



Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

RECEIVED

MAR 06 2012

Department of Ecology
NWP-Richland

MAR 06 2012

12-EMD-0041

Mr. E. R. Skinnarland
Nuclear Waste Program
State of Washington
Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

COPY FOR YOUR
INFORMATION

Dear Mr. Skinnarland:

TRANSMITTAL OF A REVISED APPLICATION FOR A STATE WASTE DISCHARGE PERMIT TO DISCHARGE DOMESTIC WASTEWATER TO GROUND WATER BY LAND TREATMENT OR APPLICATION FOR PROJECT L-691, 200 WEST AREA EVAPORATIVE SEWER LAGOON

This letter transmits the enclosed "Revised Application for a State Waste Discharge Permit to Discharge Domestic Wastewater to Ground Water by Land Treatment or Application" for review and approval by the State of Washington, Department of Ecology in accordance with the Washington Administrative Code (WAC), Chapter 173-216. A revision to the initial permit application submittal (12-EMD-0022) was requested by Ecology to incorporate language in Section E.2 to reflect that a biosolids permit will be submitted in the near future. The supplemental data sheet and supporting information referenced in the application form was included with the initial permit application submittal and is not being resubmitted with this package.

We respectfully request a review of this permit application, and, if deemed necessary, a permit under WAC 173-216 be issued as soon as possible to support the planned start of operations for the new 200 West Area Evaporative Sewer Lagoon on May 1, 2012.

If you have any questions, please contact me, or your staff may contact Stephen R. Weil, Director, Environmental Management Division, on (509) 372-0879.

Sincerely,

Ray J. Corey, Assistant Manager
for Safety and Environment

EMD:DEJ

Enclosure

cc w/encl: See Page 2

MAR 06 2012

Mr. E. R. Skinnarland
12-EMD-0041

-2-

cc w/encl:

T. G. Beam, MSA

G. Bohnee, NPT

S. L. Camp, MSA

C. J. Clement, MSA

L. L. Fritz, MSA

B. C. Harmon, MSA

S. Harris, CTUIR

R. Jim, YN

K. F. McCutcheon, MSA

M. E. Mills, MSA-Freestone

S. L. Nichols, Ecology

K. Niles, OR Office of Energy

J. E. Rasmussen, YAHS GS LLC

T. E. Sackett, MSA

Environmental Portal, LMSI



Application for a State Waste Discharge Permit to Discharge Domestic Wastewater to Ground Water by Land Treatment or Application

This application is for a state waste discharge permit as required by Chapter 90.48 RCW and Chapter 173-216 WAC. Permit applications provide Ecology with information on pollutants in the waste stream, materials that may enter the waste stream, the flow characteristics of the discharge, and site characteristics at the point of discharge.

Ecology may request additional information to clarify the conditions of this discharge. The applicant should reference information previously submitted to Ecology that applies to this application in the appropriate section.

SECTION A. GENERAL INFORMATION

1. Applicant Name: U.S. Department of Energy (DOE-RL)
2. Facility Name: 200 West Area Evaporative Sewer Lagoon
(if different from applicant)
3. Applicant Address:
Street 825 Jadwin Avenue
City/State Richland, WA Zip 99352
4. Facility Location Address:
(if different from above) Street Route 3 and 27th Street, 200 West Area
City/State Richland, WA Zip 99352
5. Latitude/longitude of the processing facility as decimal degrees (NAD83/WGS84):
46.570033 / -119.609683
6. Latitude/longitude of sprayfield/infiltration site discharge location (approximate center) as decimal degrees (NAD83/WGS84):
46.570833/-119.608333 The point of discharge is for emergency purposes only. See section A.6 of the "Supplemental Data Sheet" for more information.
7. Person to contact who is familiar with the information contained in this application:

Name Curt Clement

Title Environmental Scientist

Telephone Number

509-376-6223

Fax Number

509-372-2828

Email Curt_J_Clement@rl.gov

FOR ECOLOGY USE ONLY

Check One

New/Renewal

Modification

Date Application Received _____

Application/Permit No. _____

Date Application Accepted _____

Date Fec Paid _____

8. Check One:

Permit Renewal (including renewal of temporary permits)

Does this application request a greater amount of wastewater discharge, a greater amount of pollutant discharge, or a discharge of different pollutants than specified in the last permit application for this facility? YES NO

For permit renewals, the current permit is an attachment, by reference, to this application.

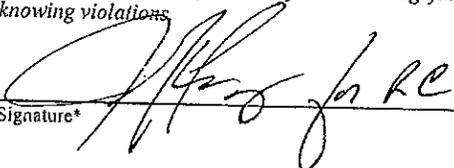
Permit Modification

Existing Unpermitted Discharge

Proposed Discharge

Anticipated date of discharge: See Section A.6, Supplemental Data Sheet

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and/or imprisonment for knowing violations.


Signature*

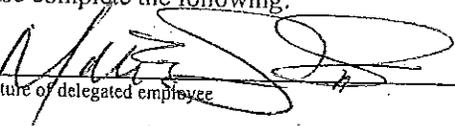
3-6-2012
Date

DOE
RL-AMSE
Title

Printed Name

*Applications must be signed by either a principal executive officer or a ranking elected official. If these titles do not apply to your organization, the person who makes budget decisions for this facility must sign the application. For state facilities, this is typically a program manager.

The application signatory may delegate signature authority for submittals required by the permit, such as monthly reports, to a suitable employee. You can delegate this authority to a qualified individual or to a position, which you expect to fill with a qualified individual. If you wish to delegate signature authority, please complete the following:


Signature of delegated employee

3-2-12
Date

Title or function at the facility

Printed name

SECTION B. TREATMENT PLANT INFORMATION

1. Identify all industries, commercial facilities or communities discharging to this publicly owned treatment works (POTW) by name, type of industry, address, telephone number and contact name. Attach extra sheet(s) if needed and label as attachment B1.

	INDUSTRY #1	INDUSTRY #2
NAME:	N/A: This will not be a POTW.	
INDUSTRY:	Domestic wastewater from the Hanford site.	
ADDRESS:	N/A	
TELEPHONE:	N/A	
CONTACT NAME:	N/A	
INDUSTRIAL PRODUCT(S):	N/A	

2. POTW design and operation manuals available for this treatment facility:

Type of Manual	Date	Is there a copy at the POTW?
<input checked="" type="checkbox"/> Engineering Report	November 2011	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<input checked="" type="checkbox"/> Operation and Maintenance Manual	Nov. 2011 (Draft)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<input type="checkbox"/> Crop Management Plan	N/A	<input type="checkbox"/> YES <input type="checkbox"/> NO
<input type="checkbox"/> Sprayfield Management Plan	N/A	<input type="checkbox"/> YES <input type="checkbox"/> NO

3. POTW Design Data:

- a. Average Influent Flow for Maximum Month (MGD): 0.055
- b. Influent BOD Load (lbs/day): 105
- c. Influent SS Load (lbs/day): 179
- d. Began Operation (year): Will begin in 2012
- e. Last Major Upgrade (year): N/A
- f. Planned Upgrades (year): N/A
- g. Design Population: 2587 workers
- h. Actual Population: 2922 workers
- i. Sprayfield loading - attach copy of the irrigation schedule if schedule if available N/A

4. Are there plans to modify this facility within the next five years? If so, briefly describe what and when.

No.

5. Attach a simple schematic drawing of the POTW. (Label as attachment B.5. Attachments should be 11 x 17" or smaller). The schematic should show all treatment processes (from B.6 below), flow direction and flow quantities in million gallons per day (MGD) or gallons per day (GPD). See Section B.5 of the Supplemental Data Sheet.
6. Identify the type and number of unit processes at this facility.

Treatment	Unit Process	Number of Units
Lift stations	In collection system	10 (Est.)
	At head of plant	N/A
Preliminary treatment	Manually operated bar screens	1
	Mechanically operated bar screens	N/A
	Grit removal	1
	Pre-aeration	N/A
	Comminutors/grinders	1
	Other (specify)	N/A
Primary Treatment	Primary Sedimentation Tank/Clarifiers	N/A
	Septic tanks	N/A
	Other (specify)	N/A
Secondary Treatment	Oxidation Ditch	N/A
	Package Plant - Activated Sludge	N/A
	Package Plant - Physical/Chemical	N/A
	Aerated Lagoon	2
	Non-aerated Lagoon/Facultative Lagoon	N/A
	Rotating Biological Contact	N/A
	Secondary Clarifiers	2 - Settling
	Trickling Filter	N/A
	Polishing Ponds	N/A
	Other (specify)	N/A
Additional Treatment	Coagulation	N/A
	Filtration	2
	Storage (Lined Lagoon)	2
	Storage (Unlined Lagoon)	N/A
	Other (specify)	N/A
Land Treatment or Application	Drainfield	N/A
	Rapid Infiltration/Infiltration Lagoon	N/A
	Constructed Wetland	N/A
	Sprinkler Irrigation	N/A
	Flood Irrigation	N/A
	Ridge and Furrow Irrigation	N/A
	Subsurface Irrigation	N/A
	Other (specify)	N/A
Disinfection	Chlorination	N/A
	Ultraviolet	N/A
	Other	N/A

X	Parameter	Measurement Values			Number of Analyses	Analytical Method Std. Methods 19 th , 20 th edition of EPA	Detection Limit/Quantitation Level
		Minimum	Maximum	Average			
	BOD (5 day)	N/A	N/A	N/A	N/A	SM 5210 B	/2 mg/l
	COD	N/A	N/A	N/A	N/A	SM 5220 D	/10 mg/l
	Total suspended solids	N/A	N/A	N/A	N/A	SM 2540 D	/5 mg/l
	Total dissolved solids	N/A	N/A	N/A	N/A	SM 2540 C	
	Conductivity (micromhos/cm)	N/A	N/A	N/A	N/A	SM 2510 B	
	Ammonia-N as N	N/A	N/A	N/A	N/A	SM 4500-NH ₃ C	/0.3 mg/L
	pH	N/A	N/A	N/A	N/A	SM 4500-H	0.1 standard units
	Total Residual Chlorine	N/A	N/A	N/A	N/A	SM4500-Cl G	50/ µg/L L
	Fecal coliform (organisms/100 mL)	N/A	N/A	N/A	N/A	SM 9221 E or 9222 D	
	Total coliform (organisms/100 mL)	N/A	N/A	N/A	N/A	SM 9221 B or 9222 B	
	Dissolved oxygen	N/A	N/A	N/A	N/A	SM 4500-O C/G	
	Nitrate + nitrite-N as N	N/A	N/A	N/A	N/A	SM 4500-NO ₃ E	100 µg/L
	Total kjeldahl N as N	N/A	N/A	N/A	N/A	SM 4500-N _{org} C/E/FG	300 µg/l
	Ortho-phosphate-P as P	N/A	N/A	N/A	N/A	SM 4500-P E/F	10 µg/l
	Total-phosphorous-P as P	N/A	N/A	N/A	N/A	SM 4500-P E/P/F	10 µg/l
	Total Oil & grease	N/A	N/A	N/A	N/A	EPA 1664A	1.4/5 mg/l
	NWTPH - Dx	N/A	N/A	N/A	N/A	Ecology NWTPH Dx	250/250 µg/l
	NWTPH - Gx	N/A	N/A	N/A	N/A	Ecology NWTPH Gx	250/250 µg/l
	Calcium	N/A	N/A	N/A	N/A	EPA 200.7	10 µg/l
	Chloride	N/A	N/A	N/A	N/A	SM 4500-Cl C	0.15 µg/l
	Fluoride	N/A	N/A	N/A	N/A	SM 4500-F E	.025/0.1 mg/l
	Magnesium	N/A	N/A	N/A	N/A	EPA 200.7	10/50 µg/l
	Potassium	N/A	N/A	N/A	N/A	EPA 200.7	700/ µg/l
	Sodium	N/A	N/A	N/A	N/A	EPA 200.7	29/ µg/l
	Sulfate	N/A	N/A	N/A	N/A	SM 4500-SO ₄ C/D	/200 µg/l
	Alkalinity mg/L as CaCO ₃	N/A	N/A	N/A	N/A	SM 2320 B	/5 mg/L as CaCO ₃

X	Parameter	Measurement Values			Number of Analyses	Analytical Method Std. Methods 19 th , 20 th edition or EPA	Detection Limit/Quantification Level
		Minimum	Maximum	Average			
	Arsenic (total)	N/A	N/A	N/A	N/A	EPA 200.8	0.1/0.5 µg/l
	Barium (total)	N/A	N/A	N/A	N/A	EPA 200.8	0.5/2 µg/l
	Cadmium (total)	N/A	N/A	N/A	N/A	EPA 200.8	.05/.25 µg/l
	Chromium (total)	N/A	N/A	N/A	N/A	EPA 200.8	0.2/1 µg/l
	Copper (total)	N/A	N/A	N/A	N/A	EPA 200.8	0.4/2 µg/l
	Iron (total)	N/A	N/A	N/A	N/A	EPA 200.7	12.5/50 µg/l
	Lead (total)	N/A	N/A	N/A	N/A	EPA 200.8	0.1/0.5 µg/l
	Manganese (total)	N/A	N/A	N/A	N/A	EPA 200.8	0.1/0.5 µg/l
	Mercury (total) pg/L	N/A	N/A	N/A	N/A	EPA 200.8	0.1/0.5 µg/l
	Molybdenum (total)	N/A	N/A	N/A	N/A	EPA 1631E	0.2/.5 µg/l
	Nickel (total)	N/A	N/A	N/A	N/A	EPA 200.8	0.1/0.5 µg/l
	Selenium (total)	N/A	N/A	N/A	N/A	EPA 200.8	0.1/0.5 µg/l
	Silver (total)	N/A	N/A	N/A	N/A	EPA 200.8	1/1 µg/l
	Zinc (total)	N/A	N/A	N/A	N/A	EPA 200.8	.04/.2 µg/l
		N/A	N/A	N/A	N/A	EPA 200.8	0.5/2.5 µg/l

Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.

Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to (1, 2, or 5) x 10ⁿ, where n is an integer. (64 FR 30417).
ALSO GIVEN AS:

The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

7. Has the effluent been analyzed for any other parameters than those identified in question C.6, or are there other pollutants that you know of or believe to be present?
 YES NO N/A

If yes, specify the pollutants and their concentration if known (*attach laboratory analyses if available and label as Attachment C.6*). (*Note: Ecology may require additional testing.*)

SECTION D. GROUNDWATER INFORMATION

Provide available data measurements or range of measurements from monitoring wells or supply wells in the area of discharge. Provide the analytical method and detection limit, if known. Provide the location of each well on the map required in E.3 below. Attach well logs when available (*label as Attachment D*). Copy this page as necessary for each well (*label as Attachment D*). Provide the latitude and longitude in decimal format.

Ecology Well Tag ID # _____

Well ID # A5214 (*example MW-1*)

(*example AAB123*)

Latitude: 46.57193

Longitude: -119.60781

Well Elevation (to the nearest 0.01 feet) 690.5 Check the appropriate box; the elevation measurement is relative to: the NAVD88 standard mean sea level

Parameter	Units	Range of Measurements	Number of Analyses	Analytical Method	Detection Limit
BOD (5 day)	mg/L	See Att. D			
COD	mg/L				
Total organic carbon	mg/L				
Dissolved Fixed Solids	mg/L				
Total dissolved solids					
pH	Standard units				
Conductivity	uS/cm (micromhos/cm)				
Alkalinity	ug/L mg/L as CaCO ₃				
Total hardness					
Fecal coliform	organisms/100mL				
Total coliform	organisms/100mL				
Dissolved oxygen					
Ammonia-N as N	mg/L				
Nitrate + nitrite-N, as N	mg/L				
Total kjeldahl N as N	mg/L				
Ortho-phosphate-P as P	mg/L				
Total-phosphorus-P as P	mg/L				
Total Oil & Grease	mg/L				
Total petroleum hydrocarbon	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Calcium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Chloride	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Fluoride	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Magnesium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Potassium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Sodium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Sulfate	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Barium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Cadmium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Chromium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Copper	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Iron	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Lead	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Manganese	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Mercury	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Selenium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Silver	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Zinc	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Depth to water level (to the nearest .01 feet)					

SECTION E. SITE ASSESSMENT

Note: The Department of Ecology Water Resources Section can be consulted for identifying wells within one mile of your site. The local library and local city or county planning offices may be helpful in providing the information required in this section.

1. Give the legal description of the land treatment/application site(s) by section/township/range and latitude/longitude (approximate center of the site; NAD83/WGS84 reference datum). Indicate the owner for each site. Give the acreage of each land treatment/application site(s). Attach a copy of the contract(s) authorizing use of(s) used land for treatment/application. *(Label as attachment E.1)*
N/A. No land application is planned for disposal.

2. If this is a new discharge, list all environmental control permits or approvals needed for this project; for example, SEPA review, engineering reports, hydrogeologic reports, , biosolids permits, or air emissions permits.
N/A. Submittals under WAC 173-240 have been submitted, including a SEPA checklist. A notice of construction was submitted under WAC 173-400 and WAC 173-460. An off-permit change notice was also submitted. A biosolids permit application under WAC 173-308 will also be submitted.

3. Attach an original United States Geological Survey (USGS) 7.5 minute topographic map or aerial photograph that shows the POTW and the land treatment/application site(s).
USGS topographical maps are available from the Department of Natural Resources (360-902-1234), Metsker Maps (206-588-5222), and some local bookstores and internet sites. Show the following on this map: *(Label as attachment E.3.)* See Section E.3, Supplemental Data.
 - a. Location and name of internal and adjacent streets.
 - b. Surface water drainage systems within ¼ mile of the site.
 - c. All wells within 1 mile of the site.
 - d. Wastewater discharge points.
 - e. Land uses and zoning adjacent to the wastewater application site.
 - f. Ground water gradient.

4. Describe the soils on the site using information from local soil survey reports. Soils information is available from your county conservation district or from information contained in the sites hydrogeologic report.
(Label as attachment E.4.) See Section E.4, Supplemental Data.

5. Describe the local geology and hydrogeology within one mile of the site. Include any ground water quality data. The local library, the sites hydrogeologic report, or soil conservation service may have this information.
(Label as attachment E.5.) See Section E.5, Supplemental Data.

6. List the names and addresses of contractors or consultants who provided information, and cite sources of information by title and author.

See Section E.6, Supplemental Data.

SECTION F. SLUDGE/BIOSOLIDS MANAGEMENT AND DISPOSAL

1. If your wastewater treatment is by lagoon:

Has the depth of the sludge been measured in the last five years? NA

YES NO (IF yes, include the measurements and a map that shows the approximate measurement sites)

Will sludge be removed from the lagoon(s) in the next five years? If so, describe the sludge, stabilization, utilization, and disposal methods. Attach extra sheets as necessary.

Not known for sure at this point.

2. If your wastewater treatment is by methods other than lagoon:

Do you have a Sludge Management Plan? YES NO

Is the Plan approved by:

Local health district? Date approved:

Department of Ecology? Date approved: See section 7.4.3.1 of HNF-50995.

3. Does your facility have a biosolids permit issued by Ecology? If so, please provide the permit's number and expiration date.

Biosolids Permit number

Permit expiration Date

Summary of Attachments That May be Required for This Application:

(Please check attachments that are included)

- B.5 Schematic drawing of POTW
- C.4 Flow records
- C.6 Additional effluent analysis
- D. Additional ground water data
- E.1 Copies of contracts authorizing use of land for treatment
- E.3 USGS topographic map
- E.4 Soil information
- E.5 Local geology and hydrogeology

If you need this document in a format for the visually impaired, call the Water Quality Program at 360-407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.