# FACT SHEET

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

## The City of Jerome
## Wastewater Treatment Plant

NPDES Permit Number: ID002016-8

Public Notice Start Date: August 31, 2009
Public Notice Expiration Date: September 30, 2009

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drabek.john@epa.gov

**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:

Idaho Department of Environmental Quality (208) 736-2190
Twin Falls Regional Office
1363 Fillmore Street
Twin Falls, ID 83301

## 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.

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

EPA Idaho Operations Office
1435 North Orchard Street
Boise, Idaho 83706
(208) 378-5746

Idaho Department of Environmental Quality
Twin Falls Regional Office
1363 Fillmore Street
Twin Falls, ID 83301
(208) 736-2190

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.

# TABLE OF CONTENTS

## I. APPLICANT

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

| | |
|---|---|
| Facility Name: | City of Jerome Wastewater Treatment Plant |
| Mailing Address: | 152 East Ave A, Jerome, Idaho 83338 |
| Facility Address: | 50 North 100 West, Jerome, Idaho 83338 |
| Contact: | John Boyd (208) 324-7122 |

## II. FACILITY INFORMATION

### A. Facility Description

The City of Jerome is located in South Central Idaho, in Jerome County. The City owns and operates a facility that treats wastewater from domestic, industrial, and commercial sources. The facility's collection system consists only of separate sanitary sewers.

A flow diagram of the process is shown in Appendix A. Flow from the H Street Lift Station and the remaining domestic wastewater flows are combined and then enter the headworks. At this location, a flow proportional composite sample is taken of the influent flow as required for NPDES. Flow is normally routed through two 3 millimeter perforated plate screen Rotamats. Rags and other debris larger than 3 mm are removed. The flow then enters two grit chambers which slow the flow down to allow the grit to settle out. It is then air lifted to a grit classifier where it is washed and dewatered. Grit and screenings augured to an automatic bagger and disposed at the Milner Butte landfill.

Wastewater flows through a Parshall flume equipped with an ultrasonic level sensor. A Milltronics flow meter continuously measures the flow rate and provides a totalized flow reading.

Wastewater then enters a bio-tower wet well and a percentage of wastewater is pumped over the bio-tower which removes 65-70% of the soluble BOD. A bio-tower is a packed tower of plastic media used for secondary treatment. Secondary treatment removes the organic matter in wastewater by using biological treatment processes. In this attached growth or fixed film process, the microbial growth occurs on the surface of the plastic media in the packed tower. The biomass forms as a jelly-like mass or slime layer over the surface of the media. The mass consists of microorganisms, primarily bacteria, which feed on the organic waste products contained in the process flow. As the liquid passes over the surface of the biomass, the bacteria feed on and digest these wastes, transforming and breaking them down into more treatable, less oxygen demanding and less polluting forms of matter. However, portions of the biomass also slough off the media and must settle out in secondary treatment tanks.

Some bio-tower effluent is returned to the bio-tower wet well for recycle flow back to the bio-tower to maintain a constant wetting rate with the remainder of the flow mixed with

influent and sent to the aeration basins. Recycled flow from the Membrane Basins is mixed with the flow from the Bio-Tower in the aeration basins where dissolved oxygen is added.

In the aeration tank, wastewater is vigorously mixed with air and microorganisms acclimated to the wastewater in a suspension for several hours. This allows the bacteria and other microorganisms to break down the organic matter in the wastewater. The microorganisms grow in number and the excess biomass is removed by settling before the effluent is sent to the membrane bioreactors. Now activated with millions of additional aerobic bacteria, some of the biomass is used again by returning it for mixing with incoming wastewater. The aeration basin mixed liquor is then pumped from the recycle pump building to the membrane bioreactors (MBR).

The facility was upgraded with the addition of the membrane bioreactor that went on line January, 2008. MBR is the combination of a membrane process for microfiltration with a suspended growth bioreactor. According to the City of Jerome this MBR system did not become fully operational until September, 2008.

The January 2008 upgrade included the Biological Nutrient Removal process or BNR. It consists of alum flocculation and coagulation. According to the City of Jerome startup and shake down problems included not correctly dosing the alum led to phosphorus violations. By dosing alum at 250 gallons a day they stated the phosphorus coagulated and was removed. According to Jerome pump malfunctions led to September, 2008 violations of the total phosphorus limitation.

The City of Jerome upgraded to an ultraviolet disinfection system also in January, 2008. They requested continuation of the authorization to discharge from the chlorine disinfection system. Chlorine disinfection will occur only in the event that the whole UV system is inoperable for an extended period of time.

Digested solids are pumped over a two meter belt press. Solids and filtrate are separated with the filtrate returning to the headworks and the pressed solids are placed in a truck and hauled to a landfill for final disposal.

A SCADA system is utilized to monitor all process units and provide an alarm call-out system when the facility is unmanned.

The facility provides secondary treatment for an estimated service total population of 9,300.

The facility receives industrial wastewater from three significant industrial users that are also categorical industrial users under 40 CFR §405.

- Jerome Cheese Company division of Davisco, manufactures cheese from whole unpasteurized milk, discharges 0.76 mgd intermittently
- Idaho Milk Products manufactures protein powder, dry milk from whole milk, discharges 0.4 mgd intermittently
- Darigold Inc. manufactures powdered nonfat milk, condensed whole milk, cream separated ice cream from whole milk, discharges 0.438 mgd intermittently

The WWTP has a design flow rate of 3.0 million gallons per day (mgd). The annual average daily flow reported in the permit application is 2.25 mgd, while the maximum daily flow rate was 3.30 mgd.

The facility estimates that it has approximately 90,000 gallons per day (gpd) infiltration and inflow into its sewer system. To address this, the City is replacing leaking sewer lines as they are identified.

### B. Permit History

The facility's previous permit became effective on August 31, 1999 and expired on August 31, 2004. The permit was administratively extended on November 24, 2004. This permit incorporated applicable effluent limitations and conditions of the Middle Snake River Watershed Management Plan (IDEQ 1997). The most recent permit application was submitted on March 2, 2009.

### C. Compliance History

A review of the DMRs from March 2004 to December 2008 found the following violations of the current effluent limits.

- 15 violations of the phosphorus mass limit (May, 2007; March, 2006; June, 2006; July, 2006; September, 2006; October, 2006; November, 2006; December, 2006; January, 2007; March, 2007; April, 2007; May, 2007

  and most significantly the recent violations in February, 2008; March, 2008 and September, 2008 that occurred after installation of the Biological Nutrient Removal process and the MBR system
- 3 violations of $BOD_5$ mass limit and one violation of the concentration limit (January, 2007; October, 2007 and January 2008)
- 5 violations of TSS mass limit and three violations of the concentration limits (January, 2007; May, 2007; January, 2008; February 2008)
- 4 violations of chlorine concentrations (May, 2004; February, 2008)

## III. RECEIVING WATER

The City of Jerome discharges to J8 Canal throughout the year. The distance between the discharge point and the point of entry into the Snake River is approximately 14 miles (see map in Appendix B). The J8 Canal system picks up waste water from both point source and nonpoint sources and this is distributed through the canal systems to a myriad of agricultural farms (seasonally) and livestock operations (year round). The amount of flow in the canal depends upon the irrigation season, as follows:

> During the irrigation season (April to mid-October), the discharge from the treatment facility mixes with other flows in "J" Canal. The flow rate in the canal is variable, ranging from 30 cubic feet per second (cfs) at the beginning and end of the irrigation season to greater than 400 cfs during the middle of the irrigation season. Most of the water in the canal is diverted for irrigating crop lands, resulting in minimum flows ultimately reaching the Snake River.

During the non-irrigation season, the City of Jerome discharge is the only flow in the canal. However, most of the flow infiltrates to the ground, resulting in practically no flow reaching the Snake River.

## 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. The anti-degradation policy represents a three tiered approach to maintain and protect various levels of water quality and uses.

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 WQS in Sections 252.02, 252.03, and 253 require that industrial and agricultural water supply uses are to be protected by narrative criteria in IDAPA 58.01.02.200. These narrative criteria require that all surface waters of the State shall be free from hazardous materials, toxic substances, deleterious materials, radioactive materials; floating, suspended, or submerged matter; excess nutrients; oxygen-demanding materials; and sediment concentrations which would impair beneficial uses. The permit contains a narrative limitation prohibiting the discharge of such materials.

The WQS in Section 252.02 state that the criteria in Water Quality Criteria 1972, also referred to as the "Blue Book" (EPA R3-73-033) can be used to determine numeric criteria for the protection of water supply.

**"Agricultural**. Water quality criteria for agricultural water supplies will generally be satisfied by the water quality criteria set forth in Section 200. Should specificity be desirable or necessary to protect a specific use, 'Water Quality Criteria 1972' (Blue Book), Section V, Agricultural Uses of Water, EPA, March, 1973 will be used for determining criteria."

The Blue Book standard for nitrite-nitrate nitrogen in drinking waters for livestock and poultry is 100 ppm.

The standard for nitrite nitrogen is 10 ppm.

These standards apply to the J8 Canal.

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 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.

In the TMDL for the Middle Snake River (Middle Snake River Watershed Management Plan, IDHW-DEQ), adopted by the State of Idaho and approved by EPA on April 25, 1997, the state determined that an instream total phosphorus concentration of 0.075 mg/l would result in meeting the narrative criterion. WLAs for phosphorus are contained in Chapter 3 of the Middle Snake River Watershed Management Plan. The update to this plan called the Upper Snake Rock TMDL, July 22, 2005, also contained this target and the same phosphorous allocations for the City of Jerome's POTW. The wasteload allocation is 204.7 lbs/day total phosphorus and 375 tons per year TSS.

During permit reissuance in 1999, this water quality based limit for phosphorus was added to the permit to implement the TMDL. The draft reissued permit continues this limit that implements the approved TMDL for total phosphorus, as well as existing limits for TSS, $BOD_5$, total residual chlorine and pH. *E. coli* limits replace the previous fecal coliform bacteria limits in compliance with updated Idaho standards. The permit continues effluent monitoring requirements for parameters with effluent limitations. TSS technology based limits are established because they are more stringent than the TMDL surface water quality based limits for TSS.

## 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 D 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 ($BOD_5$), total suspended solids (TSS), *Escherichia coli (E. coli)*, pH, total phosphorus and total residual chlorine, and the minimum percent removal requirements

for $BOD_5$ and TSS.

**Table 1**
**Proposed Effluent Limitations**

| Parameters | Average Monthly Limit | Average Weekly Limit | Minimum Percent Removal[1] | Maximum Daily Limit | Instantaneous Maximum Limit |
|---|---|---|---|---|---|
| $BOD_5$ | 30 mg/L | 45 mg/L | 85% | -- | --- |
| | 750 lbs/day[2] | 1,100 lbs/day | | -- | --- |
| TSS | 30 mg/L | 45 mg/L | 85% | -- | --- |
| | 750 lbs/day | 1,100 lbs/day | | -- | -- |
| *E. coli* Bacteria | 126 colonies /100mL[3] | --- | -- | -- | 406 colonies /100mL |
| Total Phosphorus | 204.5 lbs/day | 377 lbs/day | -- | -- | -- |
| Total Residual Chlorine[4] | 0.5 mg/L | -- | -- | 1.0 mg/L | -- |
| pH | 6.5 – 9.0 standard units | | | | |

1. Percent removal is calculated using the following equation: ((influent - effluent) / influent) x 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 3.0 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. The chlorine limits apply only when chlorine is being used.

## 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

$BOD_5$, TSS, *E. coli*, Total Phosphorus, and Total Residual Chlorine

The permit requires monitoring $BOD_5$, TSS, *E. coli*, total phosphorus, pH and total residual chlorine (when limits apply) to determine compliance with the effluent limits; it also requires monitoring of the influent for $BOD_5$ and TSS to calculate monthly removal rates.

Nitrate-Nitrite Nitrogen

Nitrate-nitrite nitrogen does not have a reasonable potential to violate the 100 ppm standard in the J8 Canal but monitoring will continue to further characterize discharges for nitrate-nitrite nitrogen.

Nitrite Nitrogen

The existing permit does not require monitoring for nitrite nitrogen. The Blue Book established a criteria for nitrite nitrogen of 10 ppm in the J8 Canal. Since the discharges are not characterized for nitrite nitrogen monitoring twice per month will be required. Results will be reviewed during the next permit reissuance to determine if a reasonable potential exists to violate the standard.

Kjeldahl Nitrogen

The existing permit also requires monitoring for total Kjeldahl nitrogen**.** The State of Idaho IDEQ and EPA agree Kjeldahl nitrogen is not required for implementation of the TMDL and monitoring will not be required. Page 27, Section 2.03.01, Item 3, of the Middle Snake River Plan states "TP is the primary limiting nutrient in the Middle Snake River..."

Ortho-Phosphorus

Idaho and EPA agree since total phosphorus is the primary limiting nutrient and the TMDL is for total phosphorus, ortho-phosphorus monitoring will provide no useful information. Monitoring for this parameter is dropped.

Temperature

Idaho and EPA agree to dropping temperature monitoring in the current permit since the Blue Book does not list temperature as a criteria for the J8 Canal and the City of Jerome has no impact to the Snake River 14 miles downstream. The waste water is diverted to many farms and by the time the it reaches the Snake River it is not appreciably different from the ambient water and will have equilibrated to the background temperature. The EPA temperature guidance states temperature impacts are primarily from non-point sources and temperature quickly dissipates. There will be no impacts to the Snake River 14 miles downstream. For these reasons temperature monitoring will be dropped.

Dissolved Oxygen

Idaho and EPA agree to drop monitoring of dissolved oxygen. The previous fact sheet stated the permit requires DO monitoring because Idaho planned to establish a TMDL for DO and also stated an evaluation in 1977 also required monitoring. Recently Idaho stated "DO was listed as a pollutant in the 1998 303(d) list on the Snake River only from Milner Dam to Twin Falls Reservoir (Milner Dam to Murtaugh; Murtaugh to Twin Falls Reservoir). The J8 Canal does not discharge into these sections of the Snake River, because it discharges further downstream. And, the 2000 Upper Snake Rock TMDL did not consider DO as a pollutant, because no evidence was found (based on water quality monitoring of the Snake River) that DO was a problem. Consequently, DEQ doesn't consider this a relevant issue for the Snake River." EPA concurs and is dropping monitoring for DO.

A 2.0 mg/l instantaneous minimum effluent limitation for DO is in the current permit and is surface water quality based. The anti-backsliding provisions are established in the CWA Section 402(o) and 40 CFR 122.44 (l)(1). Anti-backsliding is a prohibition on the renewal, re-issuance, or modification of NPDES permits with effluent limits, permit conditions, or standards less stringent than those established in the previous permit. An exception is information available which was not available at the time of permits issuance and which would have justified the application of a less stringent effluent limitation. The above information on the limited DO impairment in the Snake River up to Twin Falls Reservoir clearly was not available in the previous permit issuance. Idaho and EPA agree a DO limit is not required and it will be dropped from the permit. The technology based limit for $BOD_5$ and compliance monitoring will remain as required by federal secondary treatment standards.

Ammonia

Monitoring for ammonia is unchanged from the existing permit and is a parameter commonly monitored for POTWs to determine performance.

Nickel and Zinc

The Blue Book lists nickel and zinc as criteria for agricultural uses and they were detected in the expanded effluent monitoring scan required in Application 2A, Part D (see Appendix C). Monitoring is required to characterize these pollutants and for comparison to the J8 Canal criteria which are 25 mg/l zinc for livestock enterprise and 0.20 mg/l nickel for irrigation waters.

Expanded Part D Monitoring

The City of Jerome 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. *E. coli* monitoring will be three times per week consistent with the existing fecal coliform monitoring frequency.

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 | 3/week | 24-hour composite |
| | lbs/day | Effluent | 3/week | Calculation |
| | % Removal | --- | --- | Calculation |
| TSS | mg/L | Influent and Effluent[5] | 3/week | 24-hour composite |
| | lbs/day | Effluent | 3/week | Calculation |
| | % Removal | --- | --- | Calculation |
| pH | standard units | Effluent | 1/day | Grab |
| *E.coli* | colonies/100 ml | Effluent | 3/week | Grab |
| Total Residual Chlorine | mg/L | Effluent | 5/week | Grab |
| Ammonia-Nitrogen | mg/L | Effluent | 2/month | 24-hour composite |
| Nitrate-Nitrite Nitrogen | mg/L | Effluent | 2/month | 24-hour composite |
| Nitrite-Nitrogen | mg/L | Effluent | 2/month | 24-hour composite |
| Total Phosphorus | mg/L | Effluent | 1/week | 24-hour composite |
| Nickel | µg/l | Effluent | 1/two months | Grab |
| Zinc | µg/l | Effluent | 1/two months | Grab |
| NPDES Application Form 2A Effluent Testing Data | mg/L | Effluent | 3x/5 years | See footnote 6 |
| NPDES Application Form 2A Expanded Effluent Testing | --- | Effluent | 1 each in 2nd, 3rd, & 4th years of the permit | See footnote 7 |

**Table 2**
**Effluent Monitoring Requirements**

| Parameter | Unit | Sample Location | Sample Frequency | Sample Type |
|---|---|---|---|---|
| NPDES Application Form 2A Whole Effluent Toxicity (WET) | $TU_c$ | Effluent | 4x/5 years | See footnote 8 |

5. Influent and effluent composite samples shall be collected during the same 24-hour period.
6. For Effluent Testing Data, in accordance with instructions in NPDES Application Form 2A, Part B.6.
7. 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.
8. For WET testing, in accordance with instructions in NPDES Application Form 2A, Part E.

### C. Whole Effluent Toxicity Testing Requirements

Federal regulations at 40 CFR §122.44(d)(1) require that permits contain limits on whole effluent toxicity when a discharge has reasonable potential to cause or contribute to an exceedance of a water quality standard for toxicity.

Whole effluent toxicity (WET) tests are laboratory tests that measure 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 or point estimate techniques.

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. The WET approach protects the narrative "not toxics in toxic amounts" criterion that is applicable to all waters of the United States. The J8 Canal is waters of the United States.

The City of Jerome tested the effluent once, on October 6, 2008, since the upgrade to the ultraviolet radiation disinfection, to the membrane bioreactor and to the Biological Nutrient Removal process.

When tested for toxicity the City of Jerome discharge samples did not allow the minimum number of organisms to be reproduced during the seven-day test in 100 percent effluent. Chronic toxicity was found in Ceriodaphnia reproduction tests in 100% effluent. The No Observable Effect Concentration (NOEC) is the highest concentration of a toxicant that causes no observable adverse effect on the test organisms. (e.g. the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls). At Jerome the NOEC was 50 percent effluent. An $IC_{25}$ value represents the percentage of effluent which causes a 25 percent reduction in growth or

reproduction when compared with a control group. At Jerome the $IC_{25}$ value was 74 percent effluent.

No acute toxicity was found for Ceriodaphnia in 100% effluent. Survival was 100 percent in 100 percent effluent.

Fathead Minnow had 100 percent survival in 100 percent effluent and the growth study found no effects in 100 percent effluent.

Reasonable Potential Calculation

Using procedures in EPA's 1991 *Technical Support Document for Water Quality-based Toxics Control*, Office of Water, EPA/505/2-90-001, the chronic receiving water concentration is calculated from the maximum design flow of the treatment plant (3.0 mgd) and the J8 Canal flow (7Q10) (30 cfs or 19 mgd) using the following formula:

NOEC = 50 %

Expressed as discharge toxicity, $C_d = 100/50 = 2\ TU_c$

$$C_r = \frac{(C_d)(Q_d) + (C_s)(Q_s)}{Q_r}$$

$C_r$ = Receiving water (downstream) concentration (in toxic units)

$C_s$ = Receiving water background concentration = 0 $TU_c$

$Q_s$ = Receiving water flow = 19 mgd

$Q_d$ = Discharge flow = 3.0 mgd

$C_d$ = Discharge toxicity $TU_c$ = 2 $TU_c$

$Q_r$ = Downstream flow = $Q_d + Q_s$

$$C_r = \frac{(2)(3.0) + (0)(19)}{(3.0 + 19)} = 0.27$$

Water Quality Criterion for Chronic Protection = 1.0 $TU_c$

Since the downstream concentration ($C_r$) does not exceed the water quality criterion for chronic toxicity (1.0 $TU_c$), there is no reasonable potential for water quality standards for toxicity to be exceeded.

The proposed permit requires the testing required in Form 2A Part E. This monitoring is required for any POTW with a design flow rate greater than or equal to 1.0 mgd or with a pretreatment program. The City of Jerome has both and toxicity monitoring is required. This is quarterly testing for a 12-month period within the last one year of the permit cycle using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the reapplication.

**D. Phosphorus Trading Requirements**

In the Upper Snake Rock Subbasin, also known more colloquially as the Mid-Snake, stakeholders including aquaculture and fish processing facilities, municipalities, the State of Idaho, and EPA, have developed a trading scheme for buying and selling of total phosphorus credits among the dischargers. This scheme allows some dischargers to increase their average monthly discharges of total phosphorus above the average monthly limit in their permits if others are reducing their discharge by a similar amount. However, the overall effect of implementing the TMDL for total phosphorus is a net benefit because it reduces the loading of this pollutant to the watershed. Pollutant trading allows this to be accomplished more economically than might otherwise be the case.

Page 7 of the EPA **Water Quality Trading Policy January 13, 2003 states:**

**"**4, Consistency With Standard Methods. Where methods and procedures (e.g., sampling protocols, monitoring frequencies) are specified by federal regulations or in NPDES permits, they should continue to be used where applicable for measuring compliance for point sources that engage in trading. EPA believes this is necessary to provide clear and consistent standards for measuring compliance and to ensure that appropriate enforcement action can be taken."

The ability to participate in trading is limited by several factors, which are listed below.

- Only average monthly discharges for total phosphorus are eligible to be modified by trades; average weekly discharges are not.
- A buyer cannot increase its average monthly discharge of total phosphorus above any applicable technology-based limit for its facility.
- Only NPDES permitted point source dischargers are eligible for trading.
- Trading is prohibited if the City of Jerome fails to comply with Part II.B., Quality Assurance Plan. Trading can resume only after written notification by EPA.
- Trading is prohibited if the permittee fails to comply with Part III. Monitoring, Recording and Reporting Requirements. Trading can resume only after written notification by the U.S. Environmental Protection Agency.
- Prior to any trades the City of Jerome POTW must be inspected by EPA for compliance with permit conditions. Following the inspection an approval letter for trading must be received from EPA prior to trading.

For more detail on the procedures, see Appendix E of this fact sheet.

This proposed permit authorizes the City of Jerome to buy and sell phosphorus credits from other point sources in the Upper Snake Rock Subbasin consistent with "State of Idaho Department of Environmental Quality, Pollutant Trading Guidance" (November, 2003) as published by the Idaho Department of Environmental Quality. For more detail on the procedures, see Appendix E of this fact sheet.

## 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 Jerome discharge is 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 Snake River physa snail (*Physa natricina*) and the Utah valvata snail (*Valvata utahensis*) as endangered and the Bliss Rapids snail (*Taylorconcha serpenticola*) in the mainstem of the Snake River.

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

1. There are no listed species in the vicinity of the outfall in the J8 Canal.

2. Fourteen miles separate the outfall from the mainstem of the Snake River listed on the U.S. Fish and Wildlife Species Profile as the distribution area for the Utah valvata snail, the Snake River physa snail and the Bliss Rapids snail.

3. According to the EPA Region 10 Guidance for Pacific Northwest Temperature Guidance temperature impacts are primarily from non-point sources and temperature quickly dissipates.

4. Infiltration of all the waste water during winter eliminating discharges to the mainstem of the Snake River identified as the distribution area for the Utah valvata, the Snake River physa snail and the Bliss Rapids snail.

5. Distribution of treated wastewater for "livestock enterprise and irrigation water" during the summer resulting in minimum flows ultimately reaching the mainstem of the Snake River identified as the distribution area for the Utah valvata snail, the Snake River physa snail and the Bliss Rapids snail.

6. Secondary treatment

Due to the fact that there are no listed species the reissuance of the City of Jerome NPDES permit will have no effect on the Utah valvata snail, the Snake River physa snail or the Bliss Rapids snail.

### B. 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.

### C. Permit Expiration

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

## IX. DEFINITIONS AND ACRONYMS

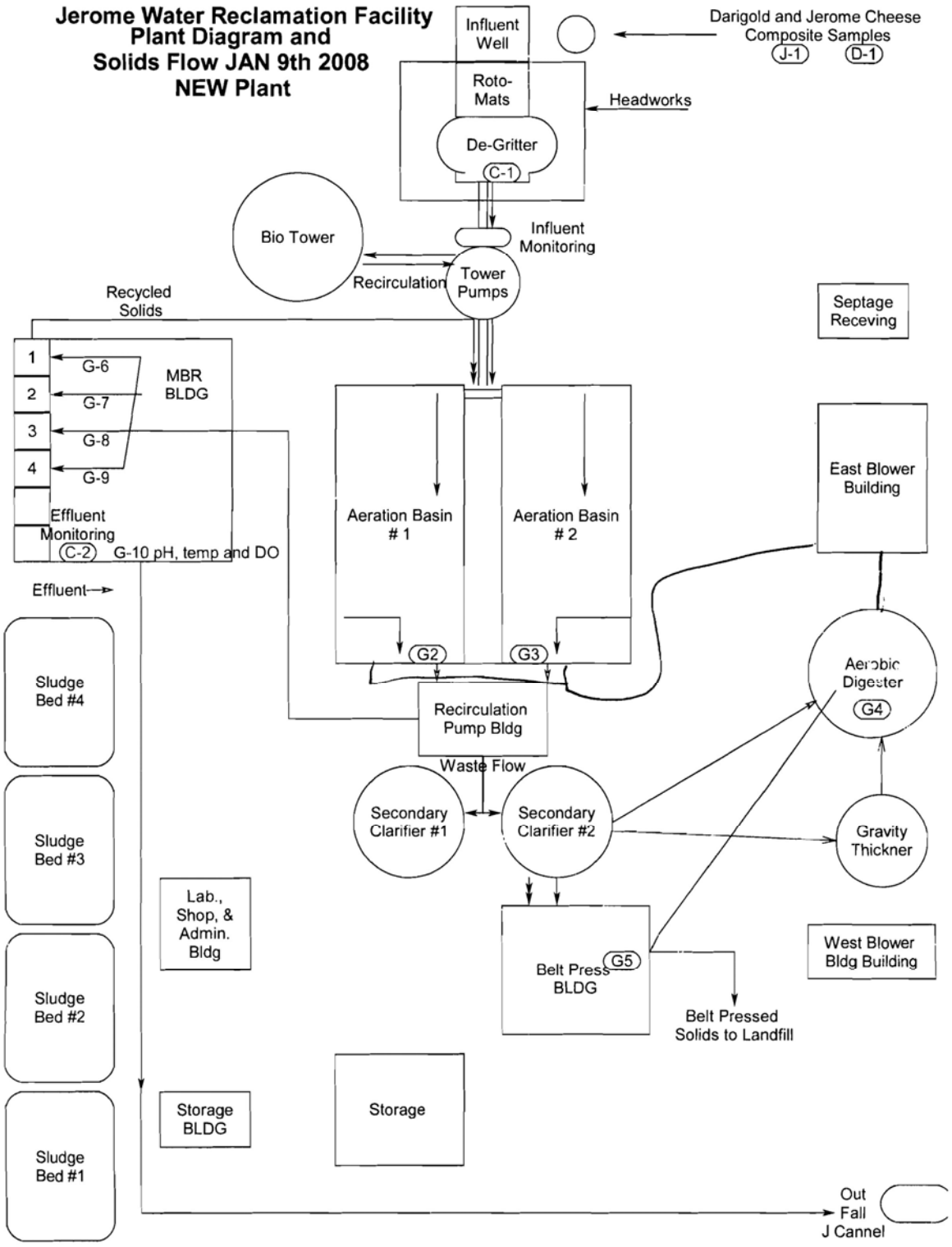
| | |
|---|---|
| 1Q10 | 1 day, 10 year low flow |
| 7Q10 | 7 day, 10 year low flow |
| AML | Average Monthly Limit |
| $BOD_5$ | Biochemical oxygen demand, five-day |
| ºC | Degrees Celsius |
| cfs | Cubic feet per second |
| CFR | Code of Federal Regulations |
| CV | Coefficient of Variation |
| CWA | 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 |

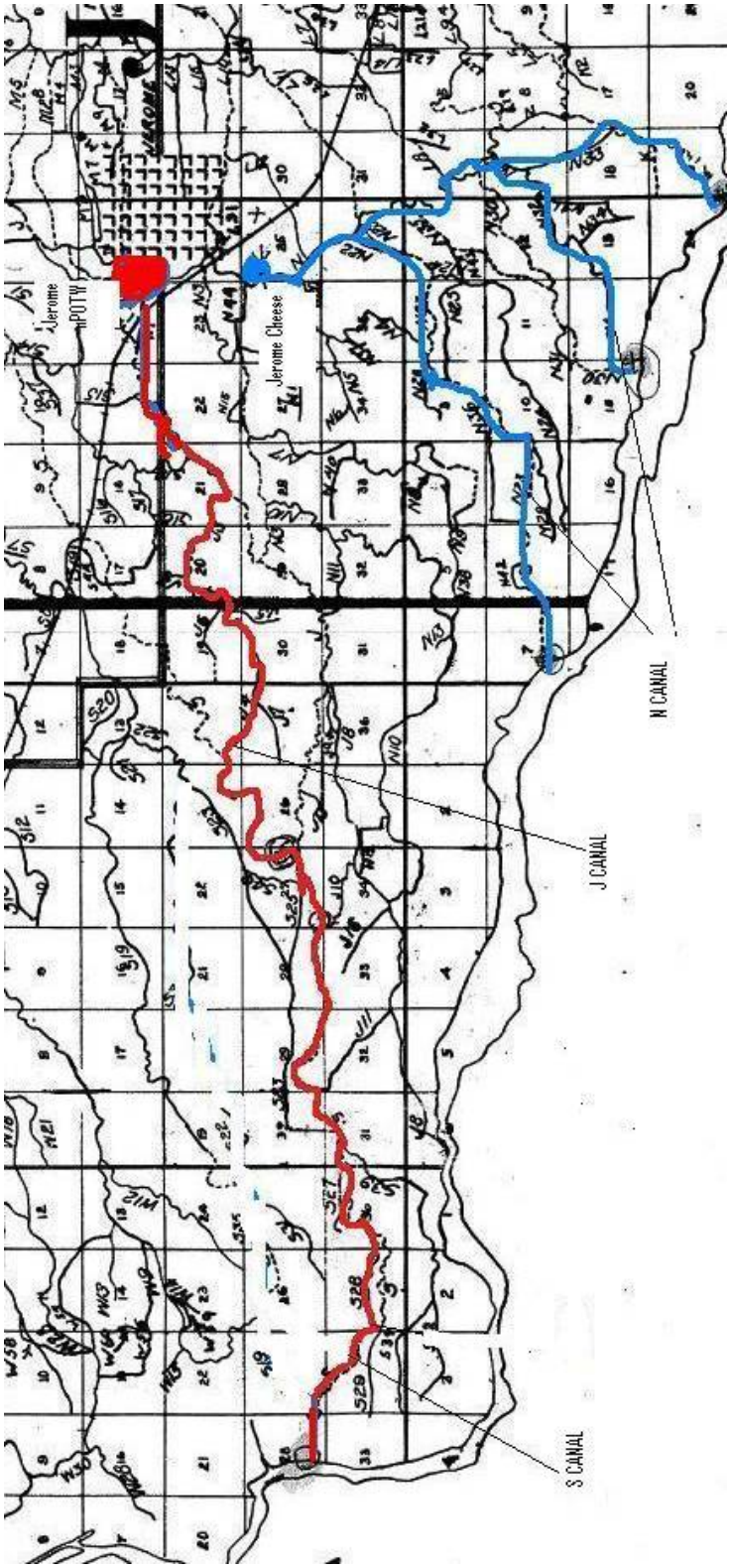
## X. REFERENCES

1. City of Jerome, ID, NPDES permit, effective August 31, 1999 to August 31, 2004.
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 - Process Flow Diagram



# Appendix B – Discharge Points to Snake River



# Appendix C – Pollutant Scan

**FACILITY NAME AND PERMIT NUMBER:**
Jerome Wastewater Facility- ID 200168

*Form Approved 1/14/99*
*OMB Number 2040-0086*

## SUPPLEMENTAL APPLICATION INFORMATION

### PART D. EXPANDED EFFLUENT TESTING DATA

**Refer to the directions on the cover page to determine whether this section applies to the treatment works.**

**Effluent Testing: 1.0 mgd and Pretreatment Treatment Works.** If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | | | AVERAGE DAILY DISCHARGE | | | | | ANALYTICAL METHOD | ML/ MDL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Conc. | Units | Mass | Units | Conc. | Units | Mass | Units | Number of Samples | | |
| **METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.** | | | | | | | | | | | |
| ANTIMONY | <.005 | mg/l | | | | | | | 1 | EPA200.8 | .005 MG/L |
| ARSENIC | <.005 | mg/l | | | | | | | 1 | EPA200.8 | .005 MG/L |
| BERYLLIUM | <.0005 | mg/l | | | | | | | 1 | EPA200.8 | .0005 MG/L |
| CADMIUM | <.0005 | mg/l | | | | | | | 1 | EPA200.8 | .0005 MG/L |
| CHROMIUM | <.002 | mg/l | | | | | | | 1 | EPA200.8 | .002 MG/L |
| COPPER | <.01 | mg/l | | | | | | | 1 | EPA200.7 | .01 MG/L |
| LEAD | <.005 | mg/l | | | | | | | 1 | EPA200.8 | .005 MG/L |
| MERCURY | <.0002 | mg/l | | | | | | | 1 | EPA245.1 | .0002 MG/L |
| NICKEL | .03 | mg/l | | | | | | | 1 | EPA200.7 | .02 MG/L |
| SELENIUM | <.005 | mg/l | | | | | | | 1 | EPA200.8 | .005 MG/L |
| SILVER | <.001 | mg/l | | | | | | | 1 | EPA200.8 | .001 MG/L |
| THALLIUM | <.001 | mg/l | | | | | | | 1 | EPA200.8 | .001 MG/L |
| ZINC | .08 | mg/l | | | | | | | 1 | EPA200.7 | .01 MG/L |
| CYANIDE | <.005 | mg/l | | | | | | | 1 | EPA335.4 | .005 MG/L |
| TOTAL PHENOLIC COMPOUNDS | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| HARDNESS (AS $CaCO_3$) | 207 | mg/l | | | | | | | 1 | SM2340 | 200 MG/L |
| Use this space (or a separate sheet) to provide information on other metals requested by the permit writer. | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

EPA Form 3510-2A (Rev. 1-99). Replaces EPA forms 7550-6 & 7550-22.

**FACILITY NAME AND PERMIT NUMBER:**
Jerome Wastewater Facility- ID 200168

*Form Approved 1/14/99*
*OMB Number 2040-0086*

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | | | AVERAGE DAILY DISCHARGE | | | | | ANALYTICAL METHOD | ML/ MDL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Conc. | Units | Mass | Units | Conc. | Units | Mass | Units | Number of Samples | | |
| **VOLATILE ORGANIC COMPOUNDS.** | | | | | | | | | | | |
| ACROLEIN | <10.0 | ug/l | | | | | | | 1 | EPA624 | 10 ug/L |
| ACRYLONITRILE | <10.0 | ug/l | | | | | | | 1 | EPA624 | 10 UG/L |
| BENZENE | <.5 | ug/l | | | | | | | 1 | EPA624 | .5 UG/L |
| BROMOFORM | <.5 | ug/l | | | | | | | 1 | EPA624 | .5 UG/L |
| CARBON TETRACHLORIDE | <.5 | ug/l | | | | | | | 1 | EPA624 | .5 UG/L |
| CLOROBENZENE | ND | | | | | | | | | EPA624 | |
| CHLORODIBROMO-METHANE | ND | | | | | | | | | EPbA624 | |
| CHLOROETHANE | ND | | | | | | | | | EPA624 | |
| 2-CHLORO-ETHYLVINYL ETHER | <.05 | ug/l | | | | | | | 1 | EPA624 | .05 UG/L |
| CHLOROFORM | <.05 | ug/l | | | | | | | 1 | EPA624 | .05 UG/L |
| DICHLOROBROMO-METHANE | N | A | | | | | | | | | |
| 1,1-DICHLOROETHANE | <.05 | ug/l | | | | | | | 1 | EPA624 | .5 UG/L |
| 1,2-DICHLOROETHANE | .05 | ug/l | | | | | | | 1 | EPA624 | .5 U G/L |
| TRANS-1,2-DICHLORO-ETHYLENE | ND | | | | | | | | 1 | EPA624 | |
| 1,1-DICHLOROETHYLENE | <.05 | ug/l | | | | | | | 1 | EPA624 | .5 UG/L |
| 1,2-DICHLOROPROPANE | <.05 | ug/l | | | | | | | 1 | EPA624 | .5 UG/L |
| 1,3-DICHLORO-PROPYLENE | N | A | | | | | | | | | |
| ETHYLBENZENE | N | A | | | | | | | | | |
| METHYL BROMIDE | N | A | | | | | | | | | |
| METHYL CHLORIDE | <.5 | ug/l | | | | | | | 1 | EPA624 | .5 UG/L |
| METHYLENE CHLORIDE | <.5 | ug/l | | | | | | | 1 | EPA624 | .5 UG/L |
| 1,1,2,2-TETRACHLORO-ETHANE | <.5 | ug/l | | | | | | | 1 | EPA624 | .5 UG/L |
| TETRACHLORO-ETHYLENE | N | A | | | | | | | | | |
| TOLUENE | .52 | ug/l | | | | | | | 1 | EPA624 | .50 UG/L |

**FACILITY NAME AND PERMIT NUMBER:**
Jerome Wastewater Facility- ID 200168

*Form Approved 1/14/99*
*OMB Number 2040-0086*

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | | | AVERAGE DAILY DISCHARGE | | | | | ANALYTICAL METHOD | ML/ MDL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Conc. | Units | Mass | Units | Conc. | Units | Mass | Units | Number of Samples | | |
| 1,1,1-TRICHLOROETHANE | ND | | | | | | | | 1 | EPA624 | |
| 1,1,2-TRICHLOROETHANE | ND | | | | | | | | 1 | EPA624 | |
| TRICHLORETHYLENE | N | A | | | | | | | | | |
| VINYL CHLORIDE | <.5 | ug/l | | | | | | | 1 | EPA624 | .5 UG/L |
| Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer. | | | | | | | | | | | |
| | | | | | | | | | | | |
| **ACID-EXTRACTABLE COMPOUNDS** | | | | | | | | | | | |
| P-CHLORO-M-CRESOL | <.2 | ug/l | | | | | | | 1 | EPA625 | 2.0 UG/L |
| 2-CHLOROPHENOL | <.2 | ug/l | | | | | | | 1 | EPA625 | 2.0 UG/L |
| 2,4-DICHLOROPHENOL | <.2 | ug/l | | | | | | | 1 | EPA625 | 2.0 UG/L |
| 2,4-DIMETHYLPHENOL | <.2 | ug/l | | | | | | | 1 | EPA625 | 2.0 UG/L |
| 4,6-DINITRO-O-CRESOL | <.2 | ug/l | | | | | | | 1 | EPA625 | 2.0 UG/L |
| 2,4-DINITROPHENOL | <10 | ug/l | | | | | | | 1 | EPA 625 | 10 UG/L |
| 2-NITROPHENOL | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2 UG/L |
| 4-NITROPHENOL | <2.0 | ug/l | | | | | | | 1 | EPA625 | 2 UG/L |
| PENTACHLOROPHENOL | <10 | ug/l | | | | | | | 1 | EPA 625 | 10 UG/L |
| PHENOL | <2 | ug/l | | | | | | | 1 | EPA 625 | 2 UG/L |
| 2,4,6-TRICHLOROPHENOL | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer. | | | | | | | | | | | |
| | | | | | | | | | | | |
| **BASE-NEUTRAL COMPOUNDS.** | | | | | | | | | | | |
| ACENAPHTHENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| ACENAPHTHYLENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| ANTHRACENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| BENZIDINE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| BENZO(A)ANTHRACENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| BENZO(A)PYRENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |

**FACILITY NAME AND PERMIT NUMBER:**
Jerome Wastewater Facility- ID 200168

*Form Approved 1/14/99*
*OMB Number 2040-0086*

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | | | AVERAGE DAILY DISCHARGE | | | | | ANALYTICAL METHOD | ML/ MDL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Conc. | Units | Mass | Units | Conc. | Units | Mass | Units | Number of Samples | | |
| 3,4 BENZO-FLUORANTHENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| BENZO(GHI)PERYLENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| BENZO(K)FLUORANTHENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| BIS (2-CHLOROETHOXY) METHANE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| BIS (2-CHLOROETHYL)-ETHER | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| BIS (2-CHLOROISO-PROPYL) ETHER | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| BIS (2-ETHYLHEXYL) PHTHALATE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| 4-BROMOPHENYL PHENYL ETHER | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| BUTYL BENZYL PHTHALATE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| 2-CHLORONAPHTHALENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| 4-CHLORPHENYL PHENYL ETHER | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| CHRYSENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| DI-N-BUTYL PHTHALATE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| DI-N-OCTYL PHTHALATE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| DIBENZO(A,H) ANTHRACENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| 1,2-DICHLOROBENZENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| 1,3-DICHLOROBENZENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| 1,4-DICHLOROBENZENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| 3,3-DICHLOROBENZIDINE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| DIETHYL PHTHALATE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| DIMETHYL PHTHALATE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| 2,4-DINITROTOLUENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| 2,6-DINITROTOLUENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| 1,2-DIPHENYLHYDRAZINE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |

**FACILITY NAME AND PERMIT NUMBER:**
Jerome Wastewater Facility- ID 200168

*Form Approved 1/14/99*
*OMB Number 2040-0086*

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | | | AVERAGE DAILY DISCHARGE | | | | | ANALYTICAL METHOD | ML/ MDL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Conc. | Units | Mass | Units | Conc. | Units | Mass | Units | Number of Samples | | |
| FLUORANTHENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| FLUORENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| HEXACHLOROBENZENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| HEXACHLOROBUTADIENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| HEXACHLOROCYCLO-PENTADIENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| HEXACHLOROETHANE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| INDENO(1,2,3-CD)PYRENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| ISOPHORONE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| NAPHTHALENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| NITROBENZENE | <1.0 | ug/l | | | | | | | 1 | | 1.0 UG/L |
| N-NITROSODI-N-PROPYLAMINE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| N-NITROSODI- METHYLAMINE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |
| N-NITROSODI-PHENYLAMINE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| PHENANTHRENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| PYRENE | <2.0 | ug/l | | | | | | | 1 | EPA 625 | 2.0 UG/L |
| 1,2,4-TRICHLOROBENZENE | <1.0 | ug/l | | | | | | | 1 | EPA 625 | 1.0 UG/L |

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

**END OF PART D.**
**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

# Appendix D – 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 $BOD_5$, TSS, and pH. The federally promulgated secondary treatment effluent limits are listed in Table C-1.

**Table C-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 increased design flow:

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

The mass limits for $BOD_5$ and TSS are calculated as follows:

Average Monthly Limit = 30 mg/L × 3.0 mgd × 8.34 = 751 lbs/day

Average Weekly Limit = 45 mg/L × 3.0 mgd × 8.34 = 1,100 lbs/day

The derivation of the conversion factor is:

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

***Chlorine***

Chlorine is often used to disinfect municipal wastewater prior to discharge. The City of Jerome upgraded to an ultraviolet disinfection system that went on line in March, 2008. They requested continuation of the authorization to discharge chlorine for the now backup chlorine disinfection. The technology based limits for total residual chlorine are 0.5 mg/L average monthly and 1.0 mg/l maximum daily. The chlorine limitations are derived from standard operating practices; The Water Pollution Control Federation's Chlorination of Wastewater (1976) states that a properly designed and maintained wastewater treatment plant can achieve adequate disinfection if a 0.5 mg/l chlorine residual is maintained after 15 minutes of contact time. A treatment plant that provides adequate chlorination contact time can meet the 0.5 mg/l limit on a monthly average basis.

## 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 a dilution ratio of four to one.

### *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 *Upper Snake Rock Watershed Management Plan* interpreted this water quality standard and established a TSS wasteload allocation for the City of Jerome of 375 tons/year or 2,050 pounds per day of TSS (mean annual load).

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. In this case, because the averaging period for the pollutant is monthly, no conversion is necessary, and the monthly average permit limit is set equal to the WLA.

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

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

Where:

CV = coefficient of variation = 0.6

n = 4 (ratio of number of samples in a month to the number of samples in a week)

$\sigma_4^2 = \ln(CV^2/n + 1) = \ln(0.6^2/4 + 1) = 0.086$

$\sigma_4 = 0.293$

$\sigma^2 = \ln (CV^2 + 1) = \ln(0.6^2 + 1) = 0.307$

$\sigma = 0.55$

$Z_m$ = percentile exceedance probability for AWL (99%) = 2.326

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

$$AWL = \frac{\exp [(2.326 \times 0.55) - (0.5 \times 0.307)]}{\exp [(1.645 \times 0.293) - (0.5 \times 0.086)]} \times 2{,}050$$

$AWL = 2.42 \times 2050 = 4{,}950$

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 | 750 lbs/day | 1,100 lbs/day |
| Water quality-based | 2,050 lbs/day | 4,950 lbs/day |
| **Most stringent** | **750 lbs/day** | **1,100 lbs/day** |

The technology based mass limits are selected and applied in the draft permit.

***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 19 μg/L and an acute aquatic life criterion 11 μg/L in the Snake River but not in the J8 Canal. For irrigation water the "blue book" states: "Permissible chloride concentrations depend upon type of crop, environmental conditions and management practices. A single value cannot be given and no limits should be established, because detrimental effects from salinity per se ordinarily deter crop growth first."

No chlorine standards exist for livestock enterprise or irrigation water. The technology based limits are more stringent than the water quality derived limits for the Snake River 14 miles downstream of 5.8 mg/L daily maximum and 1.5 mg/L average monthly derived during the last permit cycle. EPA will continue with the technology based limits of 0.5 mg/l average monthly and 1.0 mg/l daily maximum derived for the last permit. This level of control was achieved. A review of the recently submitted monitoring found that only in February 2008 was the monthly average and daily maximum limits violated by 0.2 mg/l and 1.2 mg/l respectively. Further, the City of Jerome switched to UV disinfection and chlorine will only be used as a backup system.

***Escherichia coli (E. coli) Bacteria***

The Snake River at the point of discharge from J8 Canal 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.

The highest fecal coliform measured over the last five years was 189, 157 and 147 organisms/100mL. All the rest of the measured fecal coliform over the five year period were less than 126 organisms/100mL. Since the ultra violet radiation disinfection upgrade in March, 2008 the highest fecal coliform weekly average was 14 organisms/100mL. Since *E. coli* is a form of fecal coliform and will be less than the total fecal coliform the City of Jerome will achieve the *E. coli* limit of 126 organisms/100mL and the maximum daily limit of 406. Monitoring of fecal coliform since UV installation demonstrates attainment of this limitation.

The Blue Book recommends a maximum fecal coliform density of 1,000 organisms/100 ml to protect the beneficial use of water for irrigation. The *E. coli* limit of 126 organism/100 ml will protect this beneficial use.

***Total phosphorus***

The TMDL allocation for total phosphorus of 204.7 pounds per day was incorporated in the previous permit as the average monthly limit (AML) and an average weekly limit of 377 lbs/day. The allocation remains unchanged and these limits remain in the draft permit.

***Nitrate- Nitrite Nitrogen***

The highest nitrate-nitrite nitrogen measured in discharges to the J8 Canal was 87 ppm. Using procedures in the Technical Support Document for Water Quality-based Toxics Control. US Environmental Protection Agency, Office of Water, EPA/505/2-90-001 the City of Jerome has no reasonable potential to violate the 100 ppm standard for the J8 Canal.

# REASONABLE POTENTIAL CALCULATION FOR NITRITE-NITRATE NITROGEN

| | State Water Quality Standard | Max concentration at edge of... | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chronic | Acute Mixing Zone | Chronic Mixing Zone | **LIMIT REQ'D?** | Effluent percentile value | | Max effluent conc. measured (metals as total recoverable) | Coeff Variation | | # of samples | Multiplier | Chronic Dil'n Factor |
| Parameter | *mg/L* | *mg/L* | *mg/L* | | | *Pn* | *mg/L* | *CV* | *s* | *n* | | |
| Nitrate-Nitrite Nitrogen | 100. | 23.05 | 23.05 | NO | 0.99 | 0.938 | 87.00 | 0.61 | 0.55 | 47 | 1.06 | 4 |

# Appendix E – Upper Snake Rock Watershed Pollutant Trading

## How to Sell Credits for Pollutant Trading

The City of Jerome is authorized under this permit to trade total phosphorus (TP) credits with other eligible facilities, pursuant to the requirements in "State of Idaho Department of Environmental Quality, Pollutant Trading Guidance" (November, 2003); the Upper Snake Rock Watershed Management Plan, Modification, August 2005; and the conditions contained within this permit.

## Timing of Pollutant Trade

A facility may sell or buy available phosphorus credits (in lbs/day for a specified month) to a facility using the Trade Tracking System operated by the Idaho Clean Water Cooperative to officially record the credit transaction. The seller's effective discharge is increased for that month by adding the credit amount to its reported average monthly phosphorus discharge so that its adjusted discharge is higher. The seller may not sell so many credits that its adjusted average monthly discharge exceeds its average monthly limit. The buyer's effective discharge is decreased for that month by subtracting the credit amount to its reported average monthly phosphorus discharge so that its adjusted discharge is lower.

## Procedure for Transferring Credits

Credits can only be traded for the calendar month in which the credit was generated (when the seller decreased its discharge of phosphorus below its average monthly limit to establish the amount of the credit). The selling of phosphorus credits affects only the average monthly limit and does not affect the facility's maximum daily phosphorus limit.

## Reporting Pollutant Trades to EPA and IDEQ

To create a valid transfer of a credit, the authorized buyer and seller must complete a Trade Notification Form, available from the Idaho Clean Water Cooperative or in its absence the IDEQ. The buyer must submit it to the Cooperative or IDEQ by the last day of the month following the generation of the credit. The Cooperative records the trade in the accounts for the buyer and seller in accordance with the information reported on the Trade Notification Form.

The permittee must submit to EPA (with copies to IDEQ) a phosphorus-specific discharge monitoring report (DMR) and the Trade Summary Report provided by the Idaho Clean Water Cooperative. The permittee arranging a trade must still comply with the reporting requirement in §III.B of the permit to submit a DMR by the 20$^{th}$ of the month following monitoring; this DMR will include its actual discharge with a note that a trade is being arranged. The trading DMR submitted by the 10$^{th}$ of the following month is in addition to the regular DMR.

The Trade Summary Report will provide (A) the permittee's actual average monthly phosphorus discharge; (B) the total amount of credits (in lbs/day) bought, if any; (C) the total amount of credits (in lbs/day) sold, if any; and (D) the permittee's adjusted discharge, which is equal to A – B + C. The Permittee shall record

The phosphorus trading ratio for all facilities in the Upper Snake Rock Watershed is 1.0.

All DMRs must be submitted in accordance with Section III.B of the permit. The phosphorus-specific DMR which reports a trade provides the actual phosphorus and "adjusted discharge" and must be submitted by the 10th day of the second month following sampling.

If a Trade Notification Form is provided by the buyer and seller but the credits are not available for transfer to the buyer, then the trade is not recorded in the Trade Tracking System and the buyer is subject to noncompliance penalties for any actual discharge over its permit limit. The amount of credits that are available for purchase is not the responsibility of EPA. Compliance with the permittee's effluent limit shall only be affected by credits that have been validly transferred by the last day of the month following the generation of the credit. Once the Trade Notification Forms in which a permitted source is the seller are recorded in the Trade Tracking System, the permitted seller is still responsible for having enough credits to cover its reported discharge. If it does not have enough credits, then it is subject to noncompliance penalties for any actual discharge over its permit limit.

## Recordkeeping System

No trade is valid unless it is recorded through the Trade Tracking System operated by the Idaho Clean Water Cooperative (or alternatively, IDEQ). The Idaho Clean Water Cooperative records all trades and generates a monthly summary report of all trades valid for each calendar month. The Trade Notification Form must be submitted to the Cooperative by the last day of the month following the generation of the credit in order for it to be recorded in the Trade Tracking System in time to be reported in the monthly Trade Summary Report and submitted with DMR postmarked by the 10th of the second month following the generation of the credit.

An example is provided below.

-By May 20th, City of Jerome submits to EPA an April's DMR that doesn't necessarily have to have the trade reflected in it if the Trade Notification Form has not yet been submitted to Idaho Clean Water Cooperative.

- By May 31st, the City of Jerome submits the Trade Notification Form to Idaho Clean Water Cooperative for it to be recorded and its submission acknowledged. Idaho Clean Water Cooperative sends the City of Jerome back a trade receipt confirmation notice and then prepares a Trade Summary Report of all the trades that occurred for the April effluent discharges, and sends it back to the City of Jerome to attach to each of its DMRs.

- By June 10th, the City of Jerome submits to EPA a modified DMR with the Trade Summary Report attached. The DMR is modified to reflect the trade documented in the Trade Summary Report. If the City of Jerome received the Trade Summary Report before the due date for the first DMR and could attach it to that one and reflect the trade in the DMR, then the City of Jerome doesn't need to do this step.