



Fact Sheet

Public Comment Start Date: June 11, 2008

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**Proposed Reissuance of a National Pollutant Discharge Elimination System (NPDES)
Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA)**

**Town of Coulee Dam
300 Lincoln Ave
Coulee Dam, WA 99116**

EPA Proposes To reissue NPDES Permit No. WA-002028-1

EPA proposes to reissue the NPDES permit for 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 places limits on the types and amounts of pollutants that can be discharged from the facility.

This Fact Sheet includes:

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

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's regional Director for the Office of Water and Watersheds will make a final decision regarding permit issuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If substantive comments are received, EPA will address the comments and issue the permit. The permit will become effective no less than 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days.

Documents are Available for Review

The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday at the address below. The draft permits, fact sheet, and other information can also be found by visiting the Region 10 NPDES website at "<http://epa.gov/r10earth/waterpermits.htm>."

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

The fact sheet and draft permits are also available at:

CCT Office of Environmental Trust 13 Methow Street, Colville Indian Agency
P.O. Box 150 Nespelem, WA 99155
Phone: (509) 634-2428; Fax: (509) 634-2427

Nespelem Resource Center (Library) Arrow Lakes Avenue, Colville Indian Agency
P.O. Box 150 Nespelem, WA 99155
Phone: (509) 634-2791; Fax: (509) 634-2790

Nespelem Community Center Omak Lake Road (River Road)
P.O. Box 150 Nespelem, WA 99155
Phone: (509) 634-2370; Fax: (509) 634-2375

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P.O. Box 862 Omak, WA 98841
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Acronyms

7Q10	7 day, 10 year low flow
ACR	Acute-to-Chronic Ratio
AML	Average Monthly Limit
ASR	Alternative State Requirement
AWL	Average Weekly Limit
BA	Biological Assessment
BAT	Best Available Technology economically achievable
BCT	Best Conventional pollutant control Technology
BOD ₅	Biochemical oxygen demand, five-day
BMP	Best Management Practices
°C	Degrees Celsius
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
COD	Chemical Oxygen Demand
CSO	Combined Sewer Overflow
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FR	Federal Register
gpd	Gallons per day
IC	Inhibition Concentration
I/I	Infiltration and Inflow
LA	Load Allocation
LTA	Long Term Average
mg/L	Milligrams per liter

ml	milliliters
ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
OWW	Office of Water and Watersheds
O&M	Operations and maintenance
PCS	Permit Compliance System
POTW	Publicly owned treatment works
PSES	Pretreatment Standards for Existing Sources
PSNS	Pretreatment Standards for New Sources
QAP	Quality assurance plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
RWC	Receiving Water Concentration
SIC	Standard Industrial Classification
SPCC	Spill Prevention and Control and Countermeasure
SS	Suspended Solids
SSO	Sanitary Sewer Overflow
s.u.	Standard Units
TMDL	Total Maximum Daily Load
TRC	Total Residual Chlorine
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)

TSS	Total suspended solids
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water Quality Standards
WWTP	Wastewater treatment plant

I. Applicant

A. General Information

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

Town of Coulee Dam
NPDES Permit # WA-002028-1

Physical Address:
101 Beaver Drive
Coulee Dam, WA 99116

Mailing Address:
300 Lincoln Ave
Coulee Dam, WA 99116

Contact:
Barry Peacock, Supt. of Public Works
(509)633-0160

II. Facility Information

The City of Coulee Dam operates a publicly owned waste treatment facility (POTW) located on Beaver Drive on the Colville Confederated Tribes Reservation. A location map is included as Appendix A. The facility provides secondary treatment for an estimated service total population of 1,277. As part of this load the treatment plant services the Town of Elmer with a population of 267 via a force main and lift station. The facility accepts conventional pollutant loads and generates sewage sludge. The facility receives no industrial wastewater. The facility's collection system consists only of separate sanitary sewers.

The POTW is owned and operated by the Town of Coulee Dam. It was built in 1972 and modified in 1978 to accommodate sewage from Elmer City. The facility was evaluated as a part of the 1978 upgrade and was found to have the following design capacities:

Flow	0.503 mgd
Peak Flow	1.886 mgd
BOD	1000 lbs/day
Maximum loading	20 lbs/1000 cubic feet of ditch volume/day
Population Equivalent	3,200 people

The treatment system is composed of preliminary treatment bar screens and two grit removal chambers followed by a 374,000 gallon oxidation ditch with a detention time of 22 hours. An

oxidation ditch is a modified activated sludge biological treatment process that utilizes long solids retention times to remove biodegradable organics. Flow to the oxidation ditch is aerated and mixed with return sludge from a secondary clarifier. A process flow diagram is shown in Appendix B. A 42 inch diameter by 10 foot surface disc aerator is used to circulate the mixed liquor. The mixing process entrains oxygen into the mixed liquor to foster microbial growth and the motive velocity ensures contact of microorganisms with the incoming wastewater. The aeration sharply increases the dissolved oxygen (DO) concentration but decreases as biomass uptake oxygen as the mixed liquor travels through the ditch. Solids are maintained in suspension as the mixed liquor circulates around the ditch. The oxidation ditch effluent is settled in a 30 foot diameter separate secondary clarifier with detention time of 3.8 hours.

Effluent is chlorinated in a 26,200 gallon contact chamber with detention time of 93 minutes prior to discharge to the diffuser. In all variations of treatment processes excess sludge will be produced. In the particular treatment process utilized in the Coulee Dam treatment plant, an aerobic biological sludge is produced.

The sludge is removed from the treatment process at approximately three feet below the surface of the oxidation ditch and then is pumped to a twelve bag Drimad de-watering machine where polymer is injected into the sludge then dewatered through porous bags. The bags are then removed to an asphalted area and continue to dry on wooden pallets for approximately four to six months depending on weather conditions.

Biosolids are then removed from bags and hauled to the town’s local municipal solid waste landfill where biosolids will be used as bulk interim cover, which is not top covering but mixed under the top cover.

The previous NPDES Permit for this facility was issued by EPA on October 11, 1999. The permit expired on October 11, 2004. The Town of Coulee Dam submitted a complete application for permit reissuance on August 26, 2005.

The facility is unchanged from 1993 to present.

III. Receiving Water

This facility discharges to the Columbia River on the Colville Reservation. A 10" dual ported pipeline extends approximately 60 feet into the Columbia River. Treated wastewater is discharged at this location downstream of Grand Coulee Dam. The discharge is well east of the centerline of the River within the boundaries of the Colville Confederated Tribes Reservation. A location map is shown in Appendix A. The sludge is disposed by land application.

During the three years 2005 through 2007 the POTW had the following effluent quality (from Discharge Monitoring Reports):

Flow:	0.186 mgd
BOD Effluent:	6 mg/l highest weekly average, 4 mg/l highest monthly average (97% removal)

TSS Effluent:	10 mg/l highest weekly average, 8 mg/l highest monthly average (94% Removal)
Enterococci Bacteria:	4 #/100 ml highest geometric mean over 30 days, Daily maximum average 10 #/100 ml. The highest maximum daily concentration monitored was 37 #/100 ml.
Chlorine:	0.3 mg/l average of monthly averages, 0.4 mg/l highest monthly average

The Town of Coulee Dam POTW violated the pH effluent limitation twice in the last three years. No other violations of the effluent limitations were reported for this three year period. The DMRs sent to the Town of Coulee Dam by EPA listed e-coli as the parameter but listed the permit effluent limits for enterococci. Coulee Dam submitted the permit required enterococci analysis on this DMR. The Town of Coulee Dam did not violate the monthly average or the single sample enterococci limits.

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 by July 1, 1977. Federal regulations at 40 CFR 122.4(d) require that the conditions in NPDES permits ensure compliance with the water quality standards of all affected States. A tribe’s water quality standards are composed of use classifications, numeric and/or narrative water quality criteria, and an anti-degradation policy. The use classification system designates the beneficial uses (such as drinking water supply, contact recreation, and aquatic life) that each water body is expected to achieve. The numeric and narrative water quality criteria are the criteria deemed necessary by the tribe 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.

The Colville Business Council adopted water quality standards that classify this reach as Class I but were not approved by EPA:

Columbia River from northern Reservation boundary to Chief Joseph Dam: Class I

The water quality standards promulgated in the Code of Federal Regulations did not specifically classify the Columbia River. Title 40CFR31.35(g)(8) classifies all waters not specifically assigned to a classification of the reservation as Class II. The differences are shown below:

Parameter	Class I	Class II
DO	9.5	8.0
Temperature	16 degrees Celsius	18 degrees Celsius
Bacteria	Fecal Coliform: 14 organisms/100mL, with not more than 10 percent of samples exceeding 43 organisms/100mL.	Enterococci: 16 counts per 100mL 30 day average no sample greater than 75

		per 100mL
pH	6.5 to 8.5	6.5 to 8.5

The beneficial uses from 40CFR31.35(f)(2) are:

Class II (Excellent)--(i) Designated uses. The designated uses include but are not limited to, the following:

- (A) Water supply (domestic, industrial, agricultural).
- (B) Stock watering.
- (C) Fish and shellfish: Salmonid migration, rearing, spawning, and harvesting; other fish migration, rearing, spawning, and harvesting; crayfish rearing, spawning, and harvesting.
- (D) Wildlife habitat.
- (E) Ceremonial and religious water use.
- (F) Recreation (primary contact recreation, sport fishing, boating and aesthetic enjoyment).
- (G) Commerce and navigation.

IV. Effluent Limitations

A. Basis for Effluent Limitations

In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based 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 applicable to a water body are being met and may be more stringent than technology-based effluent limits. The basis for the effluent limits proposed in the draft permit is provided in Appendix C.

B. Proposed Effluent Limitations

Below are the proposed effluent limits that are in the draft permit.

1. Narrative limitations to protect the aesthetic qualities of water within the Reservation as promulgated in Title 40CFR31.35(e)(3):

The permittee must not discharge any substances that:

- (i) Settle to form objectionable deposits;
- (ii) Float as debris, scum, oil, or other matter forming nuisances;
- (iii) Produce objectionable color, odor, taste, or turbidity;
- (iv) Cause injury to, are toxic to, or produce adverse physiological responses in humans, animals, or plants; or
- (v) produce undesirable or nuisance aquatic life.

2. Narrative limitations to protect the aesthetic qualities of water within the Reservation as promulgated in the Colville Business Council adopted water quality standards Chapter 4-8:

Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

3. Narrative secondary treatment percent removal requirements for POTWs

Removal Requirements for BOD₅ and TSS: The monthly average effluent concentration must not exceed 15 percent of the monthly average influent concentration. Percent removal of BOD₅ and TSS must be reported on the Discharge Monitoring Reports (DMRs). For each parameter, the monthly average percent removal must be calculated from the arithmetic mean of the influent values and the arithmetic mean of the effluent values for that month. Influent and effluent samples must be taken over approximately the same time period.

Table 2 (below) presents the proposed average monthly, average weekly, and maximum daily effluent limits.

Table 2: Proposed Effluent Limits			
Parameter	Units	Effluent Limits	
		Average Monthly Limit	Average Weekly Limit
Five-Day Biochemical Oxygen Demand (BOD₅)	mg/L	30	45
	% removal	85% (min)	—
Total Suspended Solids (TSS)	mg/L	30	45
	% removal	85% (min)	—
Fecal Coliform Bacteria	#/100 ml	200	400 ²
Enterococci	#/100 ml	16 ³	—
pH (daily)⁴	s.u.	6.5-8.5	
Total Residual Chlorine⁵	mg/L	0.5	0.75

1. Percent removal is calculated using the following equation: ((influent - effluent) / influent) x 100
 2. The Average Monthly Limit and the Average Weekly Limit for Fecal Coliform are based on the Geometric Mean in organisms/100ml. See Part VI for a definition of geometric mean. If any value used to calculate the geometric mean is less than 1, the permittee must round that value up to 1 for purposes of calculating the geometric mean.
 3. No single sample shall exceed 75/100 ml. The sampling shall be based on a geometric mean of samples equally spaced over 30 days. Sampling shall be conducted in accordance with Test Methods for Escherichia coli and Enterococci in Water By the Membrane Filter Procedure (EPA 600/4-85-076).
 4. Not less than 6.5 standard units (s.u.) nor greater than 8.5 standard units (s.u.) maximum daily limit. Reporting is required within 24 hours of a maximum daily limit or instantaneous maximum limit violation. See Parts I.B.2. and III.G.
 5. Effluent limits for total residual chlorine apply only if the permittee adds chlorine to the effluent for total or partial disinfection.

V. Monitoring Requirements

A. Basis for Effluent and Surface Water Monitoring

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

The permittee is responsible for conducting the monitoring and for reporting results on Discharge Monitoring Reports (DMRs) or on the application for renewal, as appropriate, to the U.S. Environmental Protection Agency (EPA) and the Colville Confederated Tribes.

B. Effluent Monitoring

The design flow of the WWTP is 0.503 mgd. The 7Q10 flow from the Grand Coulee Dam is 19,355 mgd. Flow figures are from U.S. Bureau of Reclamation records for the Columbia River at Grand Coulee Dam. This yields a minimum dilution ratio of 1 part effluent to 3,355 parts river water (1: 3,355). EPA does not expect that surface water will be impacted due to the high dilution ratio. Therefore, EPA will not require surface water testing for dissolved oxygen, temperature, ammonia and chlorine because those effects originating from this WWTP is expected to be exceedingly small. In addition, the WWTP does not discharge wastes from industrial users, therefore as there will not be significant loadings of metals from this WWTP surface water testing for metals is also not required.

The Town of Coulee Dam requested a reduction in chlorine monitoring from seven days per week to five days per week do to “testing on the weekends requires the town to incur extra costs, have scheduling conflicts, loss of manpower during the week and loss of productivity. Currently the town has two public works personnel whose regular scheduled work week is either Tuesday – Saturday or Sunday – Thursday. This schedule allows for only 3 days a week that we are fully staffed to maintain the public works department.” Five days per week “would allow us to better utilize our funds and provide better service to our community.” According to Barry Peacock the cost of a continuous chlorine monitor is proximally \$3,000 for the analyzer, \$3,000 for the recorder and \$1,500 for installation which Barry rounded up to a total cost of \$10,000. Using methods in the Department of Ecology’s Permit Writers Manual, page XXXIII-15 under Monitoring the allowable monitoring frequency may be reduced based on the ratio of long term effluent average to the average monthly limit (AML). The ratio is 66 percent allowing a reduction to five days per week. This draft permit reduces monitoring to five days a week contingent on no violations. If the Town of Coulee Dam violates the chlorine effluent limit monitoring will increase to seven days per week.

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 are less than the effluent limits.

Table 3 presents the proposed effluent monitoring requirements for the Town of Coulee Dam. The sampling location must be after the last treatment unit and prior to discharge to

the receiving water. The samples must be representative of the volume and nature of the monitored discharge. If no discharge occurs during the reporting period, “no discharge” shall be reported on the DMR.

Table 3: Effluent Monitoring Requirements

Parameter	Units	Sample Location	Sample Frequency	Sample Type
Flow	mgd	Effluent	daily	measured
BOD ₅	mg/L	Influent & Effluent	1/week	24-hour composite
	% Removal	--	--	calculation ¹
TSS	mg/L	Influent & Effluent	1/week	24-hour composite
	% Removal	--	--	calculation ¹
pH	standard units	Effluent	1/week	grab
Fecal Coliform ³	#/100 ml	Effluent	1/month	grab
Enterococci Bacteria ⁴	#/100 ml	Effluent	1/week	grab
Total Residual Chlorine ⁵ (if chlorine is used for disinfection)	mg/L	Effluent	5/week	grab

Notes:

1. Percent removal is calculated using the following equation: $((\text{influent} - \text{effluent}) / \text{influent}) \times 100$ Percent
2. If the effluent limitation is violated monitoring must be seven days per week for three months.
3. The Average Monthly Limit and the Average Weekly Limit for Fecal Coliform are based on the Geometric Mean in organisms/100ml. See Part VI for a definition of geometric mean. If any value used to calculate the geometric mean is less than 1, the permittee must round that value up to 1 for purposes of calculating the geometric mean.
4. No single sample shall exceed 75/100 ml. The sampling shall be based on a geometric mean of samples equally spaced over 30 days. Sampling shall be conducted in accordance with Test Methods for Escherichia coli and Enterococci in Water By the Membrane Filter Procedure (EPA 600/4-85-076).
5. If the effluent limitation is violated monitoring must be seven days per week for three months.

VI. Sludge (Biosolids) Requirements

All sludge is bagged, dried and hauled to the town’s local municipal solid waste landfill where biosolids will be used as bulk interim cover. EPA Region 10 separates wastewater and sludge permitting. EPA has authority under the CWA to issue separate sludge-only permits for the purposes of regulating biosolids. Until future issuance of a sludge-only permit, sludge management and disposal activities at each facility continue to be subject to the national sewage sludge standards at 40 CFR Part 503 and any requirements of the State’s biosolids program. The Part 503 regulations are self-implementing, which means that facilities must comply with them whether or not a permit has been issued.

VII. Other Permit Conditions

A. Quality Assurance Plan

The federal regulation at 40 CFR 122.41(e) requires the permittee to develop procedures to ensure that the monitoring data submitted is accurate and to explain data anomalies if they occur. The Town of Coulee Dam is required to update the Quality Assurance Plan for the

wastewater treatment plant within 90 days of the effective date of the final permit. The Quality Assurance Plan shall consist of standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting.

B. Operation and Maintenance Plan

The permit requires the Town of Coulee Dam 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 their 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 Colville Tribe upon request.

C. Design Criteria

The permit retains the design criteria requirements from the previous permit. This provision requires the permittee to compare influent flow and loading to the facility's design flow and loading and prepare a facility plan for maintaining compliance with NPDES permit effluent limits when the annual average flow or loading exceeds 85% of the design criteria values for three consecutive months.

D. Standard Permit Provisions

Sections III, IV and V of the draft permit contain standard regulatory language that must be included in all NPDES permits. Because these requirements are based directly on NPDES regulations, they cannot be challenged in the context of an 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 (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. On January 25, 2006, EPA wrote to NOAA Fisheries and the USFWS to obtain list of species that are endangered or threatened at the vicinity of discharge. On February 3, 2006 and in a second e-mail from Diane Driscoll on April 28, 2008, NOAA Fisheries stated no listed endangered species or critical habitat is in the vicinity of Grand Coulee Dam. The United States Department of the Interior lists Bull Trout as threatened. EPA has determined that issuance of this permit is not likely to adversely affect threatened Bull Trout.

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. In an e-mail on February 3, 2006 from NOAA and from a second e-mail from Diane Driscoll on April 28, 2008 NOAA Fisheries determined that there is no Critical Habitat in the vicinity of Grand Coulee Dam.

Therefore, EPA has determined that issuance of this permit is not likely to adversely affect EFH in the vicinity of the discharge. EPA has provided NOAA Fisheries with copies of the draft permit and fact sheet during the public notice period. Any comments received from NOAA Fisheries regarding EFH will be considered prior to reissuance of this permit.

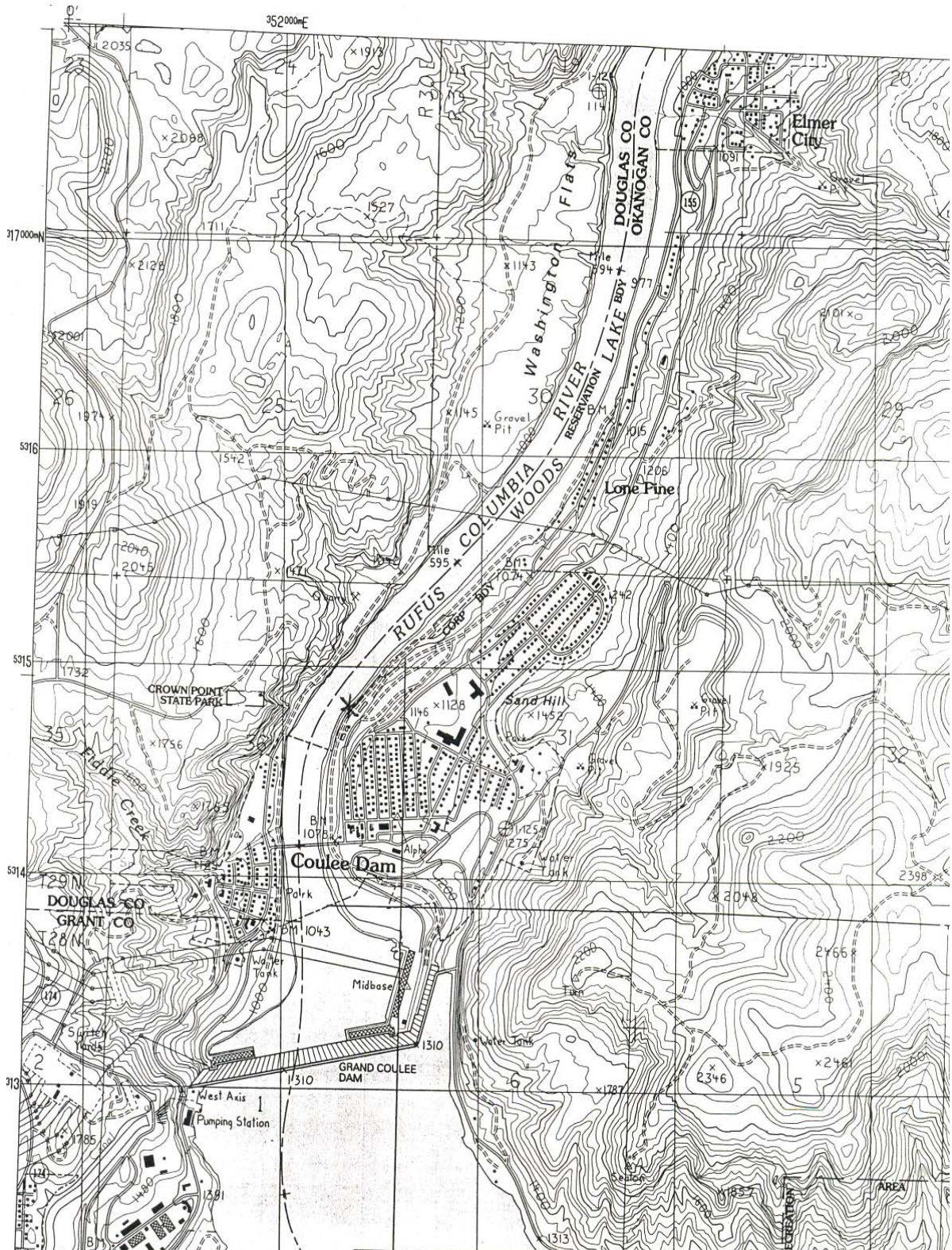
C. State Certification

Section 401 of the CWA requires EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards, or treatment standards established pursuant to any State law or regulation. The state in which the discharge originates is typically responsible for issuing the certification pursuant to CWA Section 401(a)(1). In the case where the state has no authority to give 401 certification, such as for a discharge located within the boundaries of an Indian Reservation, EPA provides the certification. The point of discharge of the outfall is also located within boundaries of the Colville Indian Reservation. Tribes may issue 401 certification for discharges within their boundaries if the Tribe has been approved by the EPA pursuant to CWA Section 518(e) and 40 CFR Section 131.8 to administer a water quality standards program. The Colville Tribes have not yet been authorized to provide 401 certification; therefore, EPA is responsible for issuing 401 certification in this case. However, in the course of issuing this NPDES Permit, EPA has consulted with the Colville Tribes.

D. Permit Expiration

The permit will expire five years from the effective date.

Appendix A: Facility Map



**Appendix B: Flow
Diagram**

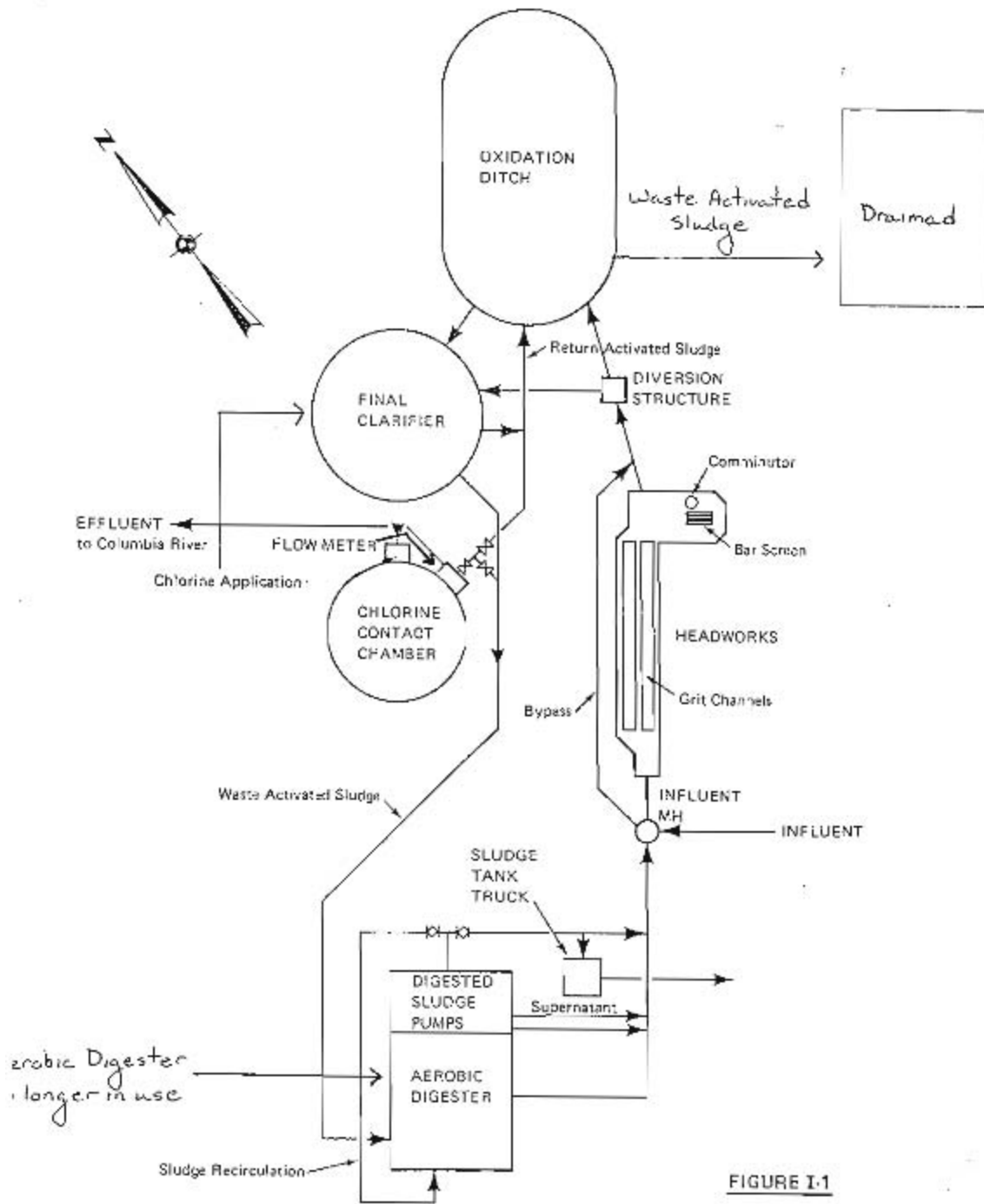


FIGURE I-1
BASIC FLOW DIAGRAM

Diagram

Appendix C: Basis for Effluent Limits

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

Federal Secondary Treatment 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 C-1.

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.

Chlorine

Chlorine is often used to disinfect municipal wastewater prior to discharge. The Town of Coulee Dam uses chlorine disinfection.

A 0.5 mg/L average monthly limit for chlorine is derived from standard operating practices. The Water Pollution Control Federation’s *Chlorination of Wastewater* (1976) states that a properly designed and maintained wastewater treatment plant can achieve adequate disinfection if a 0.5 mg/L chlorine residual is maintained after 15 minutes of contact time. Therefore, a wastewater treatment plant that provides adequate chlorine contact time can meet a 0.5 mg/L total residual chlorine limit on a monthly average basis. In addition to average monthly limits (AMLs), NPDES regulations require effluent limits for POTWs to be expressed as average weekly limits (AWLs) unless impracticable. The AWL is calculated to be 1.5 times the AML, consistent with the “secondary treatment” limits for BOD₅ and TSS. This results in an AWL for chlorine of 0.75 mg/L.

EPA has determined that these effluent limits with the relatively small discharge and the high dilution of 3,355 to 1 are sufficiently stringent to meet water quality standards.

Enterococci Bacteria

The Bacteria limitations are specified by the Water Quality Standards for the Colville Indian Reservation in the State of Washington (40 CFR Part 131.35). The Enterococci bacteria standard is of 16 counts per 100 ml and is based on a geometric mean of samples equally spaced over 30 days. The standard also prohibits any one sample from greater than 75 counts per 100 ml. The Enterococci bacteria are a subgroup of the fecal Streptococcus group of bacteria. The approved test method for Enterococci sampling is found in an EPA Office of Research and Development Methods document, Test Methods for Escherichia coli and Enterococci in Water by the Membrane Filter Procedure (EPA 600/4-85-076). This testing method shall be used in the Enterococci bacteria sampling. Further, anti-backsliding rules prevent the removal of this established effluent limitation of 16 counts per 100 ml. 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.

Fecal Coliform Bacteria

The Colville Business Council adopted water quality standards for fecal coliform. Effluent limitations and monitoring for fecal coliform are added in this permit reissuance to ensure the protection of this criteria. Section 402(a)(1) of the federal Clean Water Act, 40 CFR Part 122.44(a)(1) requires technology based effluent limitations based on case by case determinations. EPA determines that best practicable technology and best control technology for fecal coliform are the same as promulgated in Washington State's WAC 173-221, Discharge Standards and Effluent Limitations for Domestic Wastewater Facilities. The regulation requires effluent limits not exceed a monthly geometric mean of 200 colonies/100 ml fecal coliform bacteria nor exceed a weekly geometric mean of 400 colonies/100 ml for discharges from domestic wastewater facilities.

B. Water Quality-based Effluent Limits***Statutory and Regulatory Basis***

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards by July 1, 1977. Discharges to State or Tribal waters must also comply with limitations imposed by the State or Tribe as part of its certification of NPDES permits under section 401 of the CWA. Federal regulations at 40 CFR 122.4(d) prohibit the issuance of an NPDES permit that does not ensure compliance with the water quality standards of all affected States. 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 or Tribal water quality standard, including narrative criteria for water quality.

The regulations require the permitting authority to make this evaluation using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the

receiving water. The limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation.

The design flow of the WWTP is 0.503 mgd. The 7Q10 flow from the Grand Coulee Dam is 19,355 mgd. This yields a minimum dilution ratio of 1 part effluent to 3,355 parts river water (1:3,355). Due to this high dilution ratio relative to effluent discharged, EPA concluded in 1993 and 1999 the NPDES permit ensures compliance with water quality standards. EPA again concludes this permit ensures compliance with water quality standards due to the high dilution ratio. Therefore, EPA will not require surface water testing for dissolved oxygen, temperature, ammonia and chlorine because those pollutants originating from this WWTP is expected to be exceedingly small. In addition, the WWTP does not discharge wastes from industrial users, therefore as there will not be significant loadings of metals from this WWTP, surface water testing for metals is also not required.

pH

The pH criteria for this discharge is specified in Title 40CFR31.35. The most stringent water quality criterion for pH is for the protection of aquatic life and aquaculture water supply. The pH criteria for these uses state that the pH must be no less than 6.5 and no greater than 8.5 standard units, and may not vary more than 0.5 pH units from natural conditions. Since the pH of the effluent is similar to the pH of the receiving water, EPA does not expect the effluent to change the pH of (insert name of receiving water) by more than 0.5 standard units. Mixing zones are generally not granted for pH, therefore the most stringent water quality criterion must be met before the effluent is discharged to the receiving water. The draft permit requires that the effluent have a pH of no less than 6.5 and no greater than 8.5 standard units.

The permittee has collected pH data for the effluent. EPA has used these data to determine the discharge's effects on the pH of the receiving water. The Town of Coulee Dam treatment plant has met the pH limit over almost all of the last permit cycle. The effluent limit will remain unchanged in the reissued permit.