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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

1315 W. 4th Avenue • Kennewick, Washington 99336-6018 • (509) 735-7581

September 17, 1998

Mr. James E. Rasmussen  
U.S. Department of Energy  
P.O. Box 550, MSIN: A5-15  
Richland, WA 99352-0550



Dear Mr. Rasmussen:

Re: Minor Modifications of State Waste Discharge Permit ST-4501, 400 Area Secondary Cooling Water

48495

The Washington State Department of Ecology (Ecology) is issuing a minor modification to State Waste Discharge Permit ST-4501. Condition S.5. 'Analytical Requirements' references a superseded revision of the U.S. Environmental Protection Agency's *Methods for Chemical Analysis of Water and Wastes*. The change modifies the permit to require the use of the most recent revision of the document.

Enclosed are two replacement pages for inclusion in your copies of the permit. Because the changes are classified as a minor modification, no public review period is required.

If there are any questions about this letter or the enclosures, please contact me at (509) 736-3011.

Sincerely,

Steven J. Skurla, Permit Manager  
Nuclear Waste Program

SS:sb  
Enclosure

cc: Doug Chapin, USDOE  
Alex Teimouri, USDOE  
Doug Sherwood, EPA  
William Adair, FDH  
Tom Dillhoff, BWHC  
Jeff Luke, RFSH

Wilkinson, CTUIR  
Donna Powaukee, NPT  
Russell Jim, YIN  
Mary Lou Blazek, OOE  
Administrative Record: Liquid Effluents Consent  
Order

PRACTICAL QUANTIFICATION LEVELS AND REQUIRED  
ANALYTICAL METHODS

PARAMETER	PQL <sup>(1)</sup>	ANALYTICAL METHOD <sup>(2)</sup>	ADDITIONAL CLARIFICATION
arsenic (total)	15	7060/200.8	monitor only
cadmium (total)	5	7131A/200.8	monitor only
chloride	1,000	9056/300	
chromium (total)	20	7191/200.8	
cobalt	70	6010	monitor only
copper (total)	70	6010/200.7/200.8	monitor only
cyanide (total)	50	335	
gross beta	4 picoCuries per liter	laboratory specific	monitor only
lead (total)	10	7421/200.8	
manganese (total)	50	6010	
mercury (total)	2	7470/7471	
nitrate	100	9056/300	monitor only
nitrite	100	9056/300	monitor only
pH	increments of 0.1 pH units	9040A/150.1 (in laboratory)	for groundwater-calibrate and measure pH in field.
phosphorous (total)	50	365	monitor only
selenium (total)	20	7741	
sulfate (total)	10,000	375	
tritium	460 picoCuries per liter	laboratory specific	monitor only
total organic carbon	1,000	415.1	monitor only
total organic halides	20	8260	monitor only
total dissolved solids	10,000	160.1	
zinc (total)	20	6010	

<sup>(1)</sup> units are in ug/L (microgram per liter) unless otherwise noted.

<sup>(2)</sup> Methods are from most recent revision of either EPA SW-846, or EPA Methods for Chemical Analysis of Water and Wastes.

Duplicate measurements shall be available to Ecology. Ecology's precision goal is +/-20%. The quality control/quality assurance (QA/QC) requirements of the current revision of "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846", "EPA Methods for Chemical Analysis of Water and Wastes", shall be followed during all analytical procedures.

#### S.6 DRINKING WATER LIMITS

Drinking water supply well number 499-S1-8J is located southwest of the percolation ponds and is pumped from the aquifer at approximately the 400 foot level. This is a deeper, less contaminated portion of the aquifer in which only small amounts of tritium and nitrate have been detected. The water from this well is chlorinated to 1 part per million (ppm) by injecting liquid sodium hypochlorite into the water as it is pumped into one of three storage tanks. The chemical and microbiological status of this system is monitored by the Permittee and is permitted for operation by the Washington State Department of Health (DOH). The sanitary water supply system is monitored for chemical and microbiological parameters by the Permittee and meets safe drinking water criteria according to analytical results submitted to DOH. Because water supply in the 400 Area is pumped from well 499-S1-8J, which is located in the same aquifer the 400 Area ponds discharge to, a copy of the analytical results, as submitted to DOH, shall also be provided to Ecology for the duration of this permit.

#### S.7 ESTABLISH GROUNDWATER MONITORING

The Permittee has established groundwater monitoring wells number 699-8-17 (upgradient), and 699-2-7 (downgradient) in the vicinity of the effluent percolation ponds addressed by this permit. The groundwater monitoring wells shall be sampled and maintained by the Permittee as a condition of this permit for the following purposes:

- to validate permit compliance for the permitted effluent discharge (wells 699-2-7)
- to ensure groundwater quality protective of human health and the environment (699-2-7)
- to monitor background groundwater quality before discharge of the permitted effluent (well 699-8-17).

The Permittee has constructed an additional downgradient groundwater monitoring well designated as well 699-2-6A. This well shall be operational by July, 1998. Sampling of well 699-2-6A shall commence in the third quarter of 1998. Well 699-2-6A shall be sampled for the same constituents and at the same frequency as wells 699-2-7 and 699-8-17.

See Section S.8 for monitoring requirements to achieve early warning and compliance validation. Groundwater monitoring wells numbers 699-8-17, 699-2-7 and 699-2-6B shall be sampled and maintained per the requirements of WAC's 173-160, 173-162, 173-200, and 173-216, and RCW's 90.44, 90.48, and 18.104. In situations of conflict, State regulations take precedence.