



FACT SHEET

**The United States Environmental Protection Agency (EPA)
Proposes To Reissue
A National Pollutant Discharge Elimination System (NPDES) Permit to:**

**City of Weiser Wastewater Treatment Plant
West 9th Street
Weiser, Idaho 83672**

NPDES Permit Number: ID-002029-0

Public Notice Start Date: January 28, 2010

Public Notice Expiration Date: March 1, 2010

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EPA Proposes To Reissue NPDES Permit

EPA proposes to reissue the NPDES permit to the facility referenced above. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters of the United States. In order to ensure protection of water quality and human health, the permit place limits on the types and amounts of pollutants that can be discharged from each facility.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations, and other conditions for each facility
- a map and description of the discharge locations
- technical material supporting the conditions in the permit

State Certification for Facilities that Discharge to State Waters

EPA will request that the Idaho Department of Environmental Quality (IDEQ) certify the NPDES permit for this facility, under Section 401 of the Clean Water Act. Comments regarding the certification should be directed to:

IDEQ Boise Regional Office
1445 N. Orchard
Boise, ID 83706
ph: (208) 373-0550
fx: (208) 373-0287

Public Comment

Persons wishing to comment on, or request a Public Hearing for the draft permit for this facility 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 EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires and all comments have been considered, EPA Region 10's Director for the Office of Water and Watersheds will make a final decision regarding permit reissuance. 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 comments are received, EPA will address the comments and issue the permit. In such a case, the permit will become effective at least 30 days after the issuance date unless an appeal is submitted to the Environmental Appeals Board within 30 days.

Documents are Available for Review.

The draft permit and fact sheet are posted on the Region 10 website at <http://yosemite.epa.gov/r10/WATER.NSF/NPDES+Permits/DraftPermitsID>. Copies may also be requested by writing to EPA at the Seattle address below, by e-mailing washington.audrey@epa.gov, or by calling Audrey Washington at 206-553-0523 or (800) 424-4372 ext 0523 (within Alaska, Idaho, Oregon, & Washington). Copies may also be inspected and copied at the offices below between 8:30 a.m. and 4:00 P.M., Monday through Friday, except federal holidays. In Seattle, visitors report to the 12th floor Public Information Center.

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For technical questions regarding the permit or fact sheet, contact John Drabek at the phone number or e-mail address at the top of this fact sheet. Those with impaired hearing or speech may contact a TDD operator at 1-800-833-6384 and ask to be connected to the appropriate phone number. Persons with disabilities may request additional services by contacting John Drabek.

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I. APPLICANT

This fact sheet provides information on the draft NPDES permit for the following entity:

Facility Name: City of Weiser Wastewater Treatment Plant
Mailing Address: 55 West, Weiser, Idaho 83672
Facility Address: West 9th Street Weiser, Idaho 83672
Contact: Brad Hansen (208) 414-1965

II. FACILITY INFORMATION

A. Facility Description

The City of Weiser owns, operates and has maintenance responsibility for a facility that treats domestic sewage that is primarily from local residents and commercial establishments through a separated sanitary sewer system. Jon-Lin Foods, LLC formerly Appleton Produce, Inc. is the only industrial discharger to the system and discharges approximately 0.046 million gallons per day (mgd) to the treatment system. They produce onion rings and other frozen food products.

Primary treatment consists of screening. Secondary treatment is biological using the activated sludge process in four aeration basins where wastewater is vigorously mixed with air and microorganisms acclimated to the wastewater in a suspension for several hours. This suspended growth process is designed to remove biodegradable organic material and organic nitrogen-containing material by converting ammonia nitrogen to nitrate. The microbial growth is suspended in the aerated water mixture where the air is pumped in to allow oxygen transfer. The suspended growth process speeds up the work of aerobic bacteria and other microorganisms that break down the organic matter in the sewage by providing a rich aerobic environment where the microorganisms suspended in the wastewater can work more efficiently. The microorganisms grow in number and the excess biomass is removed by settling in the secondary clarification tanks. Now activated with millions of additional aerobic bacteria, some of the biomass is used again by returning it for mixing with incoming wastewater. Disinfection is by chlorination.

Digested solids are treated by a dissolved air floatation tank and three aerobic digesters, Solids and filtrate are separated with the filtrate returning to the headworks and the pressed solids hauled to a landfill for final disposal.

The facility serves a population of 5,500 and has a design flow rate of 2.43 mgd. The annual average daily flow reported in the permit application is 1.20 mgd, while the maximum daily flow rate was 1.40 mgd.

Based on the last 5 years of flow data, the average total I/I equaled about 86 million gallons per year. If averaged over the entire year, that equates to 0.236 MGD. The peak day I/I is actually closer to 0.88 MGD, but the WWTP flow on that same day was 1.82 MGD. If compared on a total annual volume, I/I represents about 19% of the total wastewater inflow

to the plant. To address this, the City conducts television inspection of public sewer systems and is replacing leaking sewer lines and manholes as they are identified.

Permit History

The facility's previous permit became effective on August 1, 2001 and expired on August 1, 2006. The permit was administratively extended on August 1, 2006. An application was submitted February 6, 2006.

B. Compliance History

A review of the DMRs from December, 2002 to July 2009 found no violations of the effluent limits.

The permit required effluent monitoring for total ammonia and mercury starting two years after the effective date of the permit and continuing for two years. Reporting was required on the monthly DMR, and with the next NPDES permit application. Only five ammonia monitoring events were submitted on the DMRs and only seven mercury monitoring events submitted on the DMRs. The complete mercury and ammonia results were submitted only with the application submitted on September 29, 2009.

Mercury monitoring failed to meet the minimum detectable level specified in Part I.2.6. that requires "For metals analysis the permittee must use a test method that can achieve an MDL less than or equal to the MDL specified in Table 2 (Part I.B.5)." Table 2 requires a mercury MDL of 0.005 µg/L. Both DMRs and laboratory certifications reported MDLs of 0.0002 mg/L (0.2 µg/L) and 0.01 µg/L. The reported MDLs do not meet the specifications required in the permit and are a violation.

III. RECEIVING WATER

The treated effluent from the City of Weiser's wastewater treatment facility is discharged continuously to the Snake River at river mile 351, which is within the Brownlee Reservoir, Upper Snake River Segment, Water Body Unit SW-4, Snake River - Weiser River to Scott Creek. The outfall is located at latitude 44° 14' 56" N and longitude 116° 58' 53" W.

A. Water Quality Standards

Section 301(b)(1)(c) of the CWA requires the development of limitations in permits necessary to meet water quality standards. Federal regulations in 40 CFR 122.4(d) prohibit the issuance of an NPDES permit which does not ensure compliance with the water quality standards of all affected States.

A State's water quality standards are composed of use classifications, numeric and narrative water quality criteria, and an anti-degradation policy. The use classification system designates the beneficial uses (such as cold water biota, contact recreation, etc.) that each water body is expected to achieve. The numeric and narrative water quality criteria are the criteria deemed necessary, by the State, to support the beneficial use classification of each water body.

Generally, extensive antidegradation reviews for high quality waters only occur for plant expansion(i.e., request for increased discharge) or a new discharge. The City of Weiser is

not expanding. In fact a new effluent limitation is imposed for temperature and flow and a new interim phosphorus limitation is established to further limit pollutant discharges. Further, the permit contains a final effluent limitation to reduce phosphorus discharges by 80 percent. Therefore, additional antidegradation review is not required for the City of Weiser.

Idaho Water Quality Standards (WQS) summarize the surface water use designations for the State of Idaho: that all waters of the State of Idaho are protected for the uses of industrial and agricultural water supply (IDAPA 58.01.02.100.03.b and c), wildlife habitats (IDAPA 58.01.02.100.04) and aesthetics (IDAPA 58.01.02.100.05). The Upper Snake Reservoir Subbasin is protected for cold water. Cold water is water quality appropriate for the protection and maintenance of a viable aquatic life community for cold water species. This segment of the Snake River is also designated for domestic water supply and primary contact recreation for water quality appropriate for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such activities include, but are not restricted to, those used for swimming, water skiing or skin diving.

Because the effluent limits in the permit are either based on current water quality criteria or are technology-based limits that are more stringent than water quality criteria, the draft permit will not result in or contribute to degradation of the receiving water.

B. Water Quality Limited Segment

Any waterbody for which the water quality does not meet, applicable water quality standards is defined as a “water quality limited segment”.

Section 303(d) of the Clean Water Act (CWA) requires states to develop a Total Maximum Daily Load (TMDL) management plan for water bodies determined to be water quality limited segments. The TMDL addresses listings of both Idaho and Oregon in the Snake River. The TMDL documents the amount of a pollutant a water body can assimilate without violating a state’s water quality standards and allocates that load to known point sources and nonpoint sources. The title of the TMDL is *The Snake River - Hells Canyon Total Maximum Daily Load (TMDL) (IDHW-DEQ) June, 2004* and established allocations for total phosphorus, sediments also called total suspended solids (TSS) and heat load in both British Thermal Units and in temperature and flow. Additional listing are dissolved oxygen and mercury.

Phosphorus

WLAs for phosphorus are contained in Table 4.0.8. *Total phosphorus waste load allocations (WLAs) for permitted point sources in the Snake River - Hells Canyon TMDL reach*. The wasteload allocation is 6.4 kilograms per day (kg/day) (14.1 pounds per day) down from the current discharge of 32 kg/day (72 lbs/day) or a reduction of 80 percent.

“Point sources (activated sludge or other treatment method) (Table 4.0.8) represent a greater proportion of the total point source phosphorus loading (98.8%) within the SR-HC TMDL reach. These facilities will reduce total phosphorus loading by 80 percent (applied daily on a monthly average basis and based on design flows). While BNR was utilized as a basis for assigning appropriate point source load reductions, it is not required as a method of reduction under this TMDL. Any approved mechanism or treatment alternative (or combination of

such) that results in the required daily 80 percent reduction (calculated on a monthly average basis) required will be acceptable under this TMDL (for example, land application during the target season would potentially be an acceptable method of achieving the total phosphorus reduction required if it were implemented in an approved and responsible fashion).”

Dissolved Oxygen

The portions of the Snake River upstream of RM 409 were shown to exhibit dissolved oxygen concentrations below the water quality to support salmonid spawning. The calculated reduction in organic loading is projected to result in an improvement in dissolved oxygen levels in both the Upstream Snake River and Brownlee Reservoir segments. An allocation is not assigned to the City of Weiser.

TSS

Allocations for TSS are in Table 4.0.15 a. *Total suspended solids (TSS) waste load allocations for point sources discharging directly to the Snake River - Hells Canyon TMDL reach (RM 409 to 188).*

“Point source discharges represent less than 0.04 percent of the total load capacity for the SR-HC TMDL reach. Many point sources employ treatment measures that dramatically reduce the sediment concentrations in their effluent as compared to the source water. Due to the fact that point source loading represents such a miniscule proportion of the total load, waste load allocations have been established at existing NPDES permit levels for all point sources discharging directly to the mainstem Snake River.”

The TMDL states the existing and allocated TSS discharges are 400 mg/L daily average.

Temperature

Allocations for heat load (temperature and flow) are in Table 4.0.16. *Permitted point source discharge temperature waste load allocations specific to cold water aquatic life/salmonid rearing for the Snake River - Hells Canyon TMDL reach (RM 409 to 188).*

“Waste load allocations specific to temperature limit point sources to existing loads based on design flow. Currently, cumulative, calculated anthropogenic increases in temperature do not occur above the defined “no-measurable-increase” value of 0.14 °C. Therefore, the focus of the TMDL is to ensure that additional, anthropogenic temperature influences do not occur over the defined no-measurable-increase value, to protect the cold water refugia currently in place within the SR-HC TMDL reach, and to improve water temperatures in a site-specific fashion in the Upstream Snake River segment (RM 409 to 335) where cold water refugia may be restored.”

The temperature allocation for the City of Weiser is 1440 British Thermal Units (BTU) per day or 72°F and 2.4 MGD. This allocation is specific to the salmonid rearing/coldwater aquatic life target, which applies year-round. Temperature and flow are used to implement the waste load allocation specific to temperature in the TMDL.

Mercury

Neither the Idaho Department of Environmental Quality (IDEQ) nor the Oregon Department of Environmental Quality (ODEQ) has written a TMDL for this portion of the river. Effluent monitoring will continue to aide in the development of the TMDL.

pH and Bacteria

The TMDL states “The data showed no exceedances of water quality targets for the SR-HC TMDL reach. Delisting of these two pollutants is recommended; therefore no load allocations have been identified.”

IV. EFFLUENT LIMITATIONS

A. Basis for Permit Effluent Limits

In general, the CWA requires that the limits for a particular pollutant be the more stringent of either technology-based effluent limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards of a waterbody are being met and they may be more stringent than technology-based effluent limits. The basis for the proposed effluent limits in the draft permit are provided in Appendix B of this document.

B. Proposed Effluent Limitations

The following summarizes the proposed effluent limitations that are in the draft permit:

1. There must be no discharge of any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.
2. Table 1 below presents the proposed effluent limits for 5-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), *Escherichia coli* (*E. coli*), pH, total residual chlorine, and the minimum percent removal requirements for BOD₅ and TSS. Also shown in Table 1 are the interim limitation and the final total phosphorus effluent limitation to implement the TMDL allocation.

Table 1 Effluent Limitations				
Parameters	Average Monthly Limit	Average Weekly Limit	Minimum Percent Removal¹	Instantaneous Maximum Limit
Flow	2.4 MGD	--	---	--
BOD ₅	30 mg/L	45 mg/L	85%	--
	600 lbs/day ²	900 lbs/day ²		--
TSS	30 mg/L	45 mg/L	85%	--
	600 lbs/day ²	900 lbs/day ²		--
<i>E. coli</i> Bacteria	126 colonies /100mL ³	--	--	406 colonies /100mL
Total Phosphorus ⁴	72 lbs/day	108 lbs/day	--	--

Table 1 Effluent Limitations				
Parameters	Average Monthly Limit	Average Weekly Limit	Minimum Percent Removal¹	Instantaneous Maximum Limit
Total Phosphorus ⁵	14 lbs/day	21 lbs/day		
Temperature	72°F	--	--	--
Total Residual Chlorine	0.5 mg/L	0.75 mg/L	--	--
	10 lbs/day	15 lbs/day	--	--
pH	6.5 – 9.0 standard units			

1. Percent removal is calculated using the following equation: $((\text{influent} - \text{effluent}) / \text{influent}) \times 100$, this limit applies to the average monthly values.
2. Loading limits are calculated by multiplying the concentration in mg/L by the design flow of 2.4 mgd and a conversion factor of 8.34 lbs/gallon.
3. The monthly average for *E. coli* is the geometric mean of all samples taken during the month.
4. Interim limit lasting for four years and eleven months
5. Final limit

V. MONITORING REQUIREMENTS

A. Basis for Effluent and Surface Water Monitoring Requirements

Section 308 of the CWA and federal regulation 40 CFR §122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring is also required to characterize the effluent to determine if additional effluent limitations are required and to monitor effluent impacts on receiving water quality.

B. Effluent Monitoring Requirements

1. Parameters

BOD₅, TSS, *E. coli*, Total Phosphorus, Temperature, Flow and Total Residual Chlorine

The permit requires monitoring BOD₅, TSS, *E. coli*, total phosphorus, pH and total residual chlorine to determine compliance with the effluent limits; it also requires monitoring of the influent for BOD₅ and TSS to calculate monthly removal rates. Temperature monitoring is increased from once per week to five times per week consistent with the pH monitoring.

Mercury

An August 23, 2007, memorandum from James A. Hanlon to the Water Division Directors clarifies and explains that, in light of existing regulatory requirements for NPDES permits, only the most sensitive methods, such as Methods 1631E and 245.7, are appropriate in most instances for use in deciding whether to set a permit limitation for mercury and for sampling and analysis of mercury pursuant to the monitoring requirements within a permit. See *Analytical Methods for Mercury in National Pollutant*

Discharge Elimination System (NPDES) Permits, which is available at http://www.epa.gov/npdes/pubs/mercurymemo_analyticalmethods.pdf.

The permit will require Methods 1631E or 245.7 for mercury monitoring.

Ammonia

Monitoring for ammonia is again required however it is expanded from two years to the life of the permit. Ammonia is a parameter commonly monitored for POTWs to determine performance and will determine impacts to the Snake River. It does not have a reasonable potential to violate the water quality standards of the Snake River and a limit is not required.

Expanded Part D Monitoring

The City of Weiser WWTP is a major municipal NPDES facility (i.e., ≥ 1 MGD design flow) and is subject to expanded effluent and whole effluent toxicity (WET) testing at its next application submittal. As indicated in Part D of NPDES application Form 2A, expanded effluent testing is required of all municipal WWTPs with design flow equal to or greater than 1 MGD. Expanded effluent testing includes a full priority pollutant scan (40 CFR §131.36) along with some additional parameters. Since the permit application requires reporting the results from a minimum of three expanded effluent testing events with the application submittal, the permit requires this monitoring in the second, third, and fourth years of the permit to avoid having three sampling events performed during a short time frame just prior to application submittal. Results from the expanded effluent testing must be submitted to EPA with the DMRs and WET test results.

2. Frequency

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 under the permit. These samples can be used for averaging if they are conducted using EPA approved test methods (generally found in 40 CFR §136) and if the Method Detection Limits (MDLs) are less than the effluent limits.

Table 2 presents the effluent monitoring requirements for the permittee in the draft permit. Each of the effluent monitoring requirements from the previous permit was evaluated to determine whether the requirements should be continued, updated or eliminated.

The sampling location must be after the last treatment unit and prior to discharge to the receiving water. If no discharge occurs during the reporting period, "no discharge" shall be reported on the DMR.

Table 2 Effluent Monitoring Requirements				
Parameter	Unit	Sample Location	Sample Frequency	Sample Type
Flow	mgd	Effluent	Continuous	Recording
BOD ₅	mg/L	Influent and Effluent ⁵	1/week	24-hour composite
	lbs/day	Effluent	1/week	Calculation
	% Removal	---	---	Calculation
TSS	mg/L	Influent and Effluent ⁵	1/week	24-hour composite
	lbs/day	Effluent	1/week	Calculation
	% Removal	---	---	Calculation
pH	standard units	Effluent	5/week	Grab
<i>E.coli</i>	colonies/100 ml	Effluent	5/month	Grab
Total Residual Chlorine	mg/L	Effluent	5/week	Grab
	lbs/day			
Total Ammonia-Nitrogen	mg/L	Effluent	1/month	24-hour composite
Total Phosphorus	mg/L	Effluent	1/week	24-hour composite
Temperature	°F	Effluent	5/week	Grab
Total Mercury ⁶	µg/L	Effluent	1/quarter	24-hour composite
NPDES Application Form 2A Effluent Testing Data	mg/L	Effluent	3x/5 years	See footnote 7
NPDES Application Form 2A Expanded Effluent Testing	---	Effluent	1 each in 2 nd , 3 rd , & 4 th years of the permit	See footnote 8
NPDES Application Form 2A Whole Effluent Toxicity (WET)	TU _a	Effluent	Quarterly during last year of permit	See footnote 9

5. Influent and effluent composite samples shall be collected during the same 24-hour period.

6. Method 1631E or 245.7

7. For Effluent Testing Data, in accordance with instructions in NPDES Application Form 2A, Part B.6.

8. For Expanded Effluent Testing, in accordance with instructions in NPDES Application Form 2A, Part D and in the second, third and fourth years of the permit.

9. For WET testing, in accordance with instructions in NPDES Application Form 2A, Part E.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) tests are laboratory tests that measure the total toxic effect of an effluent on living organisms. Whole effluent toxicity tests use small vertebrate and

invertebrate species and/or plants to measure the aggregate toxicity of an effluent. There are two different types of toxicity test: acute and chronic. An acute toxicity test is a test to determine the concentration of effluent or ambient waters that causes an adverse effect (usually death) on a group of test organisms during a short-term exposure (e.g., 24, 48, or 96 hours). A chronic toxicity test is a short-term test, usually 96 hours or longer in duration, in which sublethal effects (e.g., significantly reduced growth or reproduction) are usually measured in addition to lethality. Both acute and chronic toxicity are measured using statistical procedures such as hypothesis testing (i.e., no observable effect concentration, NOEC and lowest observable effect concentration, LOEC) or point estimate techniques (i.e., lethal concentration to 50 percent of organisms, LC₅₀; and inhibition concentration in a biological measurement to 25 percent of organisms, IC₂₅).

Federal regulations at 40 CFR §122.44(d)(1) require that NPDES permits contain limits on whole effluent toxicity when a discharge causes, has the reasonable potential to cause, or contributes to an excursion above a State's numeric or narrative water quality criteria for toxicity. In Idaho, the relevant water quality standards for toxicity states that surface waters of the State shall be free from toxic substances in concentrations that impair designated beneficial uses. Since Idaho does not have numeric water quality criteria for toxicity, EPA Region 10 uses the Toxic Units (TU) approach for acute (0.3 TUA) and chronic criteria (1 TUC). The use of TU as a mechanism for quantifying instream toxicity when a State lacks numeric criteria is described in Sections 2 and 3 of the 1991 Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001) (TSD).

The current permit does not contain effluent limitations because EPA has determined that the discharge does not have the reasonable potential to cause or contribute to an excursion above Idaho's narrative criteria for toxicity. As a result, EPA is not including an effluent limitation for WET in this permit reissuance. However, EPA is requiring WET monitoring for acute toxicity. The rationale for EPA's reasonable potential determination and WET monitoring requirements are provided below.

Rationale for Reasonable Potential Determination:

When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criteria for toxicity, the permitting authority can use a variety of factors and information. Some of these factors include, but are not limited to, the amount of available dilution, type of industry or POTW, existing data, type of receiving water and designated uses and history of compliance.

Dilution Consideration

Idaho's water quality standards allow the Idaho Department of Environmental Quality to authorize mixing zones. A mixing zone of twenty-five percent (25%) of the critical low flow receiving water was granted in the current permit and is assumed in this reissuance.

The acute and chronic dilution ratios in the Snake River are 1850:1 and 2000:1, respectively. The effluent concentrations at the edge of the acute and chronic mixing zone is 0.05 percent. Section 3.3 of the TSD states that only rarely have effluents discharged by NPDES permittees been observed to have LC₅₀ values at less than 1.0 percent effluent and NOEC values at less than 0.1 percent effluent. After considering the acute and chronic dilutions

available, an LC₅₀ of 1.0 percent and a NOEC of 0.1 percent would translate into 0.05 TUA and 0.5 TUC, respectively, both of which are below the criteria of 0.3 TUA and 1 TUC.

Existing Data

Acute and chronic toxicity tests conducted in 1995 indicated that there was no statistical difference in response between effluent dilutions and controls.

		<u>NOEC</u>	<u>LOEC</u>
Ceriodaphnia Dubia	Survival	>25%	25%
	Reproduction	>25%	25%
Pimephales promelas	Survival	>25%	25%
	Growth	>25%	25%

An NOEC greater than 25 percent equals 4 chronic toxics units. After taking into consideration the available dilution this results in 0.0022 TU at the edge of the acute mixing zone and 0.0020 at the edge of the chronic mixing zone.

Type of POTW

Jon-Lin Foods, an onion fry manufacturer, is the only significant industrial user under 40CFR§403.3(t) as it is authorized to discharge up to 150,000 gallons per day of process wastewater and domestic wastewater. Significant discharges are defined as discharging more than 25,000 gallons per day of process wastewater to a POTW. No categorical standards apply to Jon-Lin Foods. Toxics are not generally characterized for the food process industry in the categorical standards. TSS, BOD₅, oil and grease and ph are the pollutants that characterize this source category. The primary and secondary treatment at Weiser is designed to treat these pollutants.

Given the large amount of dilution available, the existing data indicating that the effluent does not contain individual toxics, the type of POTW in question, and the finding of no toxicity during the previous toxicity test EPA has determined that the Weiser WWTP does not have a reasonable potential to cause or contribute to an excursion above Idaho's water quality standard for toxics. Therefore, an effluent limitation for WET is not included in this permit reissuance.

Rationale for WET Monitoring:

As previously mentioned, EPA is requiring WET monitoring for acute toxicity in this permit reissuance. Section 3.3 of the TSD recommends that WET monitoring be repeated at a frequency of at least once every five years. Toxicity monitoring has not been required for more than 10 years. Additionally, applications for reissuance of NPDES permits for POTWs greater than or equal to 1.0 MGD require at a minimum quarterly testing for a 12-month period within the last year of the expiration date or one test each year in the last four and one-half years of the permit. To account for seasonal variability EPA is requiring quarterly monitoring during the last year of the permit.

Given the large amount of dilution available, the facility is considered a low priority for chronic toxicity testing as the effluent concentration would be below 0.1 percent at the edge

of the mixing zone, and thus incapable of causing an excursion above the chronic criteria of 1.0 TUc. A worst case NOEC of 0.05% effluent (i.e., the effluent concentration at the edge of the chronic mixing zone) translates to 2000 TUc, which would result in a concentration \leq 1.0 TUc at the edge of the mixing zone. Additionally, for the reasons stated above, Section 3.3 of the TSD recommends that a discharger conduct acute toxicity testing if the dilution of the effluent is greater than 1000:1 at the edge of the mixing zone. Therefore, EPA is requiring WET monitoring for acute toxicity only.

VI. SLUDGE (BIOSOLIDS) REQUIREMENTS

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

In the absence 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. Since the 40 CFR Part 503 regulations are self-implementing, the permittees must comply with them whether or not a permit has been issued.

The proposed permit requires the permittee to submit a biosolids permit application (NPDES Form 2S) before sewage sludge is removed from the lagoon. The application is required by 40 CFR 122.21(a)(i), 122.21(a)(ii)(H), and 122.21(c)(2). The regulations require 180 days so EPA has time to evaluate the information, ask for additional information and prepare the permit.

VII. OTHER PERMIT CONDITIONS

A. Quality Assurance Plan Implementation

The federal regulation at 40 CFR §122.41(e) requires the permittee to develop procedures to ensure that the monitoring data submitted to EPA are accurate and to explain data anomalies if they occur. The permittee is required to develop or update and implement a Quality Assurance Plan within 90 days of the effective date of the final permit. The Quality Assurance Plan shall consist of standard operating procedures that the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis and data reporting. The plan shall be retained on site and be made available to EPA and IDEQ upon request.

B. Operation and Maintenance Plan Implementation

The permit requires the Permittee to properly operate and maintain all facilities and systems of treatment and control. Proper operation and maintenance is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times. The Permittee is required to develop and implement an operation and maintenance plan for its facility within 180 days of the effective date of the final permit. The plan shall be retained on site and made available to EPA and IDEQ upon request.

C. Sanitary Sewer Overflows and Proper Operation and Maintenance

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, fishing and shellfishing, or contact recreation. Untreated sewage contains pathogens and other pollutants, which are toxic. SSOs are not authorized under this 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 state water quality standards.

The permit contains language to address SSO reporting and public notice and operation and maintenance of the collection system. The permit requires that the permittee identify SSO occurrences and their causes. In addition, the permit establishes reporting, record keeping and third party notification of SSOs. Finally, the permit requires proper operation and maintenance of the collection system. The following specific permit conditions apply:

Immediate Reporting – The permittee is required to notify the EPA of an SSO within 24 hours of the time the permittee becomes aware of the overflow. (See 40 CFR 122.41(l)(6))

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

Third Party Notice – The permit requires that the permittee establish a process to notify specified third parties of SSOs that may endanger health due to likelihood of human exposure or of unanticipated bypasses and upsets that exceed 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, 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, 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. (See 40 CFR 122.41(l)(6)).

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 that could include work orders associated with investigation of system problems related to a SSO, that describes the steps taken or planned to reduce, eliminate and prevent reoccurrence of the SSO. (See 40 CFR 122.41(j)).

Proper Operation and Maintenance – The permit requires proper operation and maintenance of the collection system. (See 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 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 a collection system's management, operation and maintenance program activities.

Owners/operators can review their own systems against the checklist (Chapter 3) to reduce the occurrence of sewer overflows and improve or maintain compliance.

D. Additional Permit Provisions

Sections III, IV, and V of the draft permit contain standard regulatory language that must be included in all NPDES permits. Because they are based on federal regulations, they cannot be challenged in the context of an individual NPDES permit action. 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 (FWS) if their actions could adversely affect any threatened or endangered species. EPA has determined that there are no listed species in the vicinity of the discharge; therefore, the issuance of this proposed permit will have no effect on listed species.

In an e-mail dated January 21, 2009, NOAA Fisheries stated that there are no threatened or endangered species under NOAA's jurisdiction in the Snake River drainage upstream of the Hells Canyon Dam, which is located at river mile 247.5. The City of Weiser is located at river mile 351 more than 100 miles upstream from the nearest ESA-listed threatened or endangered species under NOAA's jurisdiction. Therefore, the reissuance of this permit will have no effect on any listed threatened or endangered species under NOAA's jurisdiction.

The U.S. Fish and Wildlife Service identified the Bull Trout as endangered in the mainstem of the Snake River.

Based on the following considerations, EPA again concludes as it did for the existing permit that this permit has no effect on endangered or threatened species under the jurisdiction of the U.S. Fish and Wildlife Service.

1. This permit requires compliance with the State of Idaho Surface Water Quality Standards that protect aquatic organisms including threaten and endangered species
2. Discharges do not contain toxicity based on WET tests.
3. High dilution ratios of 1700 to 1 acute and 1790 to 1 chronic into the Snake River receiving water.
4. Utilization of an outfall diffuser
5. Secondary treatment

6. Chlorination to disinfect and the requirement to meet effluent limitations for total residual chlorine.

B. Essential Fish Habitat

Essential fish habitat (EFH) includes 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 EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect (reduce quality and/or quantity of) EFH. The EFH regulations define an adverse effect as any impact which reduces quality or quantity of EFH and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

The area of the discharge is designated critical habitat in addition to bull trout species present. Due to the same reasons listed in VIII.A. EPA again concludes that issuance of this permit has no affect on EFH.

C. State Certification

Section 401 of the CWA requires EPA to seek State certification before issuing a final permit. As a part of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with State water quality standards.

D. Permit Expiration

The permit will expire five years from the effective date of the permit.

IX. DEFINITIONS AND ACRONYMS

1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
AML	Average Monthly Limit
BOD ₅	Biochemical oxygen demand, five-day
°C	Degrees Celsius
cfs	Cubic feet per second
CFR	Code of Federal Regulations
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
lbs/day	Pounds per day
LTA	Long Term Average
mg/L	Milligrams per liter
ml	milliliters

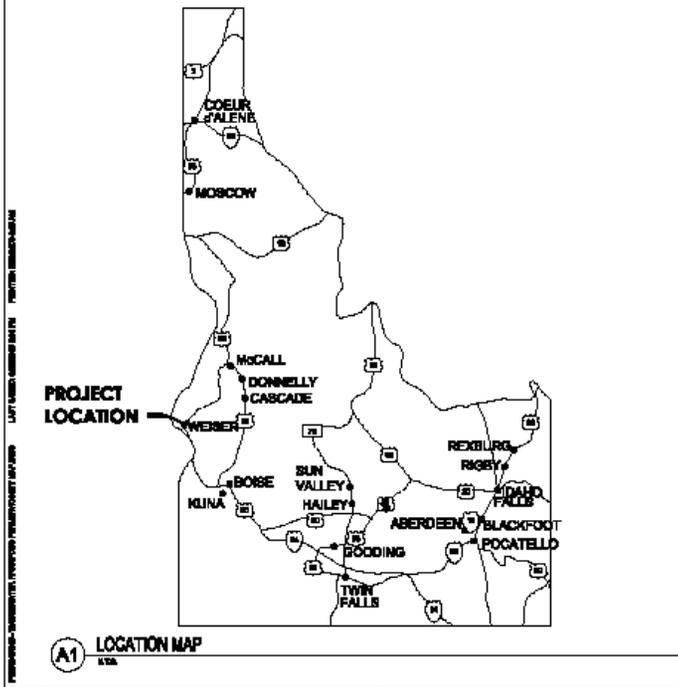
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit (depending on the context)
NOAA	National Oceanographic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OWW	Office of Water and Watersheds
O&M	Operations and maintenance
POTW	Publicly owned treatment works
QAP	Quality assurance plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
s.u.	Standard Units
TMDL	Total Maximum Daily Load
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document (EPA, 1991)
TSS	Total suspended solids
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UV	Ultraviolet radiation
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WWTP	Wastewater treatment plant

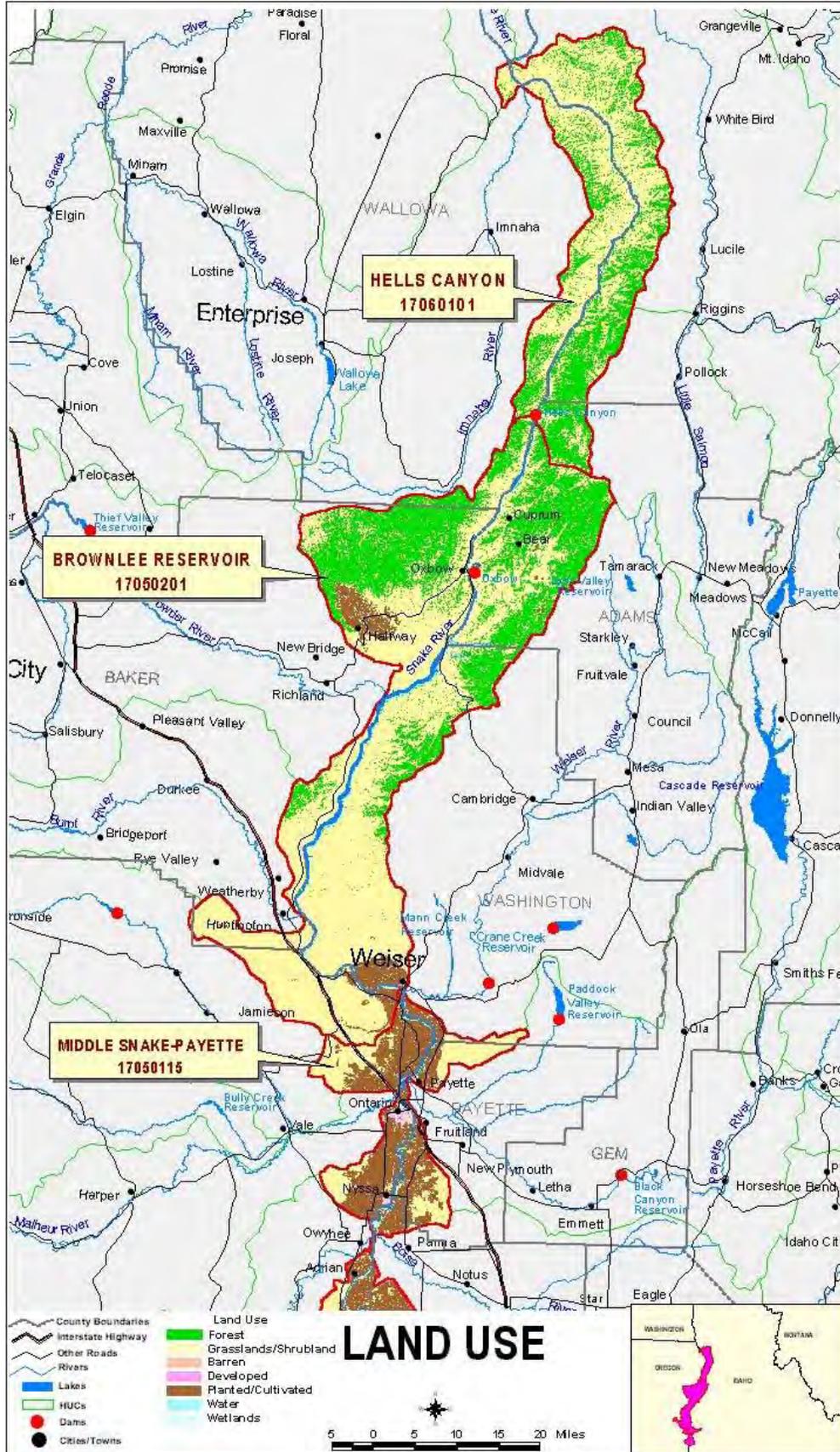
X. REFERENCES

1. City of Weiser, ID, NPDES permit, effective August 1, 2001 to August 1, 2006.
2. Idaho Administrative Procedures Act (IDAPA), 2006. Section 58, Water Quality Standards and Wastewater Treatment Requirements. Idaho Department of Environmental Quality Rules, Title 01, Chapter 02.
3. U.S. EPA, 1973. *Water Quality Criteria 1972* (EPA R3-73-033).
4. EPA. 1991. Technical Support Document for Water Quality-based Toxics Control. US Environmental Protection Agency, Office of Water, EPA/505/2-90-001.
5. EPA, 1996. U.S. EPA NPDES Permit Writer's Manual, US Environmental Protection Agency, Office of Water, EPA-833-B-96-003.

Appendix A – Location Map and Discharge Point to Snake River

CITY OF WEISER, IDAHO WASTEWATER TREATMENT PLANT





Appendix B – Basis for Effluent Limitations

The following discussion explains in more detail the statutory and regulatory basis for the technology and water quality-based effluent limits in the draft permit. Part A discusses technology-based effluent limits, Part B discusses water quality-based effluent limits in general and Part C discusses facility specific water quality-based effluent limits.

A. Technology-Based Effluent Limits

The CWA requires POTWs to meet 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. EPA has developed and promulgated “secondary treatment” effluent limitations, which are found in 40 CFR 133.102. These technology-based effluent limits apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by application of secondary treatment in terms of BOD₅, TSS and pH. The federally promulgated secondary treatment effluent limits are listed in Table B-1.

Table B-1: Secondary Treatment Effluent Limits (40 CFR 133.102)			
Parameter	Average Monthly Limit	Average Weekly Limit	Range
BOD ₅	30 mg/L	45 mg/L	---
TSS	30 mg/L	45 mg/L	---
Removal Rates for BOD ₅ and TSS	85% (minimum)	---	---
pH	---	---	6.0 - 9.0 s.u.

Mass-based Limits

The federal regulations at 40 CFR §122.45(b) and (f) require that POTW limitations to be expressed as mass-based limits using the design flow of the facility. The mass-based limits, expressed in lbs/day, are calculated as follows based on the design flow:

$$\text{Mass-based limit (lbs/day)} = \text{concentration limit (mg/L)} \times \text{design flow (mgd)} \times 8.34$$

The mass limits for BOD₅ and TSS are calculated as follows:

$$\text{Average Monthly Limit} = 30 \text{ mg/L} \times 2.4 \text{ mgd} \times 8.34 = 600 \text{ lbs/day}$$

$$\text{Average Weekly Limit} = 45 \text{ mg/L} \times 2.4 \text{ mgd} \times 8.34 = 900 \text{ lbs/day}$$

The derivation of the conversion factor is:

$$\frac{\text{mg}}{\text{L}} \times \frac{\text{gal} \times 1,000,000}{\text{day}} \times \frac{3.79 \text{ L}}{\text{gal}} \times \frac{\text{lb}}{454 \text{ grams}} \times \frac{\text{gram}}{1000 \text{ mg}} = 8.34 \text{ lbs/day}$$

Chlorine

Chlorine is often used to disinfect municipal wastewater prior to discharge. The Water Pollution Control Federation's *Chlorination of Wastewater* (1976) states that a properly designed and maintained wastewater treatment facility 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 average weekly limit is expressed as 1.5 times the average monthly limit or in this case 0.75 mg/L. The technology based limits for total residual chlorine are 0.5 mg/L average monthly and 0.75 mg/l average weekly. This level of control has been achieved over the last five years.

Finally, since the federal regulation at 40 CFR § 122.45 (f) requires limitations to be expressed as mass based limits using the design flow of the facility, mass based limits are calculated as follows:

concentration X design flow X 8.34.

monthly average = 0.5 mg/L X 2.4 mgd X 8.34 = 10 lbs/day

weekly average = 0.75 mg/L X 2.4 mgd X 8.34 = 15 lbs/day

B. Water Quality-Based Effluent Limits

Statutory Basis for Water Quality-Based Limits

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards by July 1, 1977.

The NPDES regulation 40 CFR §122.44(d)(1), implementing Section 301 (b)(1)(C) of the CWA, 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/tribal water quality standard, including state/tribal 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.

Reasonable Potential Analysis

When evaluating the effluent to determine if water quality-based effluent limits based on chemical specific numeric criteria are needed, a projection of the receiving water concentration downstream of where the effluent enters the receiving water for each pollutant of concern is made. The chemical-specific concentration of the effluent and receiving water and, if appropriate, the dilution available from the receiving water are factors used to project the receiving water concentration. If the projected concentration of the receiving water exceeds the numeric criterion for a limited parameter, then there is a reasonable potential that the discharge may cause or contribute to an excursion above the applicable water quality standard, and a water quality-based effluent limit is required.

Sometimes it is appropriate to allow a small volume of receiving water to provide dilution of the effluent; these volumes are called mixing zones. Mixing zone allowances will increase the allowable mass loadings of the pollutant to the water body and decrease treatment requirements. Mixing zones can be used only when there is adequate receiving water flow volume and the concentration of the pollutant of concern in the receiving water is below the numeric criterion necessary to protect the designated uses of the water body. Mixing zones must be authorized by the State. The State of Idaho authorized a mixing zone of 25 percent of the receiving water resulting in an acute dilution ratio of 1,700 to 1 and a chronic dilution ratio of 1,790 to 1. There are three significant figures therefore the dilution ratios are rounded.

$$Q_e = \text{maximum effluent flow} = 2.43 \text{ mgd} = 3.76 \text{ CFS}$$

$$1Q_{10} = \text{upstream low flow} = 6380 \text{ CFS}$$

$$\text{Acute dilution ratio} = \frac{6380}{3.76} = 1696$$

$$7Q_{10} = \text{upstream low flow} = 6720 \text{ CFS}$$

$$\text{Chronic dilution ratio} = \frac{6720}{3.76} = 1787$$

For ammonia

$$30B3 = 7320$$

$$\text{Chronic} = \frac{7320}{3.76} = 1947$$

Procedure for Deriving Water Quality-based Effluent Limits

The first step in developing a water quality-based effluent limit is to develop a wasteload allocation (WLA) for the pollutant. A wasteload allocation is the concentration or loading of a pollutant that the permittee may discharge without causing or contributing to an exceedance of water quality standards in the receiving water.

In cases where a mixing zone is not authorized, either because the receiving water already exceeds the criterion, the receiving water flow is too low to provide dilution, or the State does not authorize one, the criterion becomes the WLA. Establishing the criterion as the wasteload allocation ensures that the permittee will not cause or contribute to an exceedance of the

criterion. The following discussion details the specific water quality-based effluent limits in the draft permit.

C. Facility-Specific Water Quality-based Limits

Once the WLA has been developed, EPA applies the statistical permit limit derivation approach described in Chapter 5 of the TSD to obtain daily maximum and monthly average permit limits. This approach takes into account effluent variability (using the CV), sampling frequency and the difference in time frames between the monthly average and daily maximum limits.

The daily maximum limit is based on the CV of the data and the probability basis, while the monthly average limit is dependent on these two variables and the monitoring frequency. As recommended in the TSD, EPA used a probability basis of 95 percent for monthly average limit calculation and 99 percent for the daily maximum limit calculation.

Floating, Suspended or Submerged Matter/Oil and Grease

The Idaho Water Quality Standards (IDAPA 58.01.02.200.05) require surface waters of the State to be free from floating, suspended or submerged matter of any kind in concentrations causing nuisance or objectionable conditions that may impair designated beneficial uses. A narrative condition is proposed for the draft permit that states there must be no discharge of floating solids or visible foam or oil and grease other than trace amounts.

Total Suspended Solids (TSS)

The Idaho water quality standards state that TSS shall not exceed quantities which impair designated beneficial uses. *The Snake River - Hells Canyon Total Maximum Daily Load (TMDL) (IDHW-DEQ) June, 2004* interpreted this water quality standard and established a TSS allocation of 400 mg/L daily maximum.

In translating the wasteload allocation into permit limits, EPA followed procedures in the TSD. Since TSS is not a toxic pollutant, EPA believes that applying the WLA as a monthly and weekly average is appropriate.

The NPDES regulations at 40 CFR §122.45(d) require that permit limits for publicly owned treatment works (POTWs) be expressed as average monthly limits (AMLs) and average weekly limits (AWLs), unless impracticable. The WLA must be statistically converted to average weekly and average monthly permit limits.

The AWL is calculated by multiplying the AML by the following relationship (from Table 5-3 of the TSD):

$$\text{AML} = \frac{\exp [Z_n \sigma_n - .5\sigma_n^2]}{\exp [Z_m \sigma - .5\sigma^2]} \times \text{MDL}$$

Where:

CV = coefficient of variation = 1.32

n = 4 (the number of samples per month)

$$\sigma_4^2 = \ln(CV^2/n + 1) = \ln(1.36^2/4 + 1) = 0.36$$

$$\sigma_4 = 0.6$$

$$\sigma^2 = \ln(CV^2 + 1) = \ln(1.36^2 + 1) = 1.04$$

$$\sigma = 1.02$$

$$Z_m = \text{percentile exceedance probability for AWL (99\%)} = 2.326$$

$$Z_a = \text{percentile exceedance probability for AML (95\%)} = 1.645$$

$$\text{AML} = \frac{\exp [(1.645 \times 0.6) - (0.5 \times 0.36)]}{\exp [(2.326 \times 1.02) - (0.5 \times 1.04)]} \times 400$$

$$\text{AML} = 0.089 \times 400 = 35 \text{ mg/L}$$

$$\text{AWL} = 35 \text{ mg/L} \times 1.5 = 53 \text{ mg/L}$$

These water quality based loading limits are compared with the technology based effluent limits in Table B- 2, below.

Table B-2 Comparison of Technology-based and Water quality-based Limits for TSS		
Parameter	Average Monthly Limit	Average Weekly Limit
Technology-based	30 mg/L	45 mg/L
Water quality-based	35 mg/L	53 Mg/L
Most stringent	30 mg/L	45 mg/L

The technology based concentration limits are selected and applied in the draft permit. A review of the monitoring reports over the last five years found the highest average weekly discharge was 120 mg/L with an average of 4.6 mg/L. The highest average monthly discharge was 25 mg/L with an average of 2.5 mg/L.

The IDEQ precertification stated “The TSS WLA for the City of Weiser (400 mg/L daily maximum) in Table 4.0.15.a of the *Snake River - Hells Canyon Total Maximum Daily Load* (2004) is an error.” They state the appropriate allocation is 30 mg/L.

pH

The Idaho Water Quality Standards (IDAPA 58.01.02.250.01.a) require surface waters of the State to have a pH value within the range of 6.5 - 9.5 standard units. It is anticipated that mixing zones will not be authorized for the water quality-based criterion for pH. Therefore, this criterion must be met when the effluent is discharged to the receiving water. The technology-based effluent limits for pH are 6.0 - 9.0 standard units. To ensure that both water quality-based

requirements and technology-based requirements are met, the draft permit incorporates the more stringent lower limit of the water quality standards (6.5 standard units) and the more stringent upper limit of the technology-based limits (9.0 standard units). The City achieved these levels of control over the last five years.

Chlorine

Chlorine has a chronic aquatic life criterion of 11 µg/L and an acute aquatic life criterion 19 µg/L in the Snake River. Weiser does not have a reasonable potential to violate the water quality standards for chlorine in the Snake River.

EPA will continue with the technology based limits of 0.5 mg/l average monthly and 0.75 mg/l weekly average derived for the last permit. This level of control was achieved. The highest monthly average measured over the last five years was 0.4 mg/L. The highest weekly average was 0.5 mg/L. EPA will also continue with the technology based monthly mass limit of 10 lbs/day and the weekly limit of 15 lbs/day. The highest monthly discharge was 8.7 lbs/day and the highest weekly discharge was 9 lbs/day.

Ammonia, Total (as Nitrogen)

The Idaho water quality standards contain criteria for the protection of aquatic life from the toxic effects of ammonia (IDAPA 58.01.02.250.01.d.). The water quality standards apply to the criteria for early life stages to water bodies (IDAPA 58.01.02.250.01.d.(3)). The criteria are dependent on pH and temperature, because the fraction of ammonia present as the toxic, un-ionized form increases with increasing pH and temperature. Therefore, the criteria become more stringent as pH and temperature increase. Fresh water ammonia criteria are calculated according to the equations in Table B-3.

Table B-3 Water Quality Criteria for Ammonia	
Acute Criterion	Chronic Criterion
$\frac{0.275}{1+10^{7.204-pH}} + \frac{39}{1+10^{pH-7.204}}$	$\left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right) \times \text{MIN}(2.85, 1.45 \times 10^{0.028 \times (25-T)})$

Ambient ammonia, temperature and pH data are from the surface water monitoring required during the last permit cycle. The 95th percentile of pH and temperature data are used to derive the acute and chronic criteria.

95 th Percentile Ambient pH	8.7
95 th Percentile Ambient Temperature °C	24.28
Highest Background Ammonia mg/L	0.25
Highest Discharge Ammonia mg/L	1.25
Coefficient of Variation	0.99

The coefficient of variation (CV) of the data and the highest observed effluent value is based on effluent data collected from January, 2004 through December, 2005. Receiving water data was collected from August, 2001 through December, 2003.

The ammonia acute standard is 1.48 mg/L and the chronic standard is 0.41 mg/L.

The reasonable potential analysis demonstrates no reasonable potential for the facility's discharge to cause or contribute to an exceedance of the acute or chronic criterion, therefore, effluent limits are not required. The reasonable potential analysis derived for the existing permit also found Weiser had no reasonable potential to violate the ammonia water quality standards for the Snake River. However, monitoring was incorporated into the draft permit to determine if receiving water or effluent conditions are changing over time, and to determine if the changes are significant enough to warrant water quality based effluent limits in the next round of permitting. Ammonia is a parameter commonly monitored for POTWs to determine performance. Monitoring will again be required to track any changes in the effluent. Monitoring will also measure impacts to the Snake River.

Escherichia coli (E. coli) Bacteria

The Snake River at the point of discharge is designated for primary contact recreation. Waters of the State of Idaho that are designated for recreation are not to contain *E. coli* bacteria in concentrations exceeding 126 organisms per 100 ml as a geometric mean based on a minimum of five samples taken every three to seven days over a thirty day period (IDAPA 58.01.02.251.01.a). The draft compliance monitoring schedule contains a monthly geometric mean effluent limit for *E. coli* of 126 organisms per 100 ml and a minimum sampling frequency of 3 grab samples a week providing 12 samples in 30 days consistent with this averaging period.

The Idaho water quality rules also state that for primary contact recreation a single water sample that exceeds 406 organisms/100 ml indicates a likely exceedance of the geometric mean criterion, although it is not, in and of itself, a violation of water quality standards. (IDAPA § 58.01.02.251.01.b.ii).

The goal of a water quality-based effluent limit is to ensure a low probability that water quality standards will be exceeded in the receiving water as a result of a discharge, while considering the variability of the pollutant in the effluent (EPA, 1991). Because a single sample value exceeding 406 organisms/100 ml may indicate an exceedance of the geometric mean criterion, EPA has included an instantaneous (single grab sample) maximum effluent limit for *E. coli* of 406 organisms/ 100 ml, in addition to a monthly geometric mean limit of 126 organisms/100 ml, which directly implements the water quality criterion for *E. coli*. This will ensure that the discharge will have a low probability of exceeding the geometric mean criterion for *E. coli* and provide warning of and opportunity to avoid possible non-compliance with the geometric mean criterion.

Total phosphorus

The TMDL allocation is 14.1 lbs/day phosphorus applied daily on a monthly average basis. The effluent limitation must be achieved within a five years of the effective date as specified in Condition B.1., Table 2 of the permit. The current discharge is 72 lbs/day that Weiser achieved

with the current treatment system. The highest monthly average measured over the last five years is 60 lbs/day. An interim limit at the current discharge of 72 lbs/day is established.

An average weekly limit (AWL) is derived using the following procedure from the TSD.

$$AWL = 1.5 \times AML$$

Interim Limit: $AWL = 1.5 \times 72 \text{ lbs/day} = 108 \text{ lbs/day}$

Final Limit: $AWL = 1.5 \times 14.1 \text{ lbs/day} = 21 \text{ lbs/day}$

Over the last six years the City of Weiser has taken the following measures to reduce phosphorus discharges to the River:

1. Attempted to operate the aeration basins in "series" mode rather than the normal parallel mode. The purpose was to use one aeration basins in facultative/ aerobic mode for "biologic luxury- uptake".
2. Researched various chemicals on the market for phosphorous removal at Weiser WWTP.
3. Coordinated with Fry Foods Onion processing industry regarding phosphorous monitoring in their wastewater discharge into the City's public sewer collection system. The City also committed significant resources and money to update their industrial sewer user agreement with Fry Foods to create a structure for assessing industrial discharges for phosphorus loads and treatment.
4. The City has committed nearly \$100,000 to complete a wastewater treatment plant facility planning study which is underway to evaluate the options for meeting the phosphorus TMDL in the Snake River-Hells Canyon.

REASONABLE POTENTIAL FOR AQUATIC LIFE

Ambient	Conc.	State Water Quality Standard		Max concentration at edge of...		LIMIT REQ'D?	Effluent percentile value	Pn	Max effluent conc. measure	Coeff Variation	# of samples	Multiplier	Acute Dil'n Factor	Chronic Dil'n Factor
		Acute	Chronic	Acute Mixing Zone	Chronic Mixing Zone									
Parameter	Mg/L	mg/L	mg/L	mg/L	mg/L				mg/L	CV	n			
Total Ammonia Nitrogen	0.25	1.48	0.41	0.25	0.25	NO	0.99	0.825	1.25	0.99	24	1.80	1700	1950
Chlorine		0.019	0.011	0.00030	0.00028	NO	0.99	0.944	0.50	0.13	80	1.01	1700	1790



Idaho Department of Environmental Quality
DRAFT §401 Water Quality Certification

January 8, 2010

NPDES Permit Number: City of Weiser Wastewater Treatment Plant, ID-002029-0

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended, 33 USC 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, including 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.

MIXING ZONES

Pursuant to IDAPA 58.01.02.060, DEQ authorizes a mixing zone that utilizes up to 25% of the critical flow volumes of the Snake River for chlorine, ammonia, and whole effluent toxicity.

COMPLIANCE SCHEDULE

Pursuant to IDAPA 58.01.02.400.03, DEQ may authorize compliance schedules for pollutants which have water quality based effluent limits in a permit for the first time. The City of Weiser cannot immediately achieve compliance with the effluent limits for phosphorus; therefore, the City shall comply with the interim limits and requirements set forth in the permit. The final limits shall become effective four years and eleven months after the effective date of the permit. The compliance schedule provides the permittee a reasonable amount of time to achieve the final effluent limitations as specified in the permit, while at the same time, it ensures compliance with the final effluent limitations is accomplished as soon as possible.

ANTIDegradation

Idaho WQS provide that existing uses and the water quality necessary to protect the existing uses shall be maintained and protected (IDAPA 58.01.02.051.01). In addition, where water quality exceeds levels necessary to support uses, that quality shall be maintained and protected unless the Department finds, after intergovernmental coordination and public participation, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located (IDAPA 58.01.02.051.02).

The City of Weiser discharges its treated wastewater to the Snake River (assessment unit ID17050201SW004_08), which is listed in Idaho for sediment, phosphorus, dissolved oxygen, and temperature. The *Snake River - Hells Canyon TMDL* (2004) addresses each of these pollutants and has been approved by EPA.

The effluent limitations in the draft permit for the City of Weiser are set at levels that ensure the State's numeric and narrative criteria will be met. The numeric and narrative criteria are set at levels which protect and maintain designated and existing beneficial uses. Therefore, the limits in the draft permit protect and maintain the applicable designated and existing beneficial uses in the Snake River.

Additionally, the effluent limitations in the draft permit for the City of Weiser are the same or more stringent than the limits in the existing permit. The limits for phosphorus and temperature are new and are consistent with the *Snake River - Hells Canyon TMDL*. Limitations for pH are new and comply with Idaho WQS at the end-of-pipe. The TSS limitations are the same as the previous permit and are consistent with the *Snake River - Hells Canyon TMDL*. The limits in the draft permit, therefore, ensure that the existing level of water quality in the Snake River is maintained.

In summary, because the draft permit includes limits that comply with the state's numeric and narrative criteria and limits that are the same as or more stringent than those in the existing permit, the permit (a) protects and maintains existing uses and the level of water quality necessary to protect existing uses in accordance with IDAPA 58.01.02.051.01 and (b) maintains and protects the existing water quality in accordance with IDAPA 58.01.02.051.02.

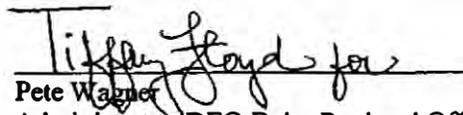
OTHER CONDITIONS

The certification is conditioned upon the requirement that any material modification of this permit or the permitted activities including without limitation, any modifications of the permit to reflect new or modified TMDL waste load allocations or other new information, shall first be provided to DEQ for review to determine compliance with 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 regarding the actions taken in this certification should be directed to Craig Shepard, DEQ (Boise Regional Office) at (208) 373-0550.


Pete Wagner
Administrator, DEQ Boise Regional Office