids (TSS)	70 mg/L	105 mg/L*	---

*Although not specified in the State Water Quality Standards, a weekly average effluent limitation for TSS has been established in accordance with 40 CFR 122.45(d)(2). The weekly average is based on 1.5 times the value of the monthly limitation

The current permit contains effluent loading limitations for BOD₅, based on the Wastewater Facility Plan's projected design population for the year 2000 as follows:

Influent load: 900 persons x 0.2 lb/capita/day
= 180 lb/day
 Monthly average effluent: 180 lb/day x (1 - 0.65 removal)
= 63 lbs/day
 Weekly average effluent (1.5 times the monthly average):
63 lbs/day x 1.5 = 95 lbs/day

A review of the facility's DMRs indicate the facility can comply with the existing loading limits. The facility is capable of meeting the "equivalent to secondary" requirements for BOD₅ and TSS, therefore, the proposed permit will retain the loading limits found in the current permit.

2. pH

The technology-based pH limitation for POTW's is 6.0 to 9.0 standard units (40 CFR 133.102). However, Idaho's water quality standards require pH values to be within the range of 6.5 - 9.5 standard units for the protection of aquatic life (IDAPA 16.01.02.250.02). In the current permit, the effluent limit has been set within the range 6.0 - 9.0.

The proposed permit incorporates the state's lower limit of 6.5 standard units. The upper limit will be based on the technology-based requirement of 9.0 standard units. Therefore, the pH range in the draft permit will be 6.5 - 9.0 standard units monitored weekly by grab sampling.

3. Fecal Coliform Bacteria

The technology-based fecal coliform bacteria limitation for POTW's is defined in Idaho's water quality standards (IDAPA 16.01.02.42005.a). These standards state that fecal coliform concentration in secondary treated effluent must not exceed a geometric mean of 200/100 ml based on no more than one week's data and a minimum of five samples.

The state water quality standards also limit fecal coliform bacteria for waters protected for secondary contact recreation (IDAPA 16.01.02.250.01.b). These standards indicate that waters are not to contain fecal coliform bacteria in concentrations exceeding 800/100 ml at any time, 400/100 ml in more than 10 percent of the total samples taken in a thirty day period, and a geometric mean of 200/100 ml based on a minimum of five samples taken over a thirty day period (IDAPA 16.01.02250.01.b).

The current permit requires the facility to achieve an average monthly limit of 100/200 ml and an average weekly limit of 200/100 ml. The fact sheet for the previous permit states that the fecal limits were based on the 1985 Idaho Water Quality Standards (1-2420.04(a)). The 1985 Idaho water quality standards did require sewage wastewater treatment plant effluent to meet an average weekly limit of 200/100 ml, however, there does not appear to be a basis for requiring the facility to meet an average monthly limit of 100/100 ml.

Therefore, the proposed permit incorporates the weekly fecal coliform bacteria limit of 200/100 ml (technology-based). To comply with Idaho water quality standards a maximum daily limit of 800/100 ml, and an average monthly limit of 200/100 ml will also be incorporated into the permit.

Section 303(d)(4)(B) of the Clean Water Act provides that a permittee may backslide from a water quality based effluent limit (i.e. an average monthly limit of 100/100 ml) where water quality meets or exceeds water quality standards, if the revision is consistent with a State's anti-degradation policy. Allowing the average monthly limit for fecal coliform bacteria to increase to 200/100 ml from 100/100 ml is consistent with the State's antidegradation policy. For more information on antidegradation see section VI of the fact sheet.

4. Total Residual Chlorine

The Hagerman facility uses chlorination disinfection and, therefore, must meet the total residual chlorine limits for discharging. The proposed permit will require the facility to monitor their effluent for chlorine and will impose a technology-based limit of 0.5 mg/L. The technology-based effluent limitation of 0.5 mg/l is derived from standard operating practices. 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. A treatment plant that provides adequate chlorination contact time can meet the 0.5 mg/l limit on a monthly average basis.

The current permit requires a chlorine limitation of 2.0 mg/L. However, it is based on the state water quality standard for total residual chlorine to preserve aquatic life (IDAPA 16.01.02250.02.a.iii) of 19 µg/L (acute criteria) for a one-hour average concentration, and 11 µg/L (chronic criteria) for a four-day average concentration, an average flow of 0.20 mgd, and a 25% mixing zone. The proposed permit limit shall be set at average monthly limit of 0.5 mg/L, consistent with the Act's requirement to apply the more stringent limitation.

5. Floating, Suspended or Submerged Matter

The State water quality standards (IDAPA 16.01.02.200.05) requires surface waters of the State to be free from floating, suspended, or submerged matter of any kind in concentrations causing a nuisance or objectionable conditions or that may impair designated beneficial uses. This requirement was a condition of the current permit and will be retained in the proposed permit.

C. Total Maximum Daily Load (Phosphorus)

Where technology-based limits are not sufficient to achieve compliance with water quality standards, a TMDL should be established.

1. Steps to establish a TMDL

The first step in establishing a statistically based TMDL, for an impaired water body, is to determine the assimilative capacity (the loading of pollutant that a water body can assimilate without causing or contributing to a violation of water quality standards). The next step is to divide the assimilative capacity into allocations for non-point pollutant sources (called load allocations, or LAs) and allocation for point sources (called wasteload allocations, or WLAs) after taking into account natural background loadings and a margin of safety to account for any uncertainties. The wasteload allocation is the concentration (or loading) of a pollutant that may be discharged by the permittee without causing or contributing to a violation of water quality standards in the receiving water. It is calculated based on the available dilution, if appropriate, background concentrations, and the water quality standards. Generally, separate wasteload allocations are calculated

for each criterion: acute aquatic life, chronic aquatic life, and human health. The most stringent wasteload allocation is then used as the wasteload allocation. The TMDL is the sum of the LAs, WLAs, background, and the margin of safety.

2. TMDL permit limits

Permit limitations developed for point sources must be consistent with the WLAs (40 CFR 122.44(d)(1)(vii)(B)). In the TMDL for the Middle Snake (*Middle Snake River Watershed Management Plan*, IDHW-DEQ), adopted by the State of Idaho and approved by EPA on April 25, 1997, the state determined that an instream total phosphorus concentration of 0.075 mg/l would result in meeting the narrative criterion. WLAs for phosphorus are contained in chapter 3 of the *Middle Snake River Watershed Management Plan*. The City of Hagerman was provided with a WLA of 5.7 lbs/day. Federal regulations at 40 CFR 122.44(d)(1)(vii)(B) require EPA to incorporate effluent limits based on WLAs from the State's watershed management plan into NPDES permits. In translating the WLA into a permit limit, the EPA followed the procedures in the TSD. The first step in developing a limit is to determine the time frame over which the WLA applies. In general, the period over which a criterion applies is based on the length of time the target organism can be exposed to the pollutant without adverse effect. For example, aquatic life criteria generally apply as one-hour averages (acute criteria) or four-day averages (chronic criteria). In the case of total phosphorus, the target organisms are aquatic vegetation which respond to high phosphorus concentrations with excess growth, resulting in eutrophication. The period over which this effect occurs is uncertain. However, the EPA believes that applying the WLAs as monthly averages is appropriate.

The WLAs must then be statistically converted to daily maximum and monthly average permit limits. In this case, because the averaging period for the pollutant is monthly, no conversion is necessary and the monthly average permit limits are equal to the WLAs. Derivation of the daily maximum permit limit from the monthly average limit is based in part on the coefficient of variation (CV) for the effluent at each facility. When there is not enough data to reliably determine a coefficient of variation (i.e., $n < 10$ samples), the TSD recommends using 0.6 as a default value. Based on the available data for Hagerman, a CV of 0.56 was used.

The WLA is based on the same time frame as the criteria (for example, four days for a chronic wasteload allocation), whereas the maximum daily limit is based on a single day. It is possible to exceed the four-day average on any given day and still meet the average as long as the surface waters of the state are free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses (IDAPA 16.01.2200.06). The proposed permit limits ensure that both the wasteload allocations and criteria are met.

3. Total Phosphorus Limits

Based on the WLA the average monthly limit was calculated as 5.70 lbs/day, and

the maximum daily limit as 8.15 lbs/day. See appendix A for specific details on the development of the permit limits.

4. Compliance Schedule

In accordance with Section 16.01.02400.03 of the Idaho Water Quality Standards, discharge permits can incorporate compliance schedules which allow a discharger to phase in compliance with water quality based effluent limits when new limits are in the permit for the first time. The Management Plan requires POTWs to meet the final waste load allocation “over the next five years.” This draft permit requires compliance with the effluent limitation by May 1, 2002, five years from the date of approval by EPA of DEQ’s final Management Plan. Consistent with 40 CFR 122.47, the permittee will be required to submit annual reports which documents progress toward reaching the final compliance level.

D. Mixing Zones

The Idaho water quality standards (IDAPA 16.01.02.060) allow twenty-five percent (25%) of the receiving water to be used for dilution. The applicable flows used to evaluate compliance with the criteria are the 1 day, 10 year low flow (1Q10) for acute criteria, and the 7 day, 10 year low flow for chronic criteria. The 1Q10 represents the lowest daily flow that is expected to occur once in 10 years. The 7Q10 is the lowest 7 day average flow expected to occur once in 10 years.

In accordance with state water quality standards, only the Idaho Department of Health and Welfare, Division of Environmental Quality (IDHW-DEQ) may authorize mixing zones.

E. Monitoring Requirements

The following monitoring requirements have been included in the permit pursuant to section 308 of the Act and 40 CFR 122.44(i). Monitoring frequencies are based on the nature and effect of the pollutants, as well as a determination of the minimum sampling necessary to adequately monitor the facility’s performance.

The proposed permit requires influent and effluent monitoring for the following parameters:

Parameter	Sample Location	Sample Frequency	Sample Type
Flow, mgd	effluent	Continuous	Recording
BOD ₅ , mg/L*	influent and effluent	2/month	grab composite
TSS, mg/L	influent and effluent	2/month	grab composite

Fecal Coliform Bacteria, colonies/100 ml	effluent	5/month ¹	grab
Total Residual Chlorine, mg/L	effluent	1/week	grab
pH, standard units	effluent	5/week	grab
Phosphorus, lbs/day	effluent	1/month	grab composite
Ammonia as N	effluent	1/month	grab composite
Temperature, °C	effluent	3/week	grab
Total Kjeldahl Nitrogen (TKN)	effluent	1/month	grab composite
Nitrate-Nitrite as N	effluent	1/month	grab composite

* Percent Removal Monitoring: The percent BOD₅ removal shall be reported on each monthly Discharge Monitoring Report form.

1. In a memo dated August 28, 1997 IDHW-DEQ has determined that monitoring for fecal coliform 5 terms per month (for small municipalities) will satisfy the more stringent technology-based monitoring requirement for fecal coliform bacteria. IDHW-DEQ will incorporate the monitoring requirements into their 401 certification of the NPDES permit.

The current permit does not require monitoring for total phosphorous, ammonia, nitrate, nitrite and TKN. The Hagerman facility has been monitoring the effluent for phosphorous, ammonia, nitrate and TKN for the last several years, and will need to begin monitoring for nitrite. The *Middle Snake River Watershed Management Plan* (see Section J, below, which discusses this plan) recommends testing for these parameters, therefore the monitoring listed above is included in the proposed permit. The other parameters and their monitoring frequency are the same as in the current permit.

F. Quality Assurance Plan

Under 40 CFR 122.41(e), the permittee must properly operate and maintain all facilities which it uses to achieve compliance with the conditions of the permit. This regulation also requires the permittee to ensure adequate laboratory controls and appropriate quality assurance procedures.

The permit requires the permittee to develop and submit to EPA for review and approval within 90 days of the effective date of this NPDES permit a Quality Assurance Plan.

G. Requirements for Sludge Management

Section 405(f) of the Clean Water Act requires any NPDES discharge permit issued to a

“treatment work treating domestic sewage” to include sludge use and disposal requirements implementing the national standards and other requirements of the Clean Water Act. In addition, the sludge permitting regulations in 40 CFR 122 and 124 apply to all treatment works generating, treating, or disposing of domestic septage or sewage sludge.

Pursuant to 40 CFR 122.41(a), a condition has been incorporated into the proposed permit requiring the permittee to comply with all existing federal and state laws, and all regulations applying to sludge use and disposal. This includes future self-implementing standards under the Act.

H. Sludge Management Activity

Sewage sludge (biosolids) created in the Hagerman wastewater treatment lagoon(s) by facultative stabilization will be stored in the existing lagoon(s) for the 5-year life of this permit. The facility does not receive septage pumped from septic tanks, sludge from other sewage treatment works, or other types of trucked-in waste.

The permittee will be considering options for future sludge management under the next permit. Options that may be considered include land spreading, surface disposal, municipal landfill, incineration, storage at another location, or transfer to another facility. These options are not authorized during the life of this permit because the permit application does not indicate that such activities would comply with the necessary state and federal standards, or for pre-treatment. Facilities have not been identified with the capabilities to receive or store sludge, other than the lagoon(s).

I. Specific Sludge Requirements in NPDES Permits Issued to POTWs

The permit (1) notifies the Permittee of new federal standards at 40 CFR 503 and makes them enforceable under the permit, (2) incorporates the Clean Water Act additional requirements for protection of surface waters and for control of pollutants not in the standards, (3) identifies the allowable methods of and requirements for sludge treatment, use, or disposal, according to the ability to comply with the standards demonstrated in the permit application and (4) attempts to inform and consult with the public and interested parties and agencies on the sludge practices and requirements.

To ensure compliance with the Act and the 40 CFR 503 standards at all times, the draft permit contains the following requirements:

- 1. Allowable Sludge Use and Disposal Practices:** Under the Clean Water Act it is unlawful for any facility to use or dispose of sewage sludge except in accordance with the national standards for that practice. The EPA is directed by the Act to place in the permit conditions implementing the Act and standards. This section of the proposed permit lists those practices which the EPA finds the facility may lawfully utilize over the life of the permit. This is based on the permit application and supplemental information submitted by the Permittee.

A later section of the permit provides the opportunity to utilize other practices by

submitting a formal request for a permit modification. This enables the EPA to reevaluate the circumstances and its findings, and an opportunity to consult with the public on proposed new practices not covered in this permit.

The Permittee plans to continue to store the sewage sludge in the lagoon. The Permittee has demonstrated the capacity to store all the sludge generated over the 5-year life of the permit. The facility is located in a rural area where a common method of sewage treatment is septic tanks, which require periodic pumping of septage for proper operation. The EPA has noticed the facility may have capacity to store septage, and believes such storage could be lawful under the federal statute and regulations. However, the facility has not determined the annual amounts of septage which might interfere with its ability to store the sludge for the desired period. Therefore, to recognize this legal option, the EPA proposes to include in the permit procedures through which the Permittee can receive septage without having to obtain a formal permit modification. The EPA may approve storing septage by letter, allowing EPA and the state to evaluate the lagoon capacity at that time. At this time there is no information that the Permittee or any other party is interested in storing septage in the lagoon. This provision is proposed for the EPA's convenience.

- 2. Health & Environment General Requirement:** The permittee must handle and use or dispose of the sewage sludge in such a way as to protect the human health and the environment. The Clean Water Act requires that the environment and public health be protected from toxic effects of any pollutants in sludge including those not currently listed in the standards. The criterion for the control of toxins is established using a combination of the national standards for some toxins and the permit for the others (Clean Water Act Section 405(d)(4)).
- 3 State laws and future federal standards:** Pursuant to the permitting rules at 40 CFR 122.41(a), a condition has been incorporated into the proposed permit requiring the permittee to comply with all existing federal and state laws, and all regulations applying to sludge use and disposal. The Idaho standards require state approval of plans, and state approval of sites for use or disposal of sewage sludge.
- 4 Protection of surface waters from sludge pollutants:** Section 405(a) of the Clean Water Act specifically prohibits any practice where sludge pollutants removed in a treatment works at one location would ultimately enter surface waters at another location. In this case, sewage sludge removed from other sewage treatment plants may not be placed into the lagoon. Sewage treatment plants, such as this lagoon, only capture a portion of some pollutants (e.g., certain metals). So some sludge pollutants would reach surface waters if liquid sludge from another treatment plant was placed into the lagoon. The EPA believes the prohibition in Section 405(a) only pertains to sludge removed from sewage treatment plants and not to septage removed from septic tanks.

- 5 Current federal standards, storage vs. disposal:** The sections of the federal standards at 40 CFR 503 applicable to the facility's proposal to store its sludge are Section A (General Provisions, 503.1-9), and Section C (Surface Disposal, 503.20-28).

Under the legal definitions in Section A, the solids in the bottom of the lagoon are not "officially" sludge subject to the federal standards. The solids become legally classified as sewage sludge subject to the federal standards as soon as they are removed from their original treatment works (a residue from treatment of wastewater). Wastewater solids can be stored in their original treatment works indefinitely so long as no other treatment plant sludge is added to the lagoon (septage may be added to the lagoon).

Under Section C, once the wastewater solids are removed from their original treatment works they must be used or disposed in a timely manner. The EPA rules generally do not allow long-term storage outside the original treatment works. Storage longer than two years is automatically classified by the rules as a disposal site, unless the facility provides a reasonable plan for ultimate use or disposal of the material. Under this permit the EPA proposes to determine that the permittees practices are storage and not disposal (503.21(n)), provided the solids stay in the original lagoon. The surface disposal rules are cited in this section of the permit because these are the rules under which this storage/disposal determination was made.

- 6 Changes/Major Modifications:** Under the NPDES rules, the permittee must apply for a major permit modification before making a significant change in the method for storing or managing sewage sludge (40 CFR 122.62(a)(1)).

The facility will have to test the pollutants in the sludge prior to the next permit application (required for the application). No testing is required in this permit because there is no indication of a source of toxins in the sewer system. However, the EPA suggests all lagoons test the sludge for the common metals every 2-3 years (arsenic, cadmium, copper, mercury, molybdenum, nickel, lead, selenium, and zinc). Regular testing should be initiated if the facility begins to receive septage or other trucked-in waste.

J. Best Management Practices

Major facilities affecting water quality in the Middle Snake river have prepared industry-specific waste reduction plans that identify possible solutions to water quality problems. According to the *Middle Snake River Watershed Management Plan* implementation of the plans is critical to achieving the goals of the watershed management plan.

Federal regulations at 40 CFR 122.44(d)(1) state that permits shall include any requirements to or more stringent than promulgated effluent limitation guidelines or standards under section 301, 304, 306, 307, 318, and 405 of the CWA necessary to achieve water quality standards established under section 303 of the CWA. Additionally, best management practices can be incorporated into NPDES permits when the practices are reasonably necessary to carry out the purposes of the Clean Water Act (40 CFR 122.44 (k)).

Therefore, the permittee will be required to develop a Best Management Practices Plan consistent within 180 days of the issuance of this permit. The developed Plan must be consistent with the Municipal Industry Management Actions outlined in the *Middle Snake River Watershed Management Plan*.

VI. Antidegradation

In proposing to reissue this permit, the EPA has considered Idaho's antidegradation policy (IDAPA 16.01.02051.01). This provision states that "the existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected". The issuance of this permit will not result in the increase loading of pollutants, therefore, the limits in the permit are consistent with Idaho's antidegradation policy.

VII. Other Legal Requirements

A. Endangered Species Act

Section 7 of the Endangered Species Act requires federal agencies to request a consultation with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USF&WS) regarding potential effects an action may have on endangered species. This consultation was completed when the Hagerman permit was issued in June 1987.

In letters dated February 25 and May 20, 1997, the USF&WS identified the following federally-listed endangered and threatened species in the area of the discharge:

Endangered Species:

- Gray wolf (*Canis lupus*) - experimental
- Utah valvata snail (*Valvata utahensis*)
- Snake River physa snail (*Physa natricina*)
- Banbury Springs limpet (*Lanx sp.*)
- Idaho springsnail (*Pyrgulopsis idahoensis*)

Threatened Species:

- Bald eagle (*Haliaeetus leucocephalus*)
- Bliss Rapids snail (*Taylorconcha serpenticola*)
- Ute ladies' tresses (*Spiranthes diluvialis*)

In addition to these species, the USF&WS has listed several species of concern: kit fox (*Vulpes velox*), white sturgeon (*Acipenser transmontanus*), Shoshone sculpin (*Cottus greeniei*), California floater (*Anodonta californiensis*), and Columbia pebblesnail (*Fluminicola columbianus*).

The *Biological Evaluation for Reissuance of NPDES Permits for Middle Snake River and Billingsley Creek, Idaho, Facilities* (EPA 1997) evaluated the potential impacts of this discharge on the listed species. The Agency determined that the permit would not be likely to adversely affect the bald eagle, gray wolf, or kit fox. Although controls on phosphorus will result in improved water quality for the listed aquatic species, the discharge may effect these species. Monitoring incorporated in the permit is intended to gauge the extent to which these impacts could occur.

EPA has initiated informal consultation with US Fish and Wildlife Service under Section 7 of the Endangered Species Act. If the consultation results in reasonable and prudent measures that require more stringent permit conditions, EPA will incorporate those conditions into the final permit.

B. State Certification

Because state waters are involved in this permitting action, the provisions of Section 401 of the Act apply. In accordance with 40 CFR 124.10(c)(1), public notice of the draft permit has been provided to the State of Idaho agencies having jurisdiction over fish, shellfish, and wildlife resources.

As part of the certification, the State will be asked to certify the mixing zone used in calculating the effluent limitations in the proposed permit. If certification of the mixing zone is not provided, the limitations in the permit will be recalculated based on meeting water quality standards at the point of discharge.

C. Permit Expiration

This permit shall expire five years from the effective date of the permit.

APPENDIX A
Map

APPENDIX B
Development of Permit Limits

PHOSPHORUS:

The waste load allocation (WLA) from the 1997 TMDL Management Plan will be interpreted as the average monthly limitation (AML). Therefore, the AML = 5.7 lbs/day (rounded to two significant digits).

The monthly daily limit (MDL) is calculated by multiplying the AML by the following relationship (see Technical Support Document for Water Quality-based Toxics Control, EPA 1991, Table 5-3):

$$\frac{MDL}{AML} = \frac{\exp[Z_m \sigma - .5\sigma^2]}{\exp[Z_a \sigma - .5\sigma^2]}$$

CV = the coefficient of variation of the effluent concentration, standard deviation divided by the mean (see below for calculation) = 0.56

n = the number of samples per month = 1

$$\sigma_n^2 = \ln(CV^2/n + 1) = \ln(.56^2/1 + 1) = 0.27$$

$$\sigma^2 = \ln(CV^2 + 1) = \ln(.56^2 + 1) = 0.27$$

Z_m = percentile exceedance probability for MDL (99%) = 2.326

Z_a = percentile exceedance probability for AML (95%) = 1.645

$$\frac{MDL}{AML} = 1.43$$

AML

$$MDL = 1.43 \times 5.7 \text{ lbs/day} = 8.2 \text{ lbs/day}$$

CV Calculation = Summary of daily values total phosphorus (monitored monthly) for a period from March 1993 to April 1997 (with April and May of 1993 excluded).

Number of samples = 48

Minimum value = 0 lbs/day

Maximum value = 10.0 lbs./day

Average daily (mean) = 3.1 lbs/day

Standard deviation = 1.72

CV = standard deviation/mean = 0.56