FACT SHEET

United States Environmental Protection Agency (EPA)
Region 10
Park Place Building, 13th Floor
1200 Sixth Avenue, OW-130
Seattle, Washington 98101
(206) 553-1214

Date:

Permit No.: ID-002006-1

PROPOSED REISSUANCE OF A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE POLLUTANTS PURSUANT TO THE PROVISIONS OF THE CLEAN WATER ACT (CWA)

CITY OF FILER
300 Main
Filer, Idaho 83328

has applied for reissuance of a NPDES permit to discharge pollutants 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, (d) a listing of tentative effluent limitations, schedules of compliance and other conditions, and (e) a sketch or 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 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 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 EPA Idaho Operations Office, 1435 N. Orchard Street, Boise, Idaho 83706.

TECHNICAL INFORMATION

I. Applicant

City of Filer
300 Main
Filer, Idaho 83328

NPDES Permit No.: ID-002006-1
Facility contact: Bud Compher

II. Activity

The City of Filer is located in south central Idaho, in Twin Falls County. The city owns and operates a wastewater treatment plant that treats domestic sewage. Filer discharges wastewater from November 1 through March 31 each year. From April 1 through October 31 the city land applies its effluent. There is no industrial input into the treatment plant.

III. Receiving Water

The effluent from the wastewater treatment facility is discharged via a seepage tunnel to the Cedar Draw, approximately six river miles from Snake River. Cedar Draw receives significant amounts of agricultural runoff and irrigation water drainage. It also receives waste from several trout hatcheries. At the point of discharge, Cedar Draw is protected for agricultural water supply, cold water biota, salmonid spawning, and secondary contact recreation (IDAPA 16.01.02150). The 1Q10 and 7Q10 low flows for Cedar Draw are 25 cfs and 30 cfs respectively.

IV. Description of Facility and Discharge

The wastewater treatment facility is a four-celled lagoon system with aeration on the first two cells. The design flow of the treatment plant is .28 mgd. Following treatment in the lagoon system the effluent is chlorinated for disinfection purposes. Discharges to Cedar Draw occur only from November 1 through March 31 each year.

A review of the discharge monitoring reports (DMR) shows that the average flow from the facility is approximately .15 mgd. While the facility has generally been in compliance with the requirements of its NPDES permit limits, there have been some exceedances of the 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) limits.

V. Basis for Permit Conditions

A. 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. 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, EPA first determines which technology-based limits are required to be incorporated into the permit (40 CFR §122.44(a)). 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 federal regulations at 40 CFR §122.44(d)(1) require EPA to include water quality-based limits in the permit. The proposed 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), 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.

B. Technology-Based Evaluation

Section 301(b)(1)(B) of the Act requires that discharges from publicly owned treatment works (POTWs) meet secondary treatment by July 1, 1977. Secondary treatment is defined in the federal regulations at 40 CFR §133.102 (state regulation at IDAPA 16.01.02420) as follows:

Parameter	Monthly Average	Weekly Average	Percent Removal
Biological Oxygen Demand ($BOD_{5)}$	30 mg/L	45 mg/L	85%
Total Suspended Solids (TSS)	30 mg/L	45 mg/L	85%

For BOD_5 and TSS, these requirements have been incorporated into the draft permit as effluent limitations.

The current permit has monthly and weekly loading limitations for BOD_5 and TSS of 58 lbs/day and 87 lbs/day. A review of the facility's DMRs indicate the facility can comply with the existing loading limits. Therefore, the proposed permit will retain the loading limits found in the current permit.

The technology-based pH limitation for POTW's is 6.0 to 9.0 standard units (40 CFR § 133.102).

The technology-based fecal coliform bacteria limitation for POTW's is defined in Idaho's water quality standards (IDAPA 16.01.02420.05.). 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.

C. Water Quality-Based Evaluation

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.

2. 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) requires consideration of existing controls on all point or nonpoint sources of pollutants when establishing water quality-based limits on point sources. For this permit, this consideration was

given 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.3., below, for a discussion of wasteload allocations and TMDLs.

As discussed above, 40 CFR §122.44(d)(1) addresses "reasonable potential" to cause or contribute to an excursion above water quality standards. Chapter 3 of EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD, 1991) defines "reasonable potential" as 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.

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.

In deriving the water quality-based permit limits, Region 10 applied the statistical permit limit derivation approach described in chapter 5 the TSD. This approach takes into account effluent variability, sampling frequency, and the difference in time frames between the water quality standards and monthly average and daily maximum limits. In addition to the numeric water quality criteria and dilution values, EPA used the following values in deriving limits, using the formulas in the TSD:

Probability value for long-term average calculation	99%
Probability value for monthly average limit calculation	95%
Probability value for daily maximum limit calculation	99%
Coefficient of variation for chlorine	.24
Frequency of monitoring for chlorine	4/month

The limits which EPA is proposing in the draft permit for each parameter are discussed below.

(a) Mixing Zones

The Idaho water quality standards at IDAPA 16.01.02060. 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. Therefore, although the chlorine limit in this permit is based on a mixing zone, the limits in the final permit will be based on the mixing zone specified in the State's 401 certification. If the State does not authorize a mixing zone in its certification, the permit limits will be re-calculated to ensure compliance with the standards at the point of discharge.

(b) pH

The state water quality standard for pH is 6.5 - 9.5 standard units for the protection of aquatic life (IDAPA 16.01.02250.02.i.). In the current permit, the effluent limit is 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.

(c) Fecal Coliform Bacteria

The state water quality standards limit fecal coliform bacteria for waters protected for secondary contact recreation. Waters are not to contain fecal coliform bacteria in concentrations exceeding 800/100 ml at any time, and a geometric mean of 200/100 ml based on a minimum of 5 samples taken over a thirty day period (IDAPA 16.01.02250.01.b.). As discussed previously, the technology-based requirement for fecal coliform bacteria states that the effluent must not exceed a weekly geometric mean of 200/100 ml based on one weeks data and a minimum of five samples.

The current permit requires the facility to achieve an average monthly limit of 100/100 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 proposed 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, it 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.

(d) Total Residual Chlorine

The current permit has a chlorine effluent limit of 2 mg/L. Based on the state water quality standards of acute aquatic life criteria of 19 µg/L, and chronic aquatic life criteria of 11 µg/L (IDAPA 16.01.02250.02.a.iii.), an average flow of .15 mgd, and a 25% mixing zone, the proposed permit limits are an average monthly limit of 305 µg/L (.3 mg/L) and a maximum daily limit of 475 µg/L (.5 mg/L). See appendix A for further details on developing the permit limits.

(e) Floating, Suspended or Submerged Matter

The state water quality standards at IDAPA 16.01.02200.06 requires surface waters of the State to be free from floating, suspended, or submerged matter of any kind in concentrations causing 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.

3. Total Maximum Daily Load, Phosphorus

Where technology-based limits are not sufficient to achieve compliance with water quality standards, a total maximum daily load (TMDL) should be established. A TMDL is a mechanism for determining the assimilative capacity of a waterbody and allocating that capacity among point and non-point pollutant sources and a margin of safety. The assimilative capacity is based on the river flow and the state water quality standards. The allocations for point sources are termed "wasteload allocations" (WLAs) and are implemented through NPDES permits. Allocations for non-point sources, called "load allocations," will be implemented through the use of best management practices.

In the case of phosphorus, there is no numeric criterion in the Idaho's water quality standards. However, the standards contain a narrative criterion that states that "surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses" (IDAPA 16.01.02200.06).

In the TMDL for the Middle Snake (*Middle Snake River Watershed Management Plan*, IDHW-DEQ) adopted by the 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*. Federal regulations at 40 CFR §122.44(d)(vii)(B) require EPA to incorporate effluent limits based on WLAs from the State's watershed management plan into NPDES permits.

In translating the WLAs into permit limits, EPA followed the procedures in the TSD. The first step in developing limits is to determine the time frame over which the WLAs apply. 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, 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. Because there was insufficient data to calculate CV, a default CV of 0.6 was used, as recommended in the TSD.

The TMDL provided the city of Filer with a WLA of 16.4 lbs per day. Based on the WLA, the average monthly limit is 17 lbs per day (16.4 lbs per day rounded to two significant digits), and the maximum daily limit is 24 lbs per day. For the derivation of the maximum daily limit see Appendix A.

The TMDL requires the municipal wastewater treatment industry to meet the final wasteload allocation over the next five years. 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. Therefore, this permit requires compliance with the phosphorous effluent limitation by May 1, 2002, five years from the date of approval by EPA of IDHW-DEQ's final TMDL. Consistent with 40 CFR § 122.47, the permittee will be required to submit annual reports which document progress towards meeting the final compliance level.

D. 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 current permit does not require monitoring for total phosphorous, ammonia, nitrate, nitrite, and TKN. The *Middle Snake River Watershed Management Plan* recommends testing for these parameters, therefore the monitoring listed below is included in the proposed permit.

1. Influent and Effluent Monitoring

The proposed permit requires monitoring for the following parameters.

Parameter	Sample Location	Sample Frequency	Sample Type[2]
Flow, mgd	effluent	Continuous	Recording
$BOD_{5,}$ mg/L	influent and effluent	2/month	composite
TSS, mg/L	influent and effluent	2/month	composite
Fecal Coliform Bacteria, colonies/100 ml	effluent	5/month[1]	grab
Total Residual Chlorine, mg/L	effluent	3/week	grab
pH, standard units	effluent	3/week	grab
Phosphorus, lbs/day	effluent	1/month	composite
Ammonia as N	effluent	1/month	composite
Total Kjeldahl Nitrogen, mg/L	effluent	1/month	composite
Nitrate-Nitrite as N, mg/L	effluent	1/month	composite
Temperature, °C	effluent	1/month	grab

1. In a memo dated August 28, 1997 IDHW-DEQ has determined that monitoring for fecal coliform 5 times 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.

2. Composite samples shall consist of three discrete aliquots collected over an eight hour period. Each aliquot shall be a grab sample of not less than 100 ml and shall be collected and stored in accordance with procedures prescribed in *Standard Methods for the Examination of Water and Wastewater,* 18th Edition.

E. 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 draft permit requires the permittee to submit a quality assurance project plan to EPA within 60 days of the effective date of the permit. The plan is intended to address sampling techniques, sample preservation and shipment procedures, instrument calibration and preventive maintenance procedures, and personnel qualifications and training.

F. Sludge Management Requirements

Section 405(f) of the Act requires sludge use and disposal requirements to be incorporated into NPDES permits issued to a treatment works treating domestic wastewater. In addition, the sludge permitting regulations in 40 CFR §122 and §124 apply to all treatment works treating domestic wastewater.

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.

G. 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 with the Municipal Industry Management Actions outlined in the *Middle Snake River Watershed Management Plan.*

VI. Antidegradation

In proposing to reissue this permit, EPA has considered Idaho's antidegradation policy (IDAPA 16.01.02.051.01). This provision states that for Tier 1 waters "the existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." With the exception of fecal coliform bacteria, the issuance of this permit will not result in the increase loading of pollutants. While the effluent limits for fecal coliform bacteria have increased, they are still within the level required to protect the existing beneficial uses of Cedar Draw. Therefore, the limits in the permit are consistent with Idaho's antidegradation policy.

VII. Other Legal Requirements

A. Endangered Species Act

In letters dated February 25 and May 20, 1997, the U.S. Fish and Wildlife Service (USFWS) 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 USFWS has listed several species of concern: kit fox (*Vulpes velox*), white sturgeon (*Acipenser transmontanus*), Shoshone sculpin (*Cottus greenei*), 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, chlorine, pH, and the requirement that surface waters of the State be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses 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. This permit shall expire five years from the effective date of the permit.