FORM 3	DANGEROUS WASTE PERMIT APPLICATION	I. EPA/State I.D. No.
		W A 7 8 9 0 0 0 8 9 6 7

FOR OFFICIAL USE ONLY

Application Approved	Date Received (month/ day / year)	Comments

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or If this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

A. First Application (place an "X" below and provide the appropriate date)

☐ **1. Existing Facility** (See instructions for definition of "existing" facility. Complete item below.)

MO	DAY	YEAR
03	23	1943

*For existing facilities, provide the date (mo/day/yr) operation began or the date construction commenced. (use the boxes to the left)

*The date construction of the Hanford Facility commenced

☐ **2. New Facility** (Complete item below.)

MO	DAY	YEAR

For new facilities, provide the date (mo/day/yr) operation began or is expected to begin

B. Revised Application (Place an "X" below and complete Section I above)

☒ **1. Facility has an interim Status Permit**

☒ **2. Facility has a Final Permit**

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. Process Code – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the codes(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).

B. Process Design Capacity – For each code entered in column A enter the capacity of the process.

1. Amount – Enter the amount.
2. Unit of Measure – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
STORAGE:		
Container (barrel, drum, etc.)	S01	Gallons or liters
Tank	S02	Gallons or liters
Waste pile	S03	Cubic yards or cubic meters
Surface impoundment	S04	Gallons or liters
	S06	Cubic yards or cubic meters*
DISPOSAL:		
Injection well	D80	Gallons or liters
Landfill	D81	Acre-feet (the volume that would cover one acre to a Depth of one foot) or hectare-meter
Land application	D82	Acres or hectares
Ocean disposal	D83	Gallons per day or liters per day
Surface impoundment	D84	Gallons or liters
TREATMENT:		
Tank	T01	Gallons per day or liters per day
Surface impoundment	T02	Gallons per day or liters per day
Incinerator	T03	Tons per hour or metric tons per hour; gallons per hour or liters per hour
Other (use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Section III-C.)	T04	Gallons per day or liters per day

Unit of Measure	Unit of Measure Code
Gallons	G
Liters	L
Cubic Yards	Y
Cubic Meters	C
Gallons Per Day	U
Liters Per Day	V
Tons Per Hour	D
Metric Tons Per Hour	W
Gallons Per Hour	E
Liters Per Hour	H
Acre-Feet	A
Hectare-Meter	F
Acres	B
Hectares	Q

III. PROCESS – CODES AND DESIGN CAPACITIES (continued)

Example for Completing Section III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks; one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

Line No.	A. Process Code *(from list above)*			B. Process Design Capacity				For Official Use Only			
				1. Amount *(Specify)*		2. Unit of Measure *(enter code)*					
X-1	*S*	*0*	*2*	*600*		*G*					
X-2	*T*	*0*	*3*	*20*		*E*					
1	T	0	4	870,642		V					
2	S	0	2	170,597		L					
3											
4											
5											
6											
7											
8											
9											
10											

C. Space for additional process codes or for describing other process (code "T04"). For each process entered here include design capacity.

T04

The 242-A Evaporator began waste management operations in March of 1977. The 242-A Evaporator is located in the 200 East Area and is used to treat mixed waste from the Double-Shell Tank (DST) System by removing water and most volatile organics. Two waste streams leave the 242-A Evaporator following the treatment process. The first stream, the concentrated slurry (approximately 40 to 60 percent of the water is removed during evaporation along with a portion of volatile organics), is pumped back into the DST System. The second waste stream, process condensate (containing a portion of the volatile organics removed from the mixed waste during the evaporation process), is routed through condensate filters before release to a retention basis (Liquid Effluent Retention Facility). Offgasses from the process are routed through a de-entrainment unit, a prefilter, and high-efficiency particulate air filters before being discharged to the environment. The 242-A Evaporator is used to treat up to 870,642 liters (230,000 gallons) of mixed waste per day.

S02

Tank C-100, a 4.3-meter (14-foot) diameter and 5.9-meter (19-foot) high tank with a maximum design capacity of 67,380 liters (17,800 gallons) is located in the condensate room. Process condensate from the primary, inter-, and after-condensers drain by gravity to tank C -100, which is constructed of stainless steel. In addition, tank C-100 receives potentially contaminated drainage from the vessel vent system via a 102 -liter (27 gallon) seal pot.

Tank C-A-1 is located in the evaporator room and consists of two sections: the lower (liquid) section, a 4.3-meter (14-foot) diameter stainless steel shell, and an upper (vapor) section, a 3.5-meter (11.6-foot) diameter stainless steel shell, containing two wire-mesh de-entrainment pads for the removal of liquids and solids that could be carried into the vapor header. Process slurry from the reboiler discharges to the evaporator vessel (tank C-A-1). Concentrated process slurry exits the lower section of tank C-A-1 via the 28-inch recirculating line. Vapor flows out of tank C-A-1 through a 42-inch vapor line at the top. The maximum design capacity of tank C-A-1 is 103,217 liters (27,267 gallons).

IV. DESCRIPTION OF DANGEROUS WASTES

A. Dangerous Waste Number – Enter the digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four-digit number(s) that describes the characteristics and/or the toxic contaminants of those dangerous wastes.

B. Estimated Annual Quantity - For each listed waste entered in column A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. Unit of Measure - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate odes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
Pounds	P	Kilograms	K
Tons	T	Metric Tons	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. Processes

1. Process Codes:

   For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

   For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. Process Description: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

   NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

   1. Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
   2. In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
   3. Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

   Example for completing Section IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste.

Line No.	A. Dangerous Waste No. *(enter code)*				B. Estimated Annual Quantity of Waste	C. Unit of Measure *(enter code)*			D. Processes				
									1. Process Codes *(enter)*				2. Process Description *(if a code is not entered in D(1))*
X-1	*K*	*0*	*5*	*4*	*900*		*P*		*T03*	*D80*			
X-2	*D*	*0*	*0*	*2*	*400*		*P*		*T03*	*D80*			
X-3	*D*	*0*	*0*	*1*	*100*		*P*		*T03*	*D80*			
X-4	*D*	*0*	*0*	*2*					*T03*	*D80*			*Included with above*

Photocopy this page before completing if you have more than 26 wastes to list.

I.D. Number *(enter from page 1)*											
W	A	7	8	9	0	0	0	8	9	6	7

IV. DESCRIPTION OF DANGEROUS WASTES *(continued)*

Line No.	A. Dangerous Waste No. *(enter code)*				B. Estimated Annual Quantity of Waste	C. Unit of Measure *(enter code)*			D. Processes				
									1. Process Codes *(enter)*				2. Process Description *(if a code is not entered in D(1))*
1	D	0	0	1	635,029,318		K		T04				Treatment - Evaporation
2	D	0	0	2			K		T04				Treatment - Evaporation
3	D	0	0	3			K		T04				Treatment - Evaporation
4	D	0	0	4			K		T04				Treatment - Evaporation
5	D	0	0	5			K		T04				Treatment - Evaporation
6	D	0	0	6			K		T04				Treatment - Evaporation
7	D	0	0	7			K		T04				Treatment - Evaporation
8	D	0	0	8			K		T04				Treatment - Evaporation
9	D	0	0	9			K		T04				Treatment - Evaporation
10	D	0	1	0			K		T04				Treatment - Evaporation
11	D	0	1	1			K		T04				Treatment - Evaporation
12	D	0	1	8			K		T04				Treatment - Evaporation
13	D	0	1	9			K		T04				Treatment - Evaporation
14	D	0	2	2			K		T04				Treatment - Evaporation
15	D	0	2	8			K		T04				Treatment - Evaporation
16	D	0	2	9			K		T04				Treatment - Evaporation
17	D	0	3	0			K		T04				Treatment - Evaporation
18	D	0	3	3			K		T04				Treatment - Evaporation
19	D	0	3	4			K		T04				Treatment - Evaporation
20	D	0	3	5			K		T04				Treatment - Evaporation
21	D	0	3	6			K		T04				Treatment - Evaporation
22	D	0	3	8			K		T04				Treatment - Evaporation
23	D	0	3	9			K		T04				Treatment - Evaporation
24	D	0	4	0			K		T04				Treatment - Evaporation
25	D	0	4	1			K		T04				Treatment - Evaporation
26	D	0	4	3			K		T04				Treatment - Evaporation
27	W	T	0	1			K		T04				Treatment - Evaporation
28	W	T	0	2			K		T04				Treatment - Evaporation
29	W	P	0	1			K		T04				Treatment - Evaporation
30	W	P	0	2			K		T04				Treatment - Evaporation
31	F	0	0	1			K		T04				Treatment - Evaporation
32	F	0	0	2			K		T04				Treatment - Evaporation
33	F	0	0	3			K		T04				Treatment - Evaporation
34	F	0	0	4			K		T04				Treatment - Evaporation
35	F	0	0	5			K		T04				Treatment - Evaporation
36	F	0	3	9			K		T04				Treatment - Evaporation
37	D	0	0	1	348,241		K		S02				Storage - Tank
38	D	0	0	2			K		S02				Storage - Tank
39	D	0	0	3			K		S02				Storage - Tank
40	D	0	0	4			K		S02				Storage - Tank
41	D	0	0	5			K		S02				Storage - Tank
42	D	0	0	6			K		S02				Storage - Tank

Photocopy this page before completing if you have more than 26 wastes to list.

I.D. Number *(enter from page 1)*											
W	A	7	8	9	0	0	0	8	9	6	7

IV. DESCRIPTION OF DANGEROUS WASTES *(continued)*

Line No.	A. Dangerous Waste No. *(enter code)*				B. Estimated Annual Quantity of Waste	C. Unit of Measure *(enter code)*			D. Processes				
									1. Process Codes *(enter)*				2. Process Description *(if a code is not entered in D(1))*
43	D	0	0	7			K		S02				Storage - Tank
44	D	0	0	8			K		S02				Storage - Tank
45	D	0	0	9			K		S02				Storage - Tank
46	D	0	1	0			K		S02				Storage - Tank
47	D	0	1	1			K		S02				Storage - Tank
48	D	0	1	8			K		S02				Storage - Tank
49	D	0	1	9			K		S02				Storage - Tank
50	D	0	2	2			K		S02				Storage - Tank
51	D	0	2	8			K		S02				Storage - Tank
52	D	0	2	9			K		S02				Storage - Tank
53	D	0	3	0			K		S02				Storage - Tank
54	D	0	3	3			K		S02				Storage - Tank
55	D	0	3	4			K		S02				Storage - Tank
56	D	0	3	5			K		S02				Storage - Tank
57	D	0	3	6			K		S02				Storage - Tank
58	D	0	3	8			K		S02				Storage - Tank
59	D	0	3	9			K		S02				Storage - Tank
60	D	0	4	0			K		S02				Storage - Tank
61	D	0	4	1			K		S02				Storage - Tank
62	D	0	4	3			K		S02				Storage - Tank
63	W	T	0	1			K		S02				Storage - Tank
64	W	T	0	2			K		S02				Storage - Tank
65	W	P	0	1			K		S02				Storage - Tank
66	W	P	0	2			K		S02				Storage - Tank
67	F	0	0	1			K		S02				Storage - Tank
68	F	0	0	2			K		S02				Storage - Tank
69	F	0	0	3			K		S02				Storage - Tank
70	F	0	0	4			K		S02				Storage - Tank
71	F	0	0	5			K		S02				Storage - Tank
72	F	0	3	9			K		S02				Storage - Tank
73													
74													
75													
76													
77													
78													
79													
80													
81													
82													
83													
84													

IV. DESCRIPTION OF DANGEROUS WASTE (continued)

E. Use this space to list additional process codes from Section D(1) on page 3.

The 242-A Evaporator is used to treat and store mixed waste from the DST System. Two waste streams leave the 242-A Evaporator following the treatment process; a concentrated slurry waste stream that is routed to the DST System and a process condensate waste stream that is routed to the Liquid Effluent Retention Facility.

The waste fed to the 242-A Evaporator is regulated as a mixed waste with the same waste constituents as the waste in the DST System. The concentrated slurry is a characteristic waste (D001, D002, and D003), toxic waste (D004 through D011, D018, D019, D022, D028 through D030, D033 through D036, D038 through D041, and D043), nonspecific source waste (F001 through F005 and F039), and state-only characteristic waste (WT01, WT02, WP01, WP02. Multi-source leachate (F039) is included as a waste derived from nonspecific source waste F001 through F005.

The process condensate is regulated as a mixed waste due to the toxicity of ammonia (WT02) and because it is derived from the waste with a nonspecific source wastes F001 through F005. Multi-source leachate (F039) is included as a waste derived from nonspecific source waste F001 through F005.

The list of dangerous waste constituents under Section IV.A includes constituents that have not been detected in the waste; however, knowledge of the processes providing the waste to the 242-A Evaporator indicates the strong possibility that these constituents are present in the waste or there is a potential for treating these constituents in the future. The annual waste quantity listed under Section IV.B was calculated using an operating schedule of 365 days per year and a specific gravity of 2.0 for the waste. This calculation was done to provide a maximum estimate of annual waste quantity.

V. FACILIITY DRAWING Refer to attached drawing(s).

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS Refer to attached photograph(s).

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION This information is provided on the attached drawings and photos.

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information," place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. Name of Facility's Legal Owner			2. Phone Number *(area code & no.)*
3. Street or P.O. Box	4. City or Town	5. St.	6. Zip Code

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted 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.

Name *(print or type)*	Signature	Date Signed
Keith A. Klein, Manager U. S. Department of Energy	Michael H. Fehlman for	5/15/03
Name *(print or type)*	Signature	Date Signed
Roy J. Schepens, Manager U. S. Department of Energy	Roy J. Schepens	5/15/03

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted 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.

Name *(Print Or Type)*	Signature	Date Signed
See attachment		

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted 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.

Michael H. Schlender — 5/15/03

Owner/Operator
Keith A. Klein, Manager
U.S. Department of Energy
Richland Operations Office

Date

Roy J. Shepens — 5/15/03

Owner/Operator
Roy J. Shepens, Manager
U.S. Department of Energy
Office of River Protection

Date

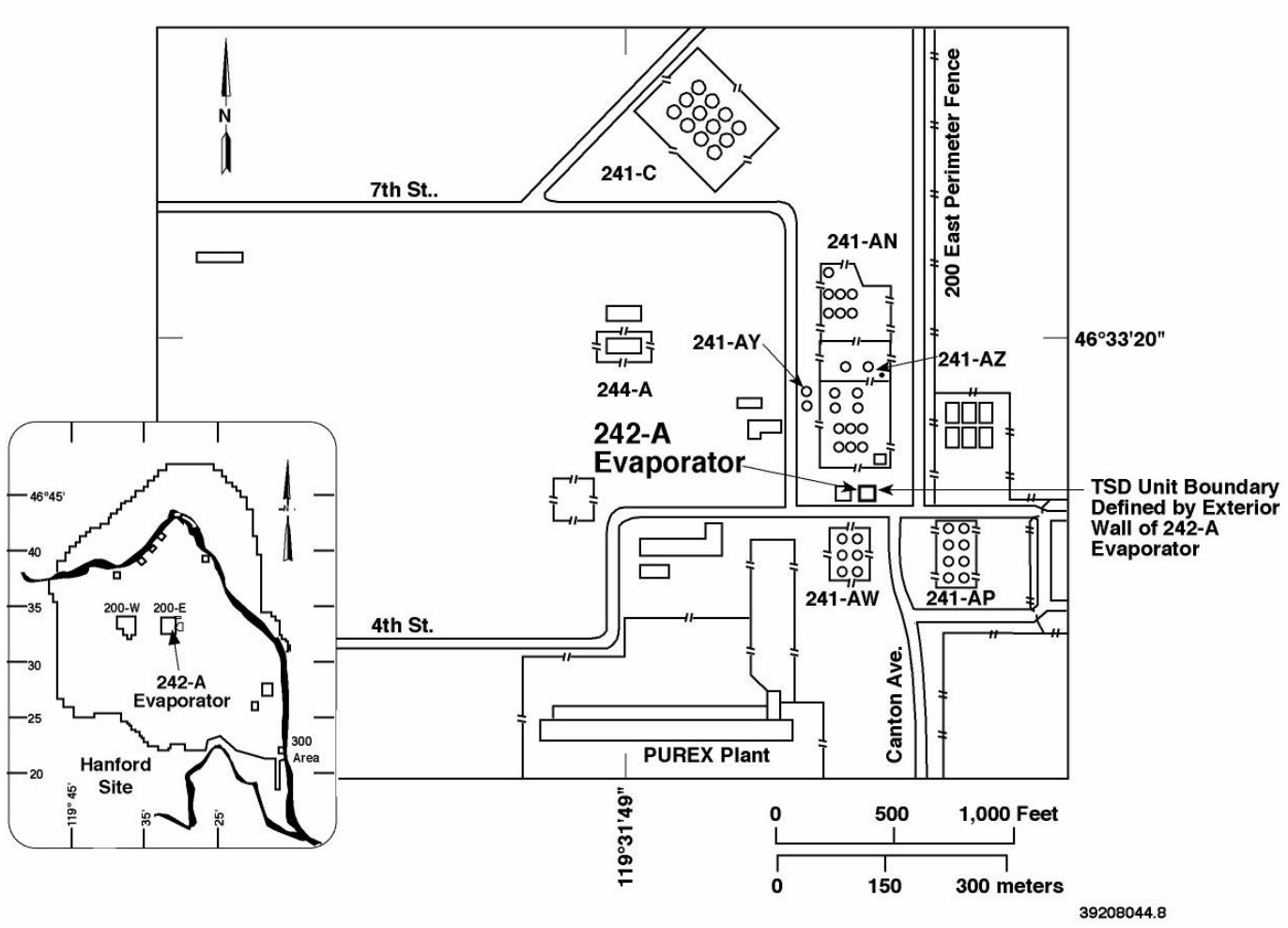
Edward S. Aromi Jr. — 4/30/03

Co-Operator
Edward S. Aromi Jr.
President and General Manager
CH2M HILL Hanford Group, Inc.

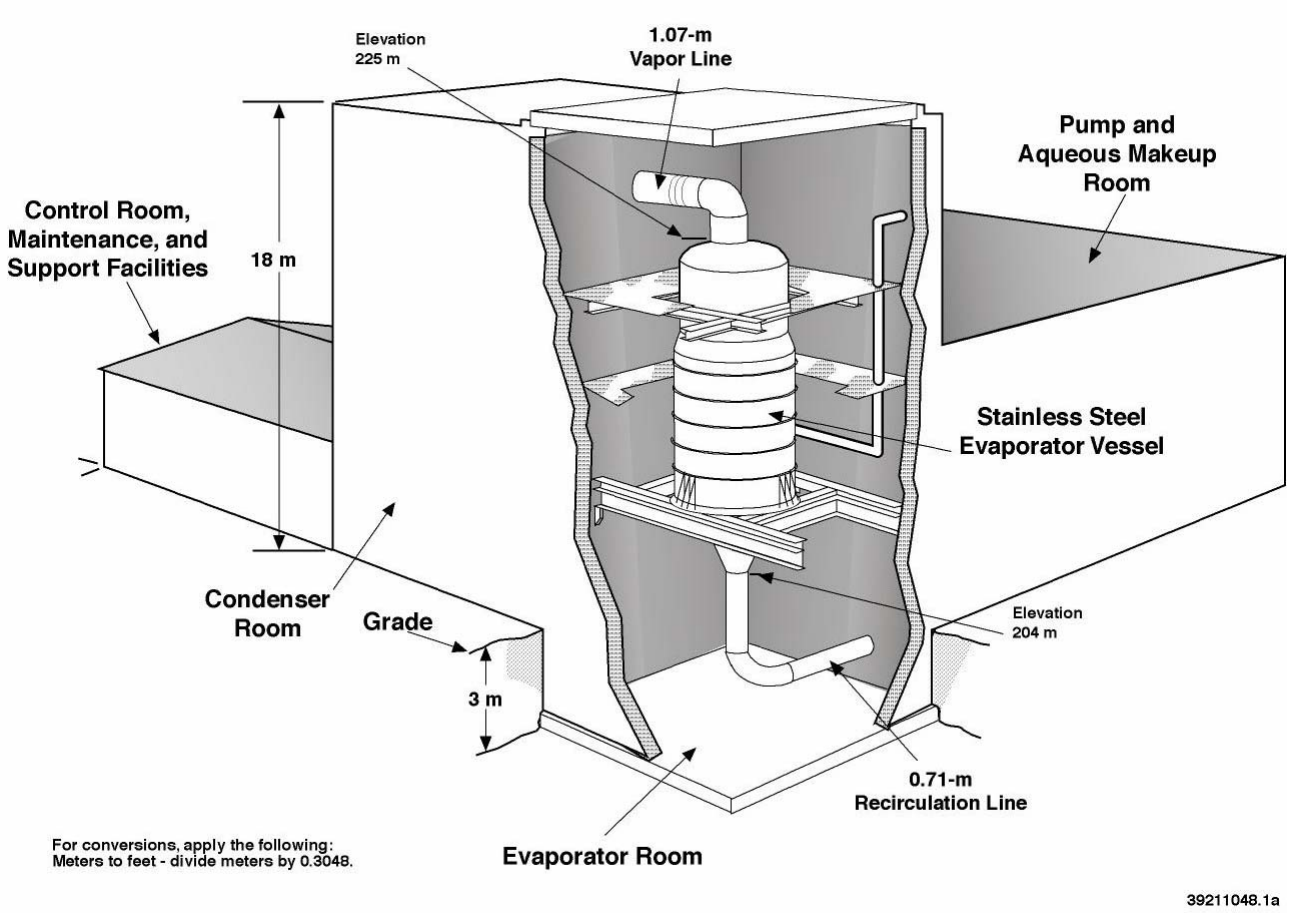
Date

- Official Use Only -

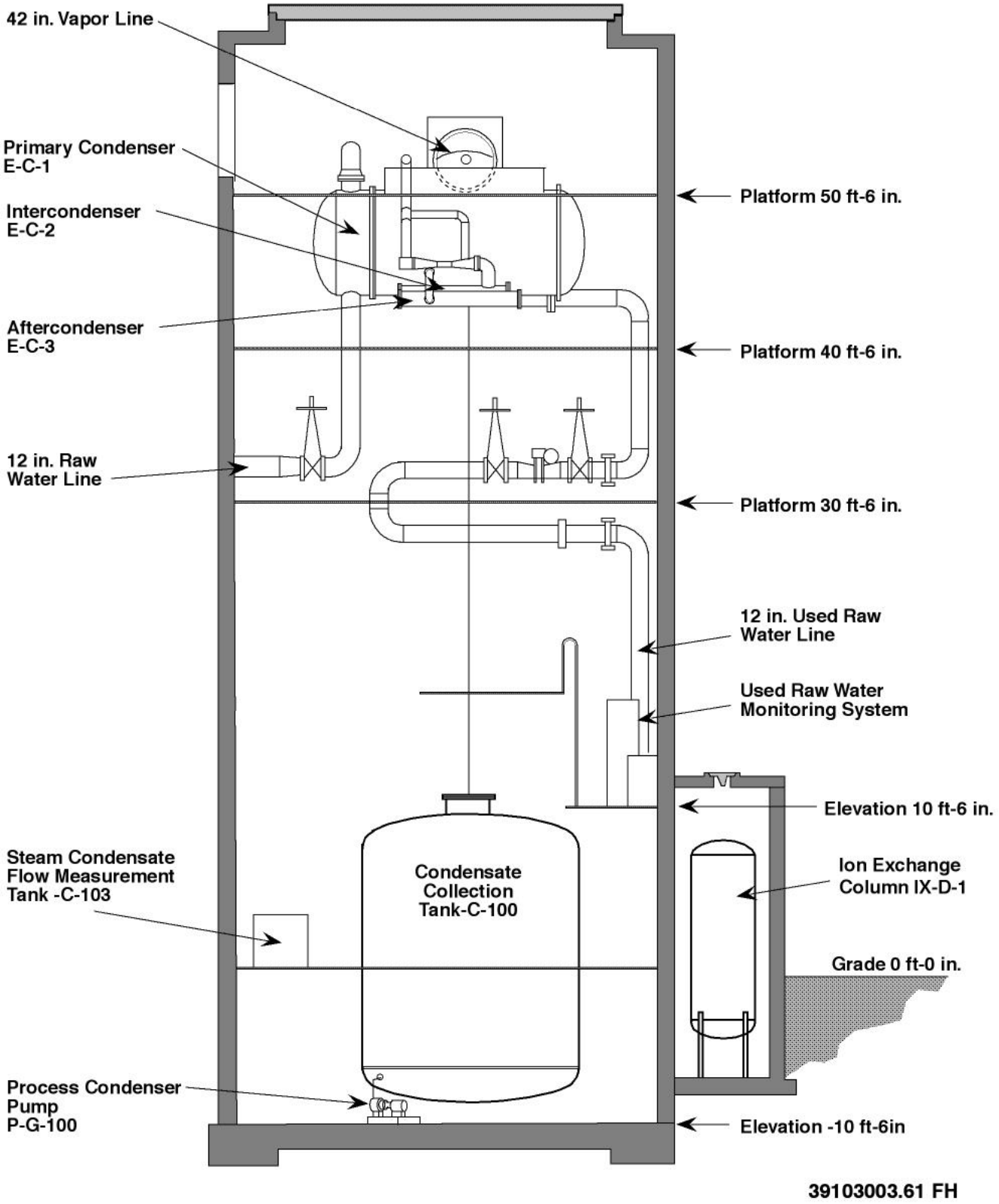
242-A Evaporator
Site Plan



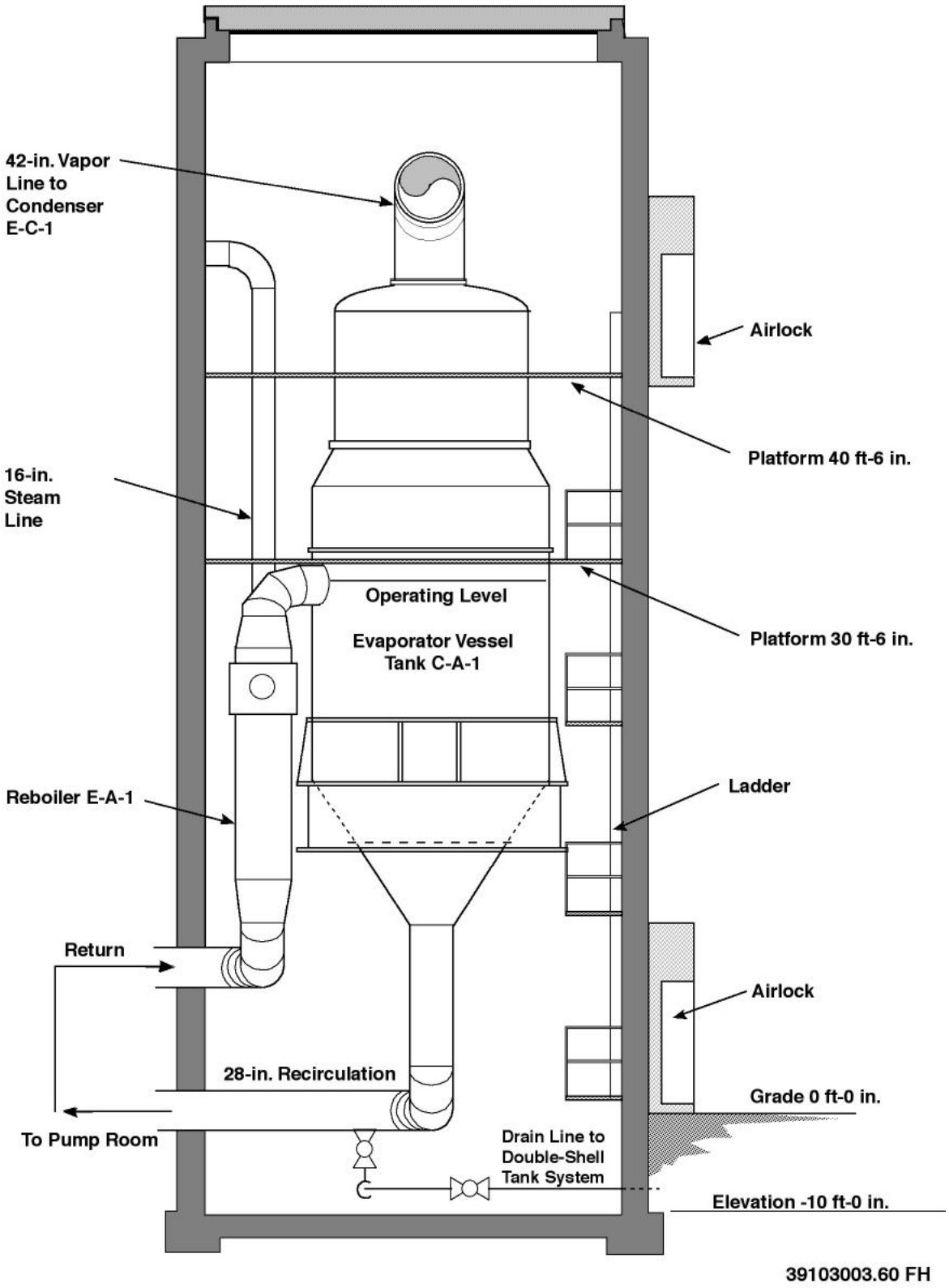
242-A Evaporator



Tank C-100


42 in. Vapor Line
Primary Condenser E-C-1
Intercondenser E-C-2
Aftercondenser E-C-3
12 in. Raw Water Line
Platform 50 ft-6 in.
Platform 40 ft-6 in.
Platform 30 ft-6 in.
12 in. Used Raw Water Line
Used Raw Water Monitoring System
Elevation 10 ft-6 in.
Steam Condensate Flow Measurement Tank -C-103
Condensate Collection Tank-C-100
Ion Exchange Column IX-D-1
Grade 0 ft-0 in.
Process Condenser Pump P-G-100
Elevation -10 ft-6in
39103003.61 FH

Tank C-A-1


42-in. Vapor Line to Condenser E-C-1
Airlock
Platform 40 ft-6 in.
16-in. Steam Line
Operating Level
Evaporator Vessel Tank C-A-1
Platform 30 ft-6 in.
Reboiler E-A-1
Ladder
Return
Airlock
28-in. Recirculation
Grade 0 ft-0 in.
To Pump Room
Drain Line to Double-Shell Tank System
Elevation -10 ft-0 in.
39103003.60 FH

- Official Use Only -

242-A Evaporator

46°33'09"
119°31'01"

96080579-19CN
(PHOTO TAKEN 1996)