0021967

9204803

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

JUN 30 1992

92-RPB-156

Mr. C. E. Findley, Director
Water Division
U.S. Environmental Protection Agency
1200 Sixth Avenue, Mail Stop WD-131
Seattle, Washington 98101

Dear Mr. Findley:

HANFORD SITE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT MODIFICATION APPLICATION - N-REACTOR WASTEWATER TREATED EFFLUENT

Enclosed please find the U.S. Environmental Protection Agency (EPA) General Information Form 1 and Form 2D. This enclosure serves as an Application for Modification to the Hanford Site National Pollutant Discharge Elimination System (NPDES) Permit WA-000374-3. This NPDES permit modification application will meet Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone Number M-17-15D.

The purpose of this modification application is to allow for discharge of treated effluent from a treatment system to be constructed at N-Reactor on the Hanford Site. Wastewater which is currently discharged to the 1325-N Liquid Waste Disposal Facility (LWDF), will be treated and discharged to existing Outfall Number 009. The treated effluent will be combined with existing discharges, which include heating ventilation and air conditioning equipment and air compressor cooling water, as well as stormwater from roof drains located at Buildings 105N, 109N and 184N. The new treatment system will provide Best Available Technology (BAT) Economically Achievable for this effluent prior to disposal to the Columbia River. Operation of this new treatment system will meet Tri-Party Agreement Milestone Number M-17-15, "Cease discharge to the 1325-N LWDF."

The "N-Reactor Wastewater Treatment System Summary Engineering Report" (SD-NR-ES-014, Revision 0), which is being prepared to support this modification application, will be available in July 1992 in response to Item VI of the EPA Form 2D. This report will serve as a BAT assessment for the new treatment system.

Section 401 of the Clean Water Act requires that, for permits written by the EPA, the state in which the permittee is located certify that the effluent limits set forth in the permit do not exceed the appropriate receiving water quality criteria for that state. Accordingly, a copy of the enclosure is being provided to the State of Washington Department of Ecology (Ecology) to facilitate their review.

JUL 1992
RECEIVED
EDMC

Start of construction for the N-Reactor Wastewater Treatment System is currently scheduled for Fiscal Year (FY) 1994. Therefore, it is desirable that the NPDES permitting process be completed before that time. Please advise us as soon as possible if additional information or clarification need to be provided.

If you have any questions, please contact Mr. S. D. Stites of my staff on (509) 376-8566.

Sincerely,

Robert S. Holt/for

R. D. Izatt, Program Manager
Office of Environmental Assurance,
Permits, and Policy

EAP:SDS

Enclosure:
Application for Modification to
NPDES Permit WA-00374-3

cc w/encl:
D. Jansen, Ecology

cc w/o encl:
P. Day, EPA
C. Haass, SWEC
R. Lerch, WHC
R. Oldham, WHC
H. Debban, WHC
D. Nylander, Ecology
T. Veneziano, WHC

APPLICATION FOR MODIFICATION TO NPDES PERMIT NUMBER WA-000374-3

100-N WASTEWATER TREATMENT SYSTEM FOR 1325-N

Prepared for

UNITED STATES DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE

By

WESTINGHOUSE HANFORD COMPANY

GENERAL

EPA

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F WA-000374-3 D

LABEL ITEMS

I. EPA I.D. NUMBER

FACILITY NAME

FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)	X		X
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		X		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP 100-N Wastewater Treatment System, U. S. Department of Energy, Richland Field Office

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)		
2 Wagoner, J. D., Manager	509	376	7395

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P. O. Box 550

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 Richland	WA	99352

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 Hanford Site - 100 Area

B. COUNTY NAME

nton

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 Richland	WA	99352	Unk

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
7 9999 (specify) Unclassified Establishment	7 (specify)
C. THIRD	**D. FOURTH**
(specify) See Attachment A	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: 8 U. S. Department of Energy, Richland Field Office

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

D. PHONE (area code & no.): A 509 376 5441

E. STREET OR P.O. BOX: P. O. Box 550

F. CITY OR TOWN: 8 Richland

G. STATE: WA

H. ZIP CODE: 99352

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): 9 N WA-000374-3	D. PSD (Air Emissions from Proposed Sources): 9 P PSD-X80-14
B. UIC (Underground Injection of Fluids): 9 U NONE	E. OTHER (specify): 9 EE-01 (specify) Wa. State Dept. of Health
C. RCRA (Hazardous Wastes): WA7890008967	E. OTHER (specify): 9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. See Attachment B

XII. NATURE OF BUSINESS (provide a brief description)

See Attachment C

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
for J. D. Wagoner, Manager		6-30-92

COMMENTS FOR OFFICIAL USE ONLY

C

ATTACHMENT A TO GENERAL FORM 1
SECTION VII - SIC CODES
(PAGE 1 OF 1)

The following four SIC codes were utilized in the original application to indicate the types of activities that were taking place at that time:

8922 - Nuclear Noncommercial Research, Development and Education

9711 - National Security

4911 - Steam Electric Generator

2819 - Nuclear Fuels Processing

Due to the change in the N-Reactor facility status to "inactive", the SIC code has been changed to 9999 - Unclassifiable Establishment.

ATTACHMENT B TO EPA GENERAL FORM 1

TOPOGRAPHIC MAPS AND AERIAL PHOTOGRAPH
OF THE 100N AREA OF
THE HANFORD SITE

BLDG. NO.	LOCATION	BLDG. NAME
104N	F3	FACILITIES AUXILARY SHOP
105N	E4	REACTOR BUILDING
107N	D2	BASIN RECIRCULATION FACILITY
108N	G5	CHEMICAL UNLOADING FACILITY
109N	E4	HEAT EXCHANGER BUILDING
116N	C3	AIR STACK
117N	D3	FILTER BUILDING
119N	C3	AIR SAMPLING MONITORING
151N	F6	250 kV ELEC. SUBSTATION
153N	F5	SWITCH GEAR BUILDING
155N	J5	B.P.A. SWITCH YARD
163N	G4	DEMINERALIZATION PLANT
166N	B3	FUEL OIL STORAGE
181N	F2	RIVER PUMP HOUSE (100-N)
182N	G3	HIGH LIFT PUMP HOUSE
183N	G4	WATER FILTER PLANT
184N	F5	PLANT SERVICE POWER HOUSE
184NA	E5	AUXILIARY POWER ANNEX BLDG.

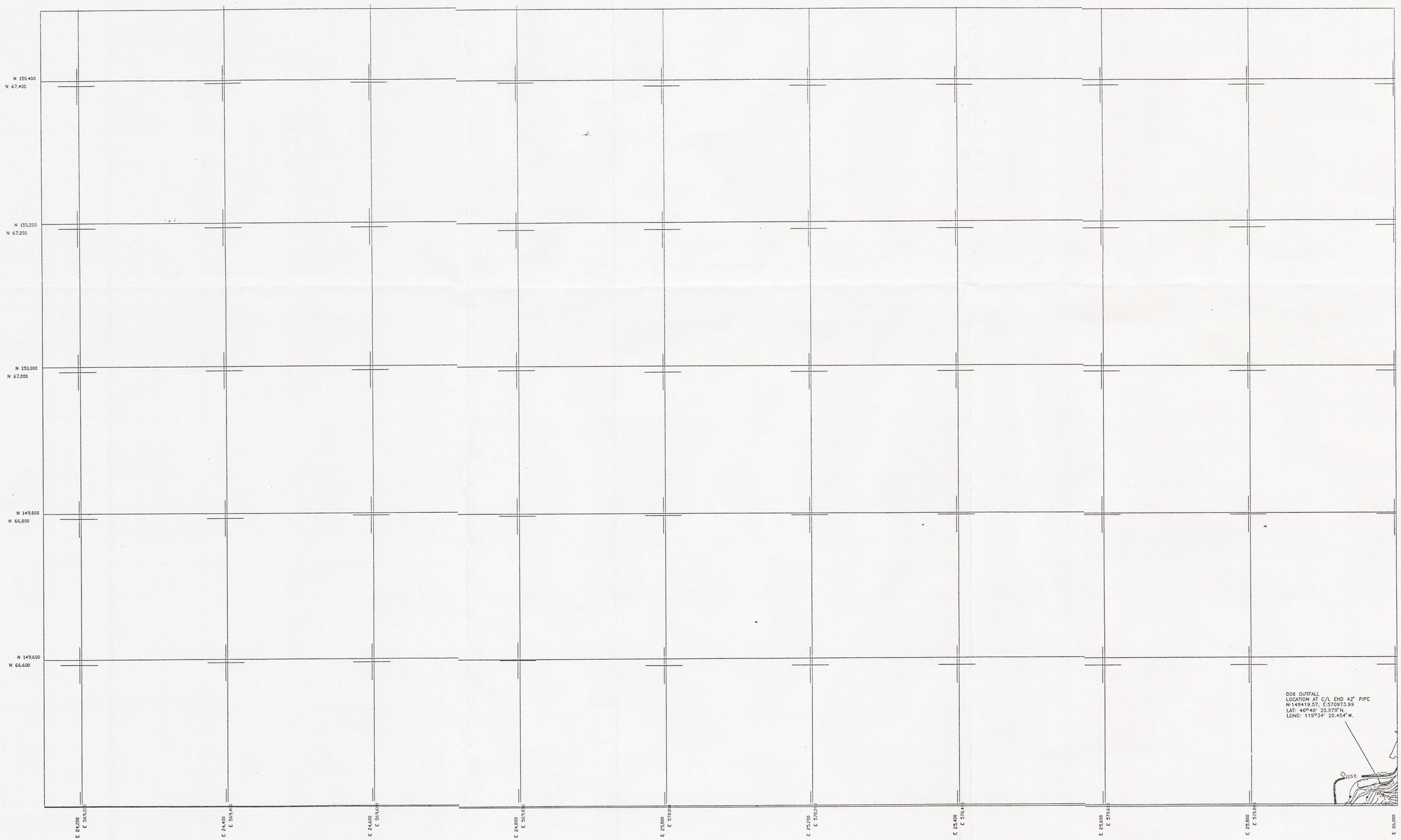
BLDG. NO.	LOCATION	BLDG. NAME
184NB	E5	HVAC MAIN BUILDING
184NC	F5	HVAC ANNEX BUILDING
185N	I3	TURBINE GEN. BLDG. (WPPSS)
1100N	D6	ADMINISTRATION & FIRST AID BLDG.
1101N	E6	OFFICE BUILDNG
1102N	F6	OFFICE BUILDING
1112N	E5	BADGE HOUSE PROTECTED AREA
1120N	E9	TRAINING BLDG.
1143N	G7	PAINT SHOP/CARPENTER SHOP
1300N	E3	RADIOACTIVE WASTE DISPOSAL
1301N	A5	CRIB
1303N	D3	RADIO. CHEM. WASTE TREATMENT
1304N	E2	EMERGENCY DUMP TANK
1310N	C5	RADIO. CHEM. WASTE TREATMENT
1313N	B3	CHANGE & CONTRO L ROOM
1314N	B3	LIQUID WASTE DISPOSAL STATION
1315N	B6	DIVISION SYSTEM VALVE HOUSE
1316N	B6	VALVE HOUSE

BLDG. NO.	LOCATION	BLDG. NAME
1322N	B5	WASTE TREAT. PILOT PLANT FACIL.
1322NA	B5	EFFLUENT WATER PILOT PLANT
1322NB	B5	IODINE MONITORING FACILITY
1324N	B5	INON RADIATIVE WASTE WATER PERCOLATION PONDS
1703N	I4	WPPSS
1705N	D3	PLANT ASSISTANCE FACILITY
1706N	C4	MOTOR REWIND SHOP
1712N	D4	INSULATION SHOP
1714N	D4	WARE HOUSE
1715N	C4	DIESEL OIL STORAGE TANKS
1722N	E3	DECONTAMINATION HOT SHOP BLDG.
1723N	B4	CONTAM. EQUIP. STORAGE BLDG.
1734N	D4	GAS BOTTLE STORAGE
1908N	F2	SEAL WELL
11N	C5	STORAGE BUILDING - WHC
13N	C5	STORAGE BUILDING - WHC
MO013	E9	MOBILE OFFICE (1158N)

BLDG. NO.	LOCATION	BLDG. NAME
MO050	F8	MOBILE OFFICE (1115N)
MO054	F7	MOBILE OFFICE (1113N)
MO055	F7	MOBILE OFFICE (1114N)
MO100	E7	MOBILE OFFICE (1110N)
MO101	F8	MOBILE OFFICE
MO102	D5	MOBILE OFFICE
MO200	G7	MOBILE OFFICE
MO229	G9	MOBILE OFFICE
MO301	F9	MOBILE OFFICE
MO312	H7	FACILITIES MAINTENANCE SHOP
MO348	F9	KEH FIELD HOUSE
MO352	G9	MOBILE OFFICE
MO358	F8	SIMULATOR BUILDING (TLR.)
MO367	G5	OVERTIME OFFICE
MO381	G7	OFFICE FACILITY
MO383	G4	MOBILE OFFICE
MO397	F9	MOBILE OFFICE
MO401	F8	MOBILE OFFICE

BLDG. NO.	LOCATION	BLDG. NAME
MO402	F9	MOBILE OFFICE
MO403	E5	LOCKER ROOM BUILDING (TLR.)
MO414	G7	OFFICE BUILDING (TLR.)
MO415	F7	OFFICE BUILDING (TLR.)
MO531	G4	MEN'S RESTROOM (1141N)
MO535	G9	MOBILE OFFICE (1155N)
MO536	D6	MOBILE OFFICE (1129N)
MO714	C5	MOBILE OFFICE (1130N)
MO862	G6	TELEPHONE CENTER (1142N)
MO900	F9	MOBILE OFFICE (1124N)
MO910	G7	MOBILE OFFICE (1146N)
MO911	E8	MOBILE OFFICE (1114NA)
MO920	G7	MOBILE OFFICE (1144N)
MO923	D5	MOBILE OFFICE (1126N)
MO925	E5	MOBILE OFFICE (1107N)
MO928	F9	MOBILE OFFICE (1123N)
MO942	H7	MOBILE OFFICE (1143NB)
MO992	E7	BADGEHOUSE (1701N)

WHC Site Planning 39010033.8



GRID LINES REPRESENT NAD-83 WASHINGTON STATE SOUTH ZONE COORDINATES.

GRID TICKS REPRESENT GROUND LEVEL COORDINATES.

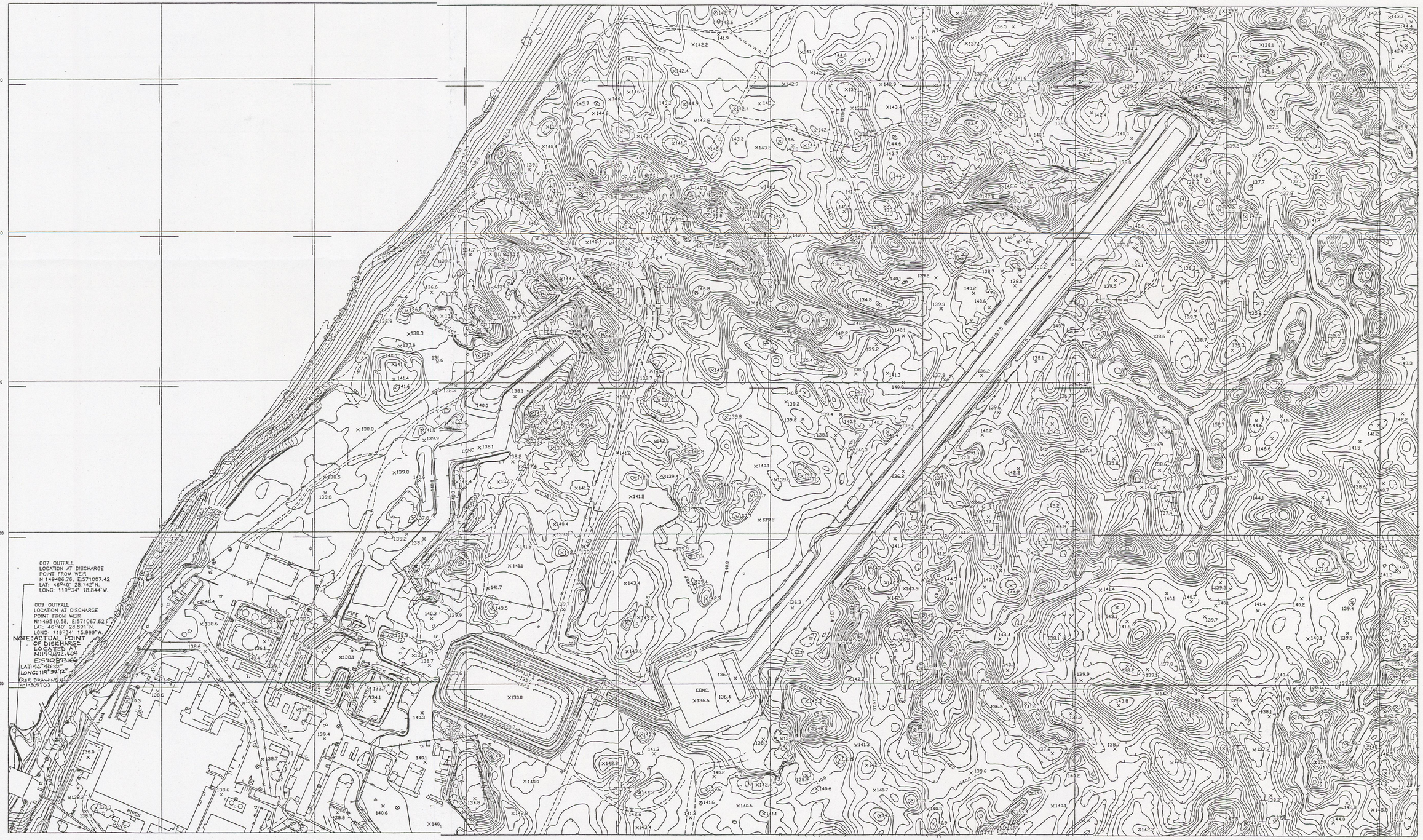
VERTICAL DATUM NGVD 1929.

1:2000 SCALE 50 0 50 100 METERS

CONTOUR INTERVAL EQUALS 0.5 METER

Form 1
Attachment B
pg. B-1 of B-6

U.S. DEPT. OF ENERGY	
KAISER ENGINEERS HANFORD	
100N OUTFALL STRUCTURES	
SHEET 1 of 4	W.O. No. ER 1449
	DATE: 7/9/91



MATCH SHEET 3

GRID LINES REPRESENT NAD-83 WASHINGTON STATE SOUTH ZONE COORDINATES.

GRID TICKS REPRESENT GROUND LEVEL COORDINATES.

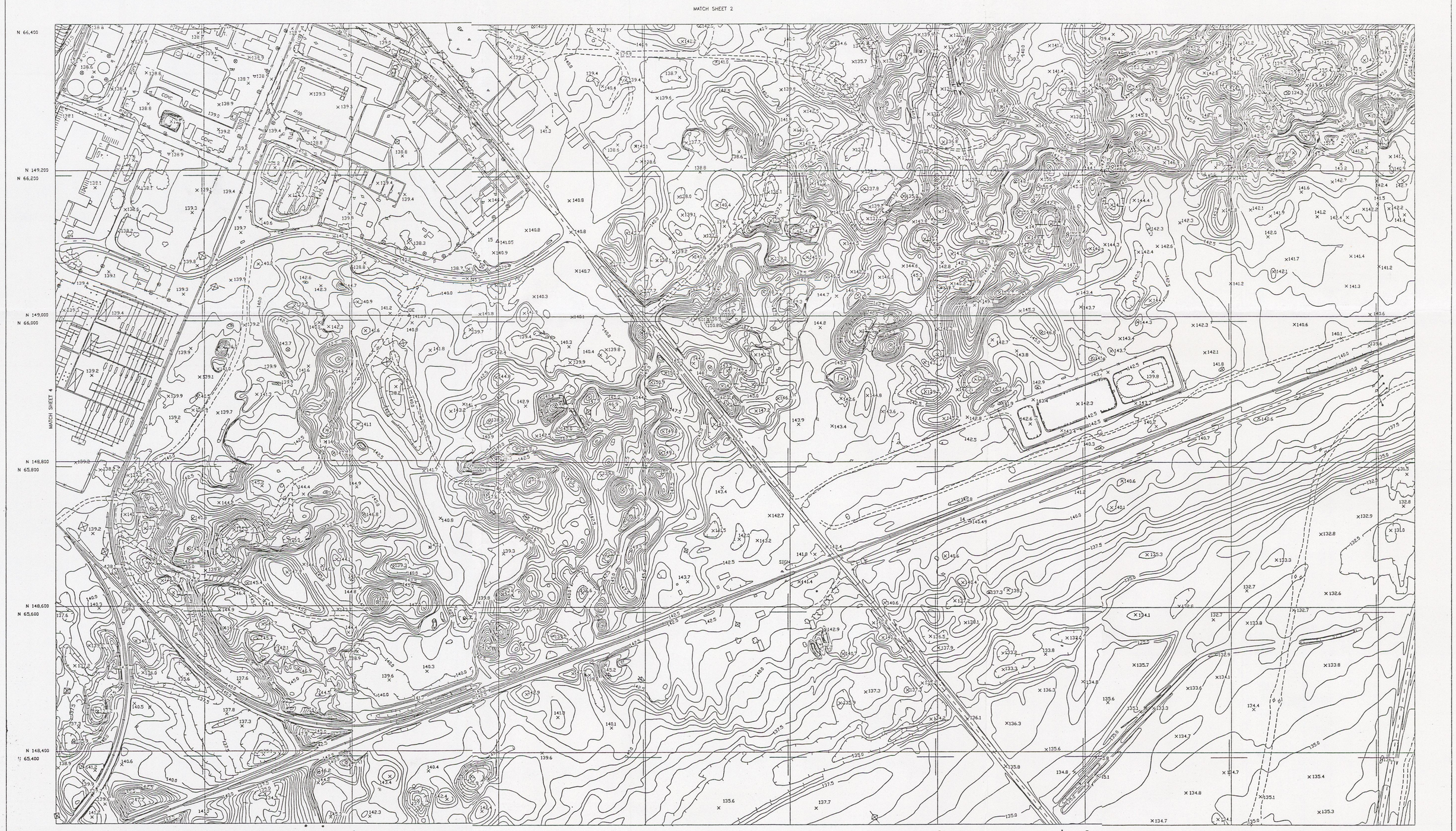
VERTICAL DATUM NGVD 1929.

1:2000 SCALE 50 0 50 100 METERS

CONTOUR INTERVAL EQUALS 0.5 METER

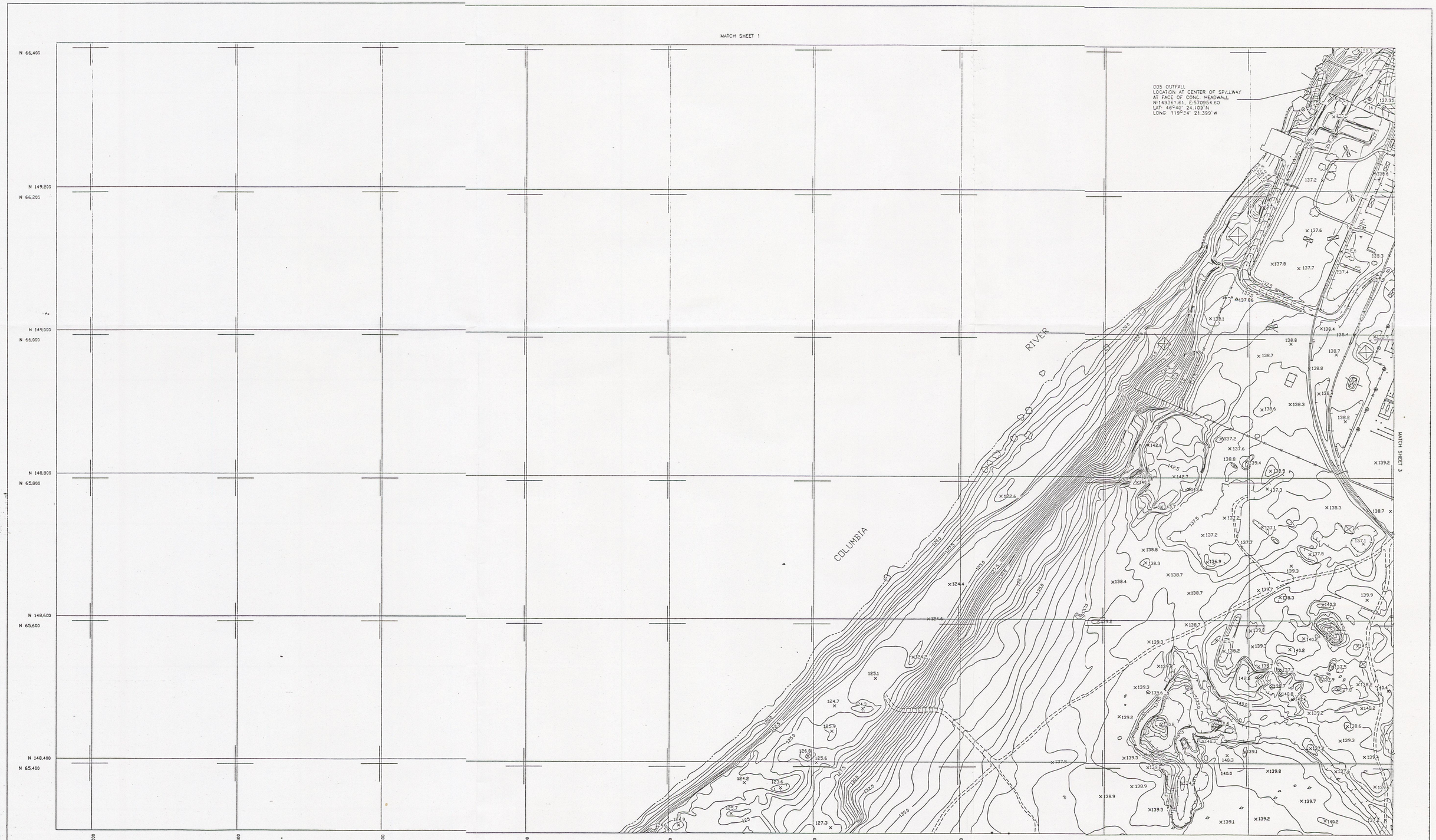
Form 1
Attachment B
pg. B-2 of B-6

U.S. DEPT. OF ENERGY	
KAISER ENGINEERS HANFORD	
100N OUTFALL STRUCTURES	
SHEET 2 OF 4	W.O. No. ER 1449
	DATE: 07/09/91



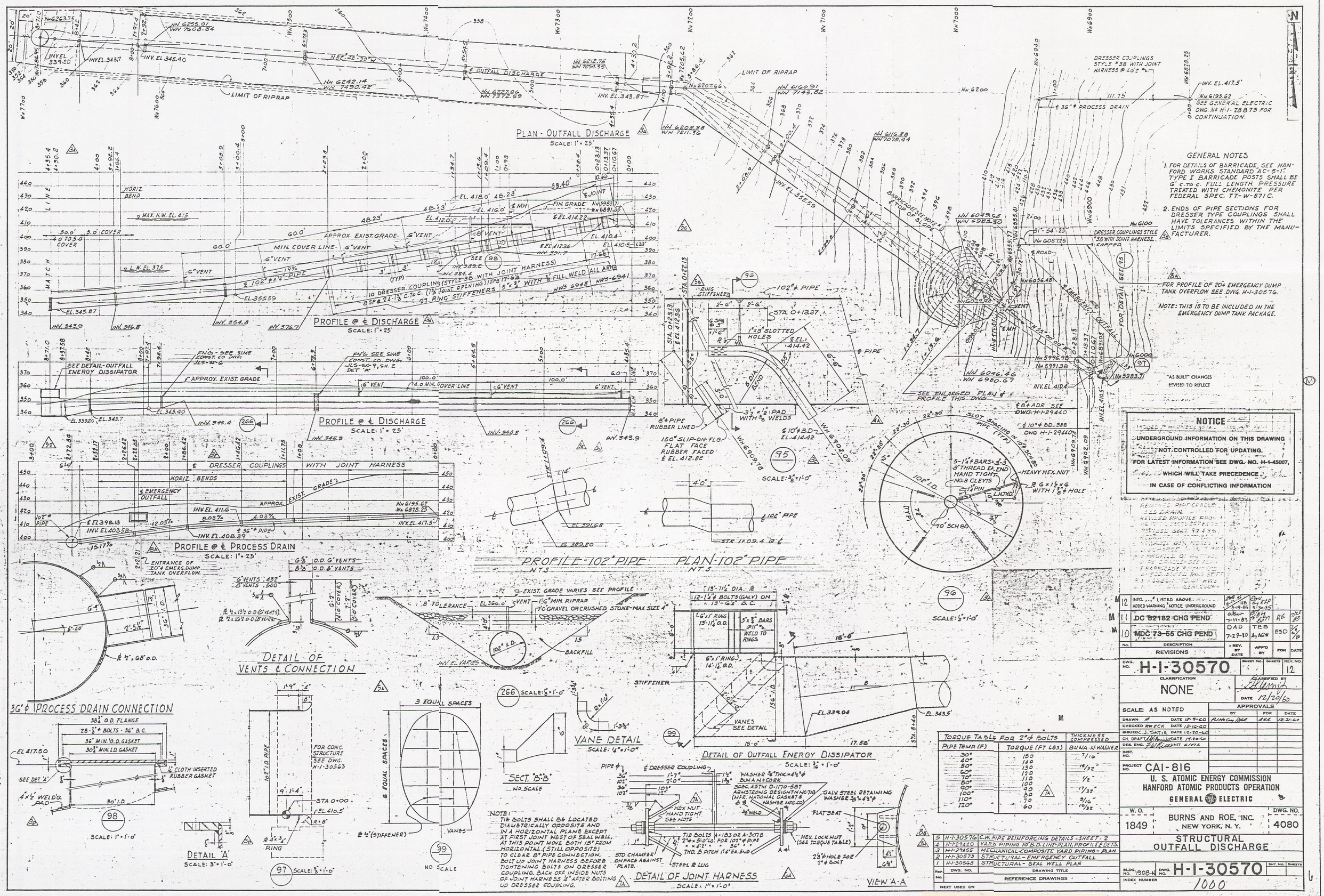
Form 1
Attachment B
pg. B-3 of B-6

U.S. DEPT. OF ENERGY	
KAISER ENGINEERS HANFORD	
100N OUTFALL STRUCTURES	
SHEET 3 of 4	W.O. No. ER 1449
	DATE: 7/9/91



Form 1
Attachment B
pg. B-4 of B-6

U.S. DEPT. OF ENERGY	
KAISER ENGINEERS HANFORD	
100N OUTFALL STRUCTURES	
SHEET 4 of 4	W.O. No. ER 1449
	DATE: 7/9/91



GENERAL NOTES

1. FOR DETAILS OF BARRICADE, SEE HANFORD WORKS STANDARD AC-5-1: TYPE I BARRICADE POSTS SHALL BE 6' c. to c. FULL LENGTH. PRESSURE TREATED WITH CHEMONITE PER FEDERAL SPEC. TT-W-571C.
2. ENDS OF PIPE SECTIONS FOR DRESSER TYPE COUPLINGS SHALL HAVE TOLERANCES WITHIN THE LIMITS SPECIFIED BY THE MANUFACTURER.

NOTICE

UNDERGROUND INFORMATION ON THIS DRAWING NOT CONTROLLED FOR UPDATING.
FOR LATEST INFORMATION SEE DWG. NO. H-1-45007, WHICH WILL TAKE PRECEDENCE.
IN CASE OF CONFLICTING INFORMATION

TORQUE TABLE FOR 2" ϕ BOLTS		
PIPE TEMP (F)	TORQUE (FT LBS)	THICKNESS COMPRESSED BUNA-N WASHER
30°	150	7/16"
40°	140	
50°	130	15/32"
60°	120	
70°	110	1/2"
80°	100	
90°	90	17/32"
100°	80	
110°	70	9/16"
120°	60	19/32"

REF. No.	DWG. NO.	DRAWING TITLE
5	H-1-30576	C.W. PIPE REINFORCING DETAILS - SHEET - 2
4	H-1-29440	YARD PIPING 10" B.D. LINE-PLAN, PROFILE DETS.
3	H-1-29455	MECHANICAL-COMPOSITE YARD PIPING - PLAN
2	H-1-30573	STRUCTURAL - EMERGENCY OUTFALL
1	H-1-30563	STRUCTURAL - SEAL WELL PLAN

REFERENCE DRAWINGS — NEXT USED ON

No.	DESCRIPTION	REV. BY DATE	APP'D BY	FOR	DATE
12	INFO. ... LISTED ABOVE. ADDED WARNING NOTICE UNDERGROUND	HB 5-19-85			
11	DC 52182 CHG PEND	7-11-83	RE		
10	MDC 73-55 CHG PEND	DAD 7-29-70	TEB NEW	ESD	

REVISIONS

DWG. NO. H-1-30570 — SHEET No. — SHEETS — REV. NO. 12

CLASSIFICATION: NONE — CLASSIFIED BY — DATE 12/20/60

SCALE: AS NOTED

APPROVALS	BY	FOR	DATE
DRAWN			12-9-60
CHECKED			12-16-60
ISSUED			12-20-60
CH. DRAFT			12-20-60
DES. ENG.			
INST. NO.			
PROJECT NO. CAI-816			

U. S. ATOMIC ENERGY COMMISSION
HANFORD ATOMIC PRODUCTS OPERATION
GENERAL ELECTRIC

W. O. 1849 — BURNS AND ROE, INC. NEW YORK, N. Y. — DWG. NO. 4080

STRUCTURAL
OUTFALL DISCHARGE

BLDG. NO. 1908-N — DWG. NO. H-1-30570 — SHT. No. — SHEETS

INDEX NUMBER 1000

Form 1
Attachment B
pg. B-5 of B-6

ATTACHMENT C TO GENERAL FORM 1
SECTION XII - NATURE OF BUSINESS
(PAGE 1 OF 1)

On September 20, 1991, the U. S. Department of Energy announced that the N-Reactor was no longer needed as a defense materials production contingency and that activities directed at the preservation of the reactor were to cease. Future activities at N-Reactor will be directed at stabilizing the facility in a manner that will require minimal surveillance until ultimate decommissioning. Therefore, the liquid effluent in the future will consist of three components; (1) current discharges to the 009 Outfall (2) miscellaneous service water currently discharged to the 1325-N Liquid Waste disposal Facility (LWDF) and; (3) effluent derived from the draining of liquid inventories, (ie., miscellaneous pits, sumps, and the 105-N Fuel Basin).

The U. S. Department of Energy, Richland Field Office, plans to cease utilization of the soil column for disposal of industrial process effluent at the 1325-N LWDF, a soil-column infiltration unit, in accordance with the Hanford Federal Facility Agreement And Consent Order Milestone Number M-17-15. The N-Reactor Wastewater Treatment System will be designed to provide Best Available Technology (BAT), Economically Achievable, for components (2) and (3) listed above. This treated effluent will be combined with existing effluent from routine activities, including HVAC and Equipment and Air Compressor cooling water, as well as stormwater from roof drains located at the 105N, 109N, and 184N Buildings, and discharged through existing Outfall Number 009. A description of the selected treatment train will be available in July, 1992 when the "N-Reactor Wastewater Treatment System Summary Engineering Report" is completed. A brief description of the proposed treatment train is included in Attachment I to EPA Form 2D.

Please type or print in the unshaded areas only	EPA ID Number (copy from Item 1 of Form 1) WA-000374-3	Form Approved OMB No. 2040-0086 Approval expires 7-31-88

Form 2D NPDES

EPA New Sources and New Dischargers Application for Permit to Discharge Process Wastewater

I. Outfall Location

For each outfall, list the latitude and longitude, and the name of the receiving water.

Outfall Number (list)	Latitude			Longitude			Receiving Water (name)
	Deg	Min	Sec	Deg	Min	Sec	
009	46	40	32	119	34	12	Columbia River

II. Discharge Date (When do you expect to begin discharging?)

Effluent is currently being discharged to Outfall 009. New Source added - Fiscal Year 1994

III. Flows, Sources of Pollution, and Treatment Technologies

A. For each outfall, provide a description of (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

Outfall Number	1. Operations Contributing Flow (list)	2. Average Flow (include units)	3. Treatment (Description or List Codes from Table 2D-1)
	Please See Attachment A		

ATTACHMENT A TO EPA FORM 2D
SECTION IIIA - FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES
(PAGE 1 OF 1)

All flows listed below are estimates. The first three operations are currently discharging to Outfall Number 009. The last operation (N-Reactor Treated Effluent) is a new source. The anticipated date for discharge of this new source to Outfall Number 009 is Fiscal Year 1994

Operation Contributing Flow	Average Flow (gpd)	Treatment Code (from Table 2D-1)
HVAC Equipment Cooling for 105-N and 109-N (Reactor Building and Heat Exchanger Building)	72,000	4-A
Air Compressor Cooling for 184-N (Plant Service Power House)	57,600	4-A
Stormwater from roof drains at 105-N, 109-N, and 184-N	1600	4-A
N-Reactor Treated Effluent	* 1315	1-C, 2-A, 2-J, 5-Q, 4-A

* The average gpd for the N-Reactor Treated Effluent was calculated by averaging the total projected volumes for Fiscal Years 1994-1999, and dividing that average projected volume by 365 days.

B. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item III-A. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures. Please See Attachment B

C. Except for storm runoff, leaks, or spills, will any of the discharges described in item III-A be intermittent or seasonal?

☒ Yes *(complete the following table)* ☐ No *(go to item IV)*

Outfall Number	1. Frequency		2. Flow		
	a. Days Per Week *(specify average)*	b. Months Per Year *(specify average)*	a. Maximum Daily Flow Rate (1) *(in mgd)*	b. Maximum Total Volume *(specify with units)*	c. Duration (2) *(in days)*
Outfall 009 - N-Reactor Treated Effluent	3	12	0.03 MGD	0.03 MGD	0.21

Please See Attachment C For Projected N-Reactor Treated Effluent Discharges For Fiscal Years 1994-1999. (Please note that the projected flows are estimates only. Total annual volumes and total projected volumes for the six year period may change depending on the timing of shut-down activities.)

(1) The maximum daily flow rate is based on two full 15,000 Gallon tanks discharged in the same twenty-four (24) hour period.

(2) The duration is a per discharge occurance. It is based on discharge of thirty thousand (30,000) Gallons at one-hundred (100) Gallons per Minute. (Design Assumption). Duration is based on discharge time of five (5) hours divided by twenty-four (24) which equals .21.

IV. Production

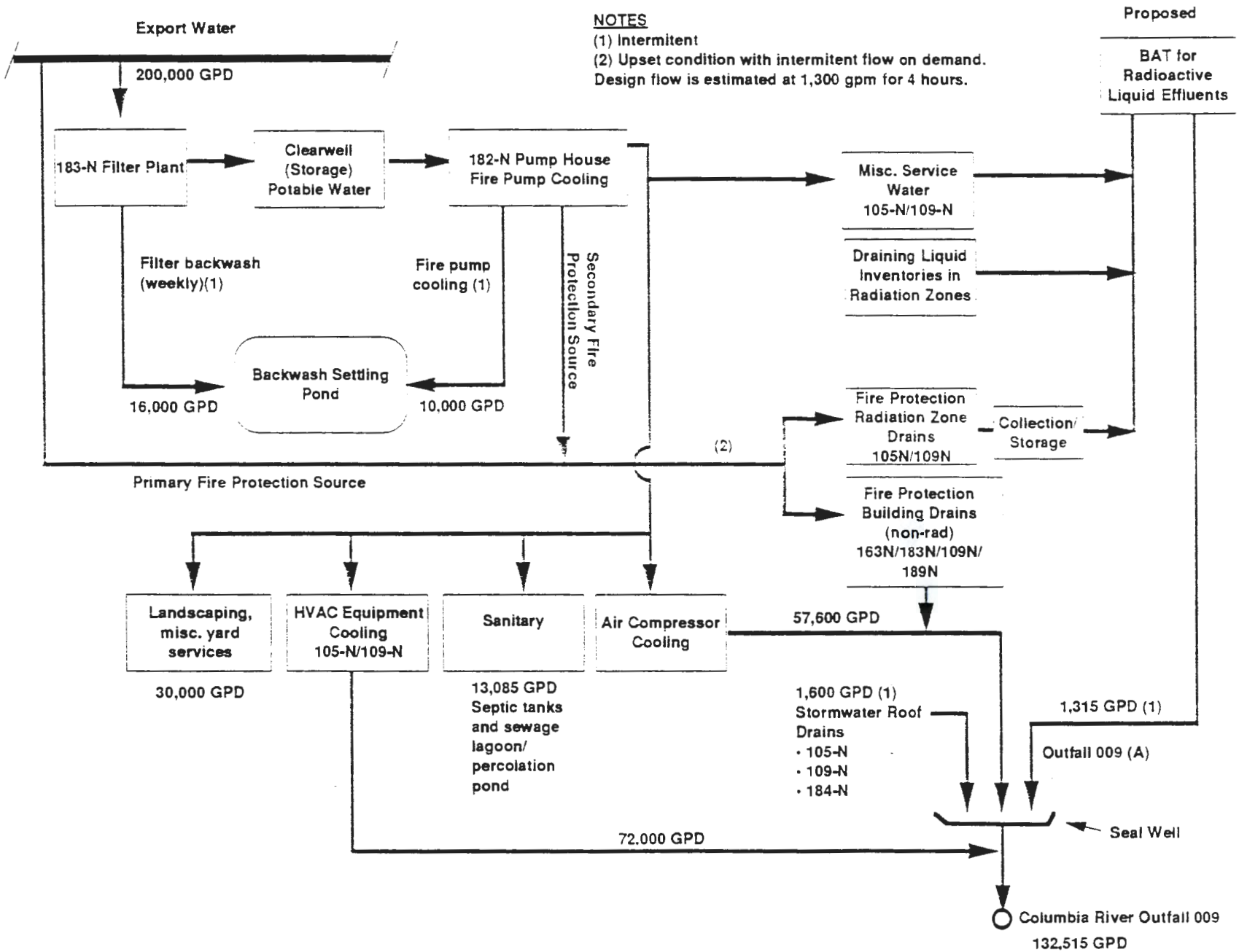
If there is an applicable production-based effluent guideline or NSPS, for each outfall list the estimated level of production (projection of actual production level, not design), expressed in the terms and units used in the applicable effluent guideline or NSPS, for each of the first 3 years of operation. If production is likely to vary, you may also submit alternative estimates (attach a separate sheet).

Year	a. Quantity Per Day	b. Units of Measure	c. Operation, Product, Material, etc *(specify)*
		NA	

 CONTINUE ON NEXT PAGE

Water Balance Flow Diagram: Outfall 009

Estimates of Anticipated Flow FY1994



Attachment B to EPA for 2D

6/17/1992

ATTACHMENT C TO EPA FORM 2D
SECTION IIIC - INTERMITTENT DISCHARGES
PROJECTED N-REACTOR TREATED EFFLUENT DISCHARGES
FOR
FISCAL YEARS 1994-1999
(PAGE 1 OF 1)

Year	Total Forecast Flow (Gallons Per Year)*
1994	550,000
1995	505,000
1996	505,000
1997	105,000
1998	1,105,000
1999	105,000

* Estimated volumes are based on best engineering estimates of wastewater to be generated from N-Reactor shutdown activities. Actual flow rates and total volumes of wastewater discharged may vary from that listed above.

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	Outfall Number
EPA Form 2D	WA-000374-3	009

V. Effluent Characteristics

A, and B: These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
The following Attachments are for Effluent Characteristics for both the N-Reactor Treated Effluent as well as the Composite Effluent Discharge to Existing Outfall Number 009. Please See Attachment D for Part 1, Concentration Values for the N-Reactor Treated Effluent Discharge to Outfall 009			
Please See Attachment E for Part 2, Mass Values for the N-Reactor Treated Effluent Discharge to Outfall 009			
Please See Attachment F for Part 1, Concentration Values for the Composite Discharge to Outfall 009			
Please See Attachment G for Part 2, Mass Values for the for the Composite Discharge to Outfall 009			

ATTACHMENT D TO EPA FORM 2D
SECTION V - EFFLUENT CHARACTERISTICS
(PART 1, CONCENTRATION VALUES)
(PAGE 1 OF 3)

N-REACTOR TREATED EFFLUENT DISCHARGE TO OUTFALL NUMBER 009

The concentration values are mathematically derived. Calculations are based on Appendix B, Alternative B of the "N-Reactor Wastewater Treatment System Summary Engineering Report" which will be available in July, 1992.

Pollutant	*** Maximum Daily Value	** Average Daily Value	(See Source Codes Pg 1-2 of Instructions) Source
GROUP A			
BOD - 5 day	240 ppb	24 ppb	4
COD	240 ppb	24 ppb	4 * 5000 ppb DL
Total Organic Carbon	880 ppb	60 ppb	4
Suspended Solids	3000 ppb	330 ppb	4
Flow	100 gpm	0.91 gpm	4
Ammonia (as N)	$2.2X10^{-1}$ ppb	$2.2X10^{-2}$ ppb	4 *100 ppb DL
Temperature (winter)	77 F	77 F	4
Temperature (summer)	95 F	77 F	4
pH	9.0	7.5	4

GROUP B			
Fluoride	$2.04X10^{-1}$ ppb	$2.04X10^{-2}$ ppb	4 *100 ppb DL
Nitrate	$4.36X10^{-1}$ ppb	$4.36X10^{-2}$ ppb	4 *100 ppb DL
Phosphorous	$2.00X10^{-2}$ ppb	$2.00X10^{-3}$ ppb	4 *100 ppb DL
(1)Alpha Radioactivity	$5.00X10^{-3}$ pCi/L	$5.00X10^{-4}$ pCi/L	4
(2)Beta Radioactivity	$1.70X10^{3}$ pCi/L	$1.70X10^{2}$ pCi/L	4
(3)Radium Total	$3.3X10^{-5}$ pCi/L	$3.3X10^{-6}$ pCi/L	4
Sulfate	12.1 ppb	1.21 ppb	4 *2500 ppb DL
Aluminum	$5.35X10^{-3}$ ppb	$5.35X10^{-4}$ ppb	4 *45 ppb DL
Barium	$8.0X10^{-2}$ ppb	$8.0X10^{-3}$ ppb	4 *2 ppb DL
Boron	$7.58X10^{-2}$ ppb	$7.61X10^{-3}$ ppb	4 *5 ppb DL
Iron	$1.03X10^{-2}$ ppb	$1.03X10^{-3}$ ppb	4 *7 ppb DL
Magnesium	6.81 ppb	$6.81X10^{-1}$ ppb	4 *30 ppb DL
Manganese	$2.90X10^{-2}$ ppb	$2.90X10^{-3}$ ppb	4 *2 ppb DL

ATTACHMENT D TO EPA FORM 2D
SECTION V - EFFLUENT CHARACTERISTICS
(PART 1, CONCENTRATION VALUES)
(PAGE 2 OF 3)

N-REACTOR TREATED EFFLUENT DISCHARGE TO OUTFALL NUMBER 009

Pollutant	*** Maximum Daily Value	** Average Daily Value	(See Source Codes Pg 1-2 of Instructions) Source
SECTION 1			
Antimony	$1.27X10^{-2}$ ppb	$1.27X10^{-3}$ ppb	4 *32 ppb DL
Chromium	$1.18X10^{-3}$ ppb	$1.18X10^{-4}$ ppb	4 *7 ppb DL
Lead	$1.44X10^{-2}$ ppb	$1.44X10^{-3}$ ppb	4 *42 ppb DL
Nickel	$7.5X10^{-3}$ ppb	$7.5X10^{-4}$ ppb	4 *15 ppb DL
Silver	$4.17X10^{-4}$ ppb	$4.17X10^{-5}$ ppb	4 *7 ppb DL
Zinc	$5.5X10^{-3}$ ppb	$5.5X10^{-4}$ ppb	4 *2 ppb DL
Arsenic	$1.18X10^{-2}$ ppb	$1.18X10^{-3}$ ppb	4 *53 ppb DL
Cadmium	$2.3X10^{-3}$ ppb	$2.3X10^{-4}$ ppb	4 *4 ppb DL
Copper	$1.3X10^{-2}$ ppb	$1.3X10^{-3}$ ppb	4 *6 ppb DL
Selenium	$4.2X10^{-2}$ ppb	$4.2X10^{-3}$ ppb	4 *75 ppb DL

SECTION 2			
NONE			

SECTION 3			
GC/MS FRACTION-VOLATILE COMPOUNDS			
Chloroform	$5.19X10^{-1}$ ppb	$5.19X10^{-2}$ ppb	4 *1.6 ppb DL

GS/MS FRACTION-ACID COMPOUNDS
NONE

GS/MS FRACTION-BASE/NEUTRAL COMPOUNDS
NONE

ATTACHMENT D TO EPA FORM 2D
SECTION V - EFFLUENT CHARACTERISTICS
(PART 1, CONCENTRATION VALUES)
(PAGE 3 OF 3)

N-REACTOR TREATED EFFLUENT DISCHARGE TO OUTFALL NUMBER 009

GC/MS FRACTION-PESTICIDES
NONE

* Detection Limit (DL) only listed if constituent value is lower than detection limit:
EPA Method 200.7 (Metals)
EPA Method 350.2 (Ammonia)
EPA Method 340.1 (Fluoride)
EPA Method 365.2 (Phosphorus)
EPA Method 352.1 (Nitrate)
EPA Method 624 (GC/MS-Volatiles)

** Average daily values calculated in the "N-Reactor Wastewater Treatment System Summary Engineering Report" for the treated discharge to Outfall Number 009.

*** Maximum daily values calculated are the average daily value increased by one order of magnitude to account for process breakthrough, flow and/or concentration variability for Group B, Section 1, Section 3, and BOD, COD, and Ammonia from Group A.

**** Data is provided for information purposes. However those releases of source, spent nuclear or byproduct materials are not regulated as pollutants under the Clean Water Act.

ATTACHMENT E TO EPA FORM 2D
SECTION V - EFFLUENT CHARACTERISTICS
(PART 2, MASS VALUES)
(PAGE 1 OF 2)

N-REACTOR TREATED EFFLUENT DISCHARGE TO OUTFALL NUMBER 009

The mass values are mathematically derived . Calculations are based on Appendix B, Alternative B of the "N-Reactor Wastewater Treatment System Summary Engineering Report" which will be available in July, 1992.

Pollutant	Maximum Daily Value (grams)	Average Daily Value (grams)	(See Source Codes Pg 1-2 of Instructions Source
GROUP A			
BOD - 5 day	130.98	$1.19X10^{-1}$	4
COD	130.98	$1.19X10^{-1}$	4
Total Organic Carbon	480.269	.298	4
Suspended Solids	1637.280	1.639	4
Flow	144,000 gpd	1315 gpd	4
Ammonia (as N)	$1.2X10^{-2}$	$1X10^{-4}$	4
Temperature (winter)	77 F	77 F	4
Temperature (summer)	95 F	77 F	4
pH	9.0	7.5	4

GROUP B			
Fluoride	$1.1X10^{-2}$	$1X10^{-4}$	4
Nitrate	0.238	$2X10^{-4}$	4
Phosphorous	$1.11X10^{-2}$	$9.9X10^{-6}$	4
(1)Alpha Radioactivity	$2.73X10^{3}$ pCi/Day	2.48 pCi/Day	4
(2)Beta Radioactivity	$9.28X10^{8}$ pCi/Day	$8.44X10^{5}$ pCi/Day	4
(3)Total Radium	$1.80X10^{1}$ pCi/Day	$1.64X10^{-2}$ pCi/Day	4
Sulfate	6.604	$6X10^{-3}$	4
Aluminum	$3X10^{-3}$	$3X10^{-6}$	4
Barium	$4.4X10^{-2}$	$4X10^{-5}$	4
Boron	$4.1X10^{-2}$	$4X10^{-5}$	4
Iron	$6.0X10^{-3}$	$5X10^{-6}$	4
Magnesium	3.717	$3.4X10^{-3}$	4
Manganese	$1.6X10^{-2}$	$1X10^{-5}$	4

ATTACHMENT E TO EPA FORM 2D
SECTION V - EFFLUENT CHARACTERISTICS
(PART 2, MASS VALUES)
(PAGE 2 OF 2)

N-REACTOR TREATED EFFLUENT DISCHARGE TO OUTFALL NUMBER 009

Pollutants	Maximum Daily Value (Grams)	Average Daily Value (Grams)	(See Source Codes Pg 1-2 of Instructions) Source
SECTION 1			
Antimony	$7X10^{-3}$	$6.3X10^{-6}$	4
Chromium	$1X10^{-4}$	$6X10^{-7}$	4
Lead	$8X10^{-3}$	$7X10^{-6}$	4
Nickel	$4X10^{-3}$	$4X10^{-6}$	4
Silver	$2X10^{-4}$	$2X10^{-7}$	4
Zinc	$3X10^{-3}$	$3X10^{-6}$	4
Arsenic	$6X10^{-3}$	$6X10^{-6}$	4
Cadmium	$1X10^{-3}$	$1X10^{-6}$	4
Copper	$7X10^{-3}$	$6X10^{-6}$	4
Selenium	$2.3X10^{-2}$	$2X10^{-5}$	4
SECTION 2			
NONE			
SECTION 3			
GC/MS FRACTION-VOLATILE COMPOUNDS			
Chloroform	$2.8X10^{-2}$	$3X10^{-4}$	4
GS/MS FRACTION-ACID COMPOUNDS			
NONE			
GS/MS FRACTION-BASE/NEUTRAL COMPOUNDS			
NONE			
GS/MS FRACTION-PESTICIDES			
NONE			

* Data is provided for information purposes. However, those releases of source, spent nuclear or byproduct materials are not regulated as pollutants under the Clean Water Act.

ATTACHMENT F TO EPA FORM 2D
SECTION V - EFFLUENT CHARACTERISTICS
(PART 1, CONCENTRATION VALUES)
(PAGE 1 OF 3)

COMPOSITE DISCHARGE TO OUTFALL NUMBER 009

The concentration values are mathematically derived. Calculations are based on Appendix B, Alternative B of the "N-Reactor Wastewater Treatment System Summary Engineering Report" which will be available in July, 1992.

Pollutant	*** Maximum Daily Value	** Average Daily Value	(See Source Codes Pg 1-2 of Instructions) Source
GROUP A			
BOD - 5 day	4426 ppb	4040 ppb	4
COD	4975 ppb	4923 ppb	4 * 5000 ppb DL
Total Organic Carbon	1700 ppb	1690 ppb	4
Suspended Solids	3000 ppb	330 ppb	4
Flow	220 gpm	91 gpm	4
Ammonia (as N)	60 ppb	59 ppb	4 *100 ppb DL
Temperature (winter)	77 F	75 F	4
Temperature (summer)	100 F	95 F	4
Ph-field	9.0	7.5	4

GROUP B			
Fluoride	100 ppb	98.9 ppb	4 *100 ppb DL
Nitrate	$2.73X10^{-2}$ ppb	$4.45X10^{-4}$ ppb	4
Phosphorous	20 ppb	19.7 ppb	4 *100 ppb DL
(1)Alpha Radioactivity	$7.60X10^{-1}$ pCi/L	$7.52X10^{-1}$ pCi/L	4
(2)Beta Radioactivity	$1.11X10^{2}$ pCi/L	2.5 pCi/L	4
(3)Radium Total	$1.44X10^{-1}$ pCi/L	$1.42X10^{-1}$ pCi/L	4
Sulfate	9760 ppb	9661 ppb	4
Aluminum	25.6 ppb	25.52 ppb	4 *45 ppb DL
Barium	26.5 ppb	26.2 ppb	4
Boron	$4.74X10^{-3}$ ppb	$7.61X10^{-5}$ ppb	4 *5 ppb DL
Iron	50.7 ppb	50.16 ppb	4
Magnesium	3650 ppb	3611 ppb	4
Manganese	6.78 ppb	6.7 ppb	4

ATTACHMENT F TO EPA FORM 2D
SECTION V - EFFLUENT CHARACTERISTICS
(PART 1, CONCENTRATION VALUES)
(PAGE 2 OF 3)

COMPOSITE DISCHARGE TO OUTFALL NUMBER 009

Pollutant	*** Maximum Daily Value	** Average Daily Value	(See Source Codes Pg 1-2 of Instructions) Source
SECTION 1			
Antimony	$7.94X10^{-4}$ ppb	$1.27X10^{-5}$ ppb	4 *32 ppb DL
Chromium	$7.38X10^{-5}$ ppb	$1.18X10^{-6}$ ppb	4 *7 ppb DL
Lead	$9.0X10^{-4}$ ppb	$1.44X10^{-5}$ ppb	4 *42 ppb DL
Nickel	8.2 ppb	1.11 ppb	4 *15 ppb DL
Silver	$2.61X10^{-5}$ ppb	$4.18X10^{-7}$ ppb	4 *7 ppb DL
Zinc	5.75 ppb	5.68 ppb	4
Arsenic	1.20 ppb	1.18 ppb	4 *53 ppb DL
Cadmium	$1.45X10^{-4}$ ppb	$2.34X10^{-6}$ ppb	4 *4 ppb DL
Copper	$8.13X10^{-4}$ ppb	$1.31X10^{-5}$ ppb	4
Selenium	$2.63X10^{-3}$ ppb	$4.23X10^{-5}$ ppb	4 *75 ppb DL

SECTION 2			
NONE			

SECTION 3			
GC/MS FRACTION-VOLATILE COMPOUNDS			
Chloroform	$3.24X10^{-2}$ ppb	$5.3X10^{-4}$ ppb	4
GS/MS FRACTION-ACID COMPOUNDS			
NONE			

GS/MS FRACTION-BASE/NEUTRAL COMPUNDS
NONE

GC/MS FRACTION-PESTICIDES
NONE

COMPOSITE DISCHARGE TO OUTFALL NUMBER 009

* Detection Limit (DL) only listed if constituent value is lower than detection limit:
- EPA Method 200.7 (Metals)
- EPA Method 350.2 (Ammonia)
- EPA Method 340.1 (Fluoride)
- EPA Method 365.2 (Phosphorus)
- EPA Method 352.1 (Nitrate)
- EPA Method 624 (GC/MS-Volatiles)

** Average daily values calculated for the composite discharge to Outfall Number 009 are based on 480,000 gpy for the N-Reactor treated effluent and $4.7X10^7$ gpy for the current discharges to Outfall Number 009.

$$\frac{(4.8x10^5 \text{ gpy})(\text{N-Reactor treated effluent concentration}) + (4.7x10^7 \text{ gpy}) X (\text{existing discharge concentration})}{(4.8x10^5 \text{gpy} + 4.7x10^7 \text{ gpy})}$$

The composition of current Outfall Number 009 discharges is based upon Columbia River water data at the Vernita Bridge.

*** Maximum daily values are calculated based on the following assumptions:

(a) If the concentration of the current discharge to Outfall 009 is greater than that of the N-Reactor treated effluent, the current discharge (i.e. background) concentration is used.

(b) If the N-Reactor treated effluent concentration is greater than the existing discharge to Outfall Number 009 the maximum daily value is calculated utilizing the following weighted formula;

$$\frac{(100\text{gpm})(\text{N-Reactor treated effluent concentration}) + (60\text{gpm}) X (\text{existing discharge concentration})}{(100 \text{ gpm} + 60 \text{ gpm})}$$

The composition of current Outfall Number 009 discharges is based upon Columbia River water data at the Vernita Bridge.

**** Data is provided for information purposes. However, those releases of source, spent nuclear or byproduct materials are not regulated as pollutants under the Clean Water Act.

ATTACHMENT G TO EPA FORM 2D
SECTION V - EFFLUENT CHARACTERISTICS
(PART 2, MASS VALUES)
(PAGE 1 OF 2)

COMPOSITE DISCHARGE TO OUTFALL NUMBER 009

The mass values are mathematically derived . Calculations are based on Appendix B, Alternative B of the "N-Reactor Wastewater Treatment System Summary Engineering Report" which will be available in July, 1992.

Pollutant	** Maximum Daily Value (grams)	** Average Daily Value (grams)	(See Source Codes Pg 1-2 of Instructions) Source
GROUP A			
BOD-5 day	5074.04	2006.43	4
COD	5973.34	2444.97	4
Total Organic Carbon	2041.14	1839.32	4
Suspended Solids	3602.02	163.89	4
Flow	316,800 gpd	131,040 gpd	4
Ammonia (as N)	72.04	29.30	4
Temperature (winter)	77 F	75 F	4
Temperature (summer)	100 F	95 F	4
pH	9.0	7.5	4

GROUP B			
Fluoride	120.07	49.12	4
Nitrate	$3.28X10^{-2}$	$2.21X10^{-4}$	4
Phosphorous	24.01	9.78	4
* (1)Alpha Radioactivity	$9.13X10^{5}$ pCi/Day	$3.73X10^{5}$ pCi/Day	4
* (2)Beta Radioactivity	$1.33X10^{8}$ pCi/Day	$1.24X10^{6}$ pCi/Day	4
* (2)Radium Total	$1.73X10^{5}$ pCi/Day	$7.2X10^{4}$ pCi/Day	4
Sulfate	11712.12	4801.52	4
Aluminum	30.74	12.67	4
Barium	31.82	13.01	4
Boron	$6.0X10^{-3}$	$3.8X10^{-5}$	4
Iron	60.87	24.91	4
Magnesium	4382.45	1793.37	4
Manganese	8.14	3.33	4

ATTACHMENT G TO EPA FORM 2D
SECTION V - EFFLUENT CHARACTERISTICS
(PART 2, MASS VALUES)
(PAGE 2 OF 2)

COMPOSITE DISCHARGE TO OUTFALL NUMBER 009

Pollutant	** Maximum Daily Value (Grams)	** Average Daily Value (Grams)	(See Source Codes Pg 1-2 of Instructions) Source
SECTION 1			
Antimony	$9.5X10^{-4}$	$6X10^{-6}$	4
Chromium	$9X10^{-5}$	$6X10^{-7}$	4
Lead	$1.1X10^{-3}$	$7X10^{-6}$	4
Nickel	9.84	4.03	4
Silver	$3.0X10^{-5}$	$2.1X10^{-7}$	4
Zinc	6.90	2.82	4
Arsenic	1.44	$5.9X10^{-1}$	4
Cadmium	$1.74X10^{-4}$	$1.16X10^{-6}$	4
Copper	$9.76X10^{-4}$	$6.61X10^{-6}$	4
Selenium	$3X10^{-3}$	$2.12X10^{-5}$	4

SECTION 2
NONE

SECTION 3

CONTINUED FROM THE FRONT	EPA ID Number (copy from Item 1 of Form 1)	
EPA Form 2D	WA-000374-3	009

C. Use the space below to list any of the pollutants listed in Table 2D-3 of the instructions which you know or have reason to believe will be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it will be present.

1. Pollutant	2. Reason for Discharge

Please See Attachment H for Pollutants from Table 2D-3 and 2D-4 of the Instructions for N-Reactor Treated Effluent and The Composite Discharge to Outfall Number 009

VI. Engineering Report on Wastewater Treatment

A. If there is any technical evaluation concerning your wastewater treatment, including engineering reports or pilot plant studies, check the appropriate box below.

☒ Report Available ☐ No Report

The N-Reactor Engineering Report will be available July, 1992. See Attachment I for Treatment Train

B. Provide the name and location of any existing plant(s) which, to the best of your knowledge, resembles this production facility with respect to production processes, wastewater constituents, or wastewater treatments.

Name	Location
Trojan Nuclear Power Plant	Rainier, Oregon
Washington Public Power Supply System - Unit 2	Richland, Washington

CONTINUE ON NEXT PAGE

ATTACHMENT H TO EPA FORM 2D
N-REACTOR TREATED EFFLUENT AND COMPOSITE DISCHARGE TO OUTFALL NUMBER 009
POLLUTANTS FROM TABLE 2D-3 AND 2D-4
(PAGE 1 OF 1)

TABLE	POLLUTANT	REASON FOR DISCHARGE
2D-3	Strontium	Radionuclides are present in the discharge due to residual contamination from past reactor operations
2D-3	Uranium	Present in the discharge due to residual contamination from past reactor operations
2D-4	Chloroform	This constituent is an end product of the reaction between chlorine and the organic fraction of the water which is common to all surface waters.
2D-4	Ammonia	Was used as a corrosion inhibitor in past N-Reactor Operations. It is no longer used but also is present in the Columbia River.
2D-4	Chlorine	Chlorine is present in the existing discharge due its use in treating potable water

ATTTACHMENT I TO EPA FORM 2D
SECTION VI - ENGINEERING REPORT ON WASTEWATER TREATMENT
BEST AVAILABLE TECHNOLOGY (BAT) ECONOMICALLY ACHIEVABLE
PROPOSED TREATMENT TRAIN
(PAGE 1 OF 1)

The "N-Reactor Wastewater Treatment System Summary Engineering Report" (SD-NR-ES-014, Revision 0), being prepared to support this NPDES Permit application, is in the review process and will be available in July in response to item VI of EPA Form 2D. This document serves as the Best Available Technology (BAT), Economically Achievable, assessment for the N-Reactor effluent. BAT is proposed to include source term control and treatment prior to discharge to Outfall Number 009. The proposed treatment train includes the following:

Treatment	Constituent
Microfiltration	Suspended Solids
Ion Exchange	Dissolved Solids
Granular Activated Carbon	Organics
pH Adjustment	Sodium Hydroxide

Discharge concentrations of pollutants are expected to fall below applicable U. S. EPA criteria for chronic and acute freshwater toxicity and Washington State Water Quality Standards, WAC 173-201, at the point of discharge.

EPA ID Number (copy from item one of Form 1)
WA-000374-3

VII. Other Information (Optional)

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations for the proposed facility. Attach additional sheets if necessary.

VIII. Certification

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 fine and imprisonment for knowing violations.

A. Name and Official Title (type or print)	B. Phone No.
Mr. John D. Wagoner, Manager	(509) 376-7395
C. Signature	D. Date Signed

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Author	Addressee	Correspondence No.
R. D. Izatt, RL	C. E. Findley, EPA	Incomming Letter: 9204803

Subject: HANFORD SITE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT MODIFICATION APPLICATION - N-REACTOR WASTEWATER TREATED EFFLUENT

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54-6000-117 (9/88) (EF) WEF008
Distribution Coversheet

DH 7-2-92