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7. Abstract

The Anti-foam System is a sub-system of the 242-A Evaporator facility. The Anti-foam is used within the C-A-1 Vapor-Liquid Separator, to reduce the effect of foaming and reduce fluid bumping while the vapor and liquid are separated within the C-A-1 Vapor-Liquid Separator.

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242-A EVAPORATOR

Anti-foam
System Design Description
(SDD)

WHC-SD-WM-SDD-025, REV 0

Prepared by,
Westinghouse Hanford Company
Waste Treatment Systems Engineering

For

U. S. Department of Energy

September 29, 1994

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SUMMARY

The Anti-foam System is a sub-system of the 242-A Evaporator facility. The Anti-foam is used within the C-A-1 Vapor-Liquid Separator, to reduce the effect of foaming and reduce fluid bumping while the vapor and liquid are separated within the C-A-1 Vapor-Liquid Separator (P&ID Drawing H-2-98988 and WHC-SD-WM-SDD-017).

This System Design Description (SDD) is specifically written for the Anti-foam System which is one of 25 sub-systems listed in the 242-A Evaporator sub-systems list in Appendix A. The Anti-foam System consists of the following primary elements:

- TK-E-102, Anti-foam Tank
- P-E-102, Metering Pump

This SDD is a supporting document for the 242-A Evaporator and includes the most recent Project B-534 upgrades. The upgrades to Anti-foam System include the following.

- Installation of a new pump, instruments, and valves.
- Connection of the instruments, pump and agitator associated with the Anti-foam System to the Monitoring and Control System (MCS).

242-A Evaporator General Description

The 242-A Evaporator is a waste treatment facility designed to reduce liquid waste volumes currently stored in the Hanford Area double shell Waste Storage Tanks. The evaporator uses evaporative concentration to achieve this volume reduction, returning the concentrated slurry to the double-shell tanks for storage and, at the same time, releasing the process effluent to a retention facilities for eventual treatment and release to the environment. The process utilizes an evaporator vessel and various supporting systems for heating, evaporating, and condensing low-heat-generating liquid waste produced at the Hanford Site. The process reduces the total volume of the liquid waste stored in double-shell tanks, making it more manageable for current storage as well as for future treatment and disposal. The main components of the 242-A Evaporator are the Reboiler, Vapor-Liquid Separator, Recirculation Pump and Pump Loop, Slurry System, Condenser System, Steam Jet Vacuum System, Condensate Collection Tank, and Ion Exchange System. All components of the Anti-foam system are located within the 242-A Evaporator building in the 200 East Area of the Hanford Site (Figures 1-1 and 1-2).

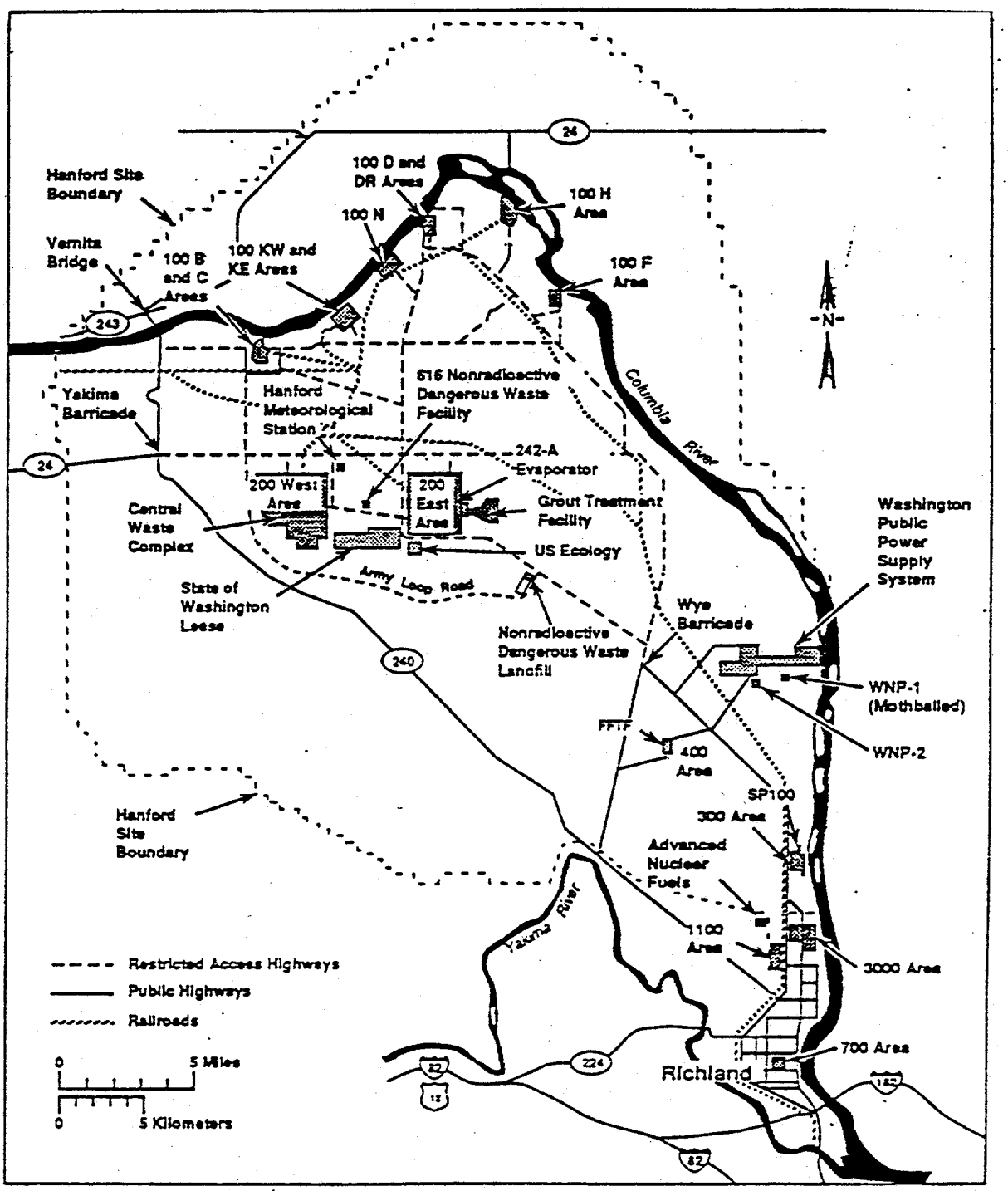

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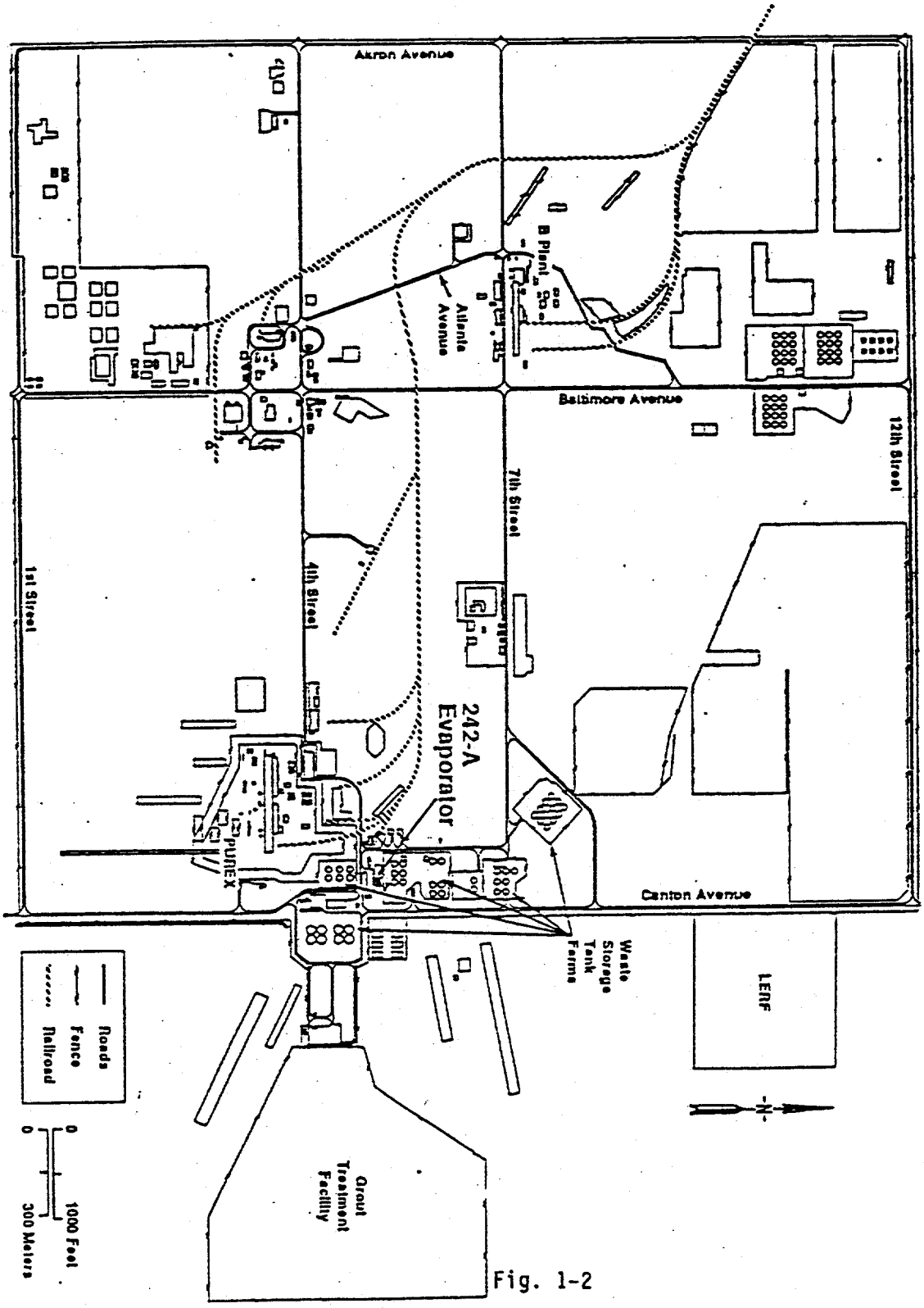
Fig. 1-1



Location of 242-A Evaporator in the 200 East Area at Hanford

Fig. 1-2

The 242-A Evaporator consists of four principal structures:

- 242-A Building, the main process building
- 242-AB Building, the adjacent control room building
- 242-A-81, the water service building
- 207-A Retention Basins and 207-A Building

The evaporator is connected to storage tanks and valve pits through underground piping used for transferring feed and product slurry solution, process condensate, steam condensate, used raw water, and miscellaneous drainage.

Utilities and service supplied to the evaporator include electrical power, water, and steam.

The evaporator originally was designed and constructed in 1977 to Hanford Plant Standard Design Criteria (SDC) 4.1, Rev. 6, which established the design loads and acceptance criteria for all permanent facilities at the Hanford Site at the time. However, the standard was revised in September 1989 (SDC-4.1 Revision 11; DOE-RL 1989). The evaporator was designed to withstand a 0.25 g earthquake [safe shutdown earth quake (SSE)], a 100-mi/h high wind/tornado, and wind-generated missiles. This criteria actually exceeds the current SDC-4.1, Rev. 11 requirements for moderate hazard facilities.

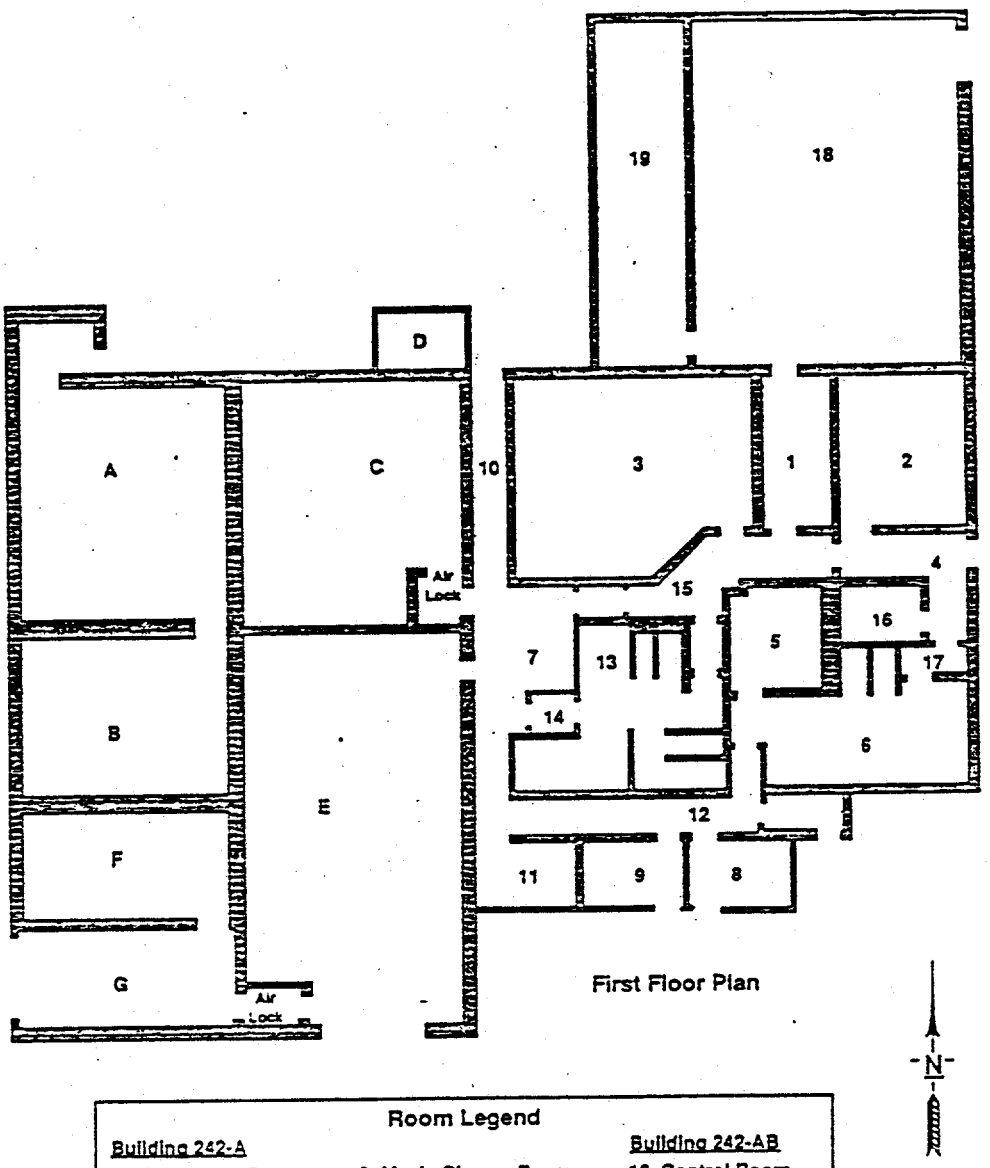
Anti-foam Operational Description

The principal process components of this SDD are located in the 242-A Building in the AMU Room (see Room #E, Figure 1-3). The 242-A Building contains the valves, pumps, and instruments which control the transfer of anti-foam from TK-E-102 to C-A-1.

The Anti-foam System flowpath, as depicted on P&ID Drawing H-2-99000, begins with chemical addition of Dow Corning 1520-US Silicone Anti-foam Emulsion into Anti-foam Tank TK-E-102 with the solution passing through Metering Pump P-E-102 and into the C-A-1 Vapor-Liquid Separator.

1.0 PRIMARY FUNCTION

The primary function of the Anti-foam System is to provide anti-foam solution to the C-A-1 Vapor-Liquid Separator, reducing the effect of foaming within the evaporator vessel. Excessive foaming within the vessel may possibly cause the liquid slurry mixture in the evaporator vessel to foul the de-entrainment pads and cause plant shutdown.



Room Legend

Building 242-A

A Evaporator Room
B Pump Room
C Condenser Room
D Ix Column Room
E AMU Room
F Loadout & Hot Equipment Storage
G Loading Room

1 Hallway
2 Lunch Room
3 Office
4 Corridor
5 Men's Bathroom
6 Men's Change Room
7 Survey Room
8 Clean Clothes Storage
9 Soiled Clothes Storage
10 Corridor
11 Supply and Storage Room
12 Corridor
13 Women's Bathroom & Change Room
14 Vestibule
15 Corridor
16 Janitor's Room
17 Vestibule

Building 242-AB

18 Control Room
19 Electrical Room

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Fig 1-3

2.0 ANTI-FOAM OPERATING AND DESIGN REQUIREMENTS

2.1 General

The following "ANTI-FOAM OPERATING AND DESIGN DESCRIPTION" is presented in a format that follows the flow of the anti-foam solution through the system, starting from TK-E-102, through P-E-102 and into the C-A-1 Vapor-Liquid Separator. To maintain a consistent and complete description of the system, a format was adopted to describe the components, their associated monitoring instruments and controls as applicable in a succeeding order of the Anti-foam System flow direction through the system, as depicted on P&ID Drawing H-2-99000. Due to the highly interconnected nature of the faceplates and devices, the main body of this document describes the function of each device.

2.1.1 Monitoring Control System (MCS)

The MCS was installed into the 242-A Evaporator as a part of the B-534 upgrades. The Texas Instruments D/3[1] computer system allows most of the 242-A Evaporator operations to be monitored and controlled from the main control room of the facility. This system allows for the display and control of functions previously located on the control room panel boards, as well as some of those which were located remotely. The MCS provides operating limits and alarm information for automatic control and shutdown of the Evaporator in the event the operating limits are exceeded.

Specification WHC-SD-534-CSWD-005 Rev. 1, 242-A Control System Device Logic, Software Documentation, and Drawing H-2-98993 provide the documentation for the software for the 242-A Monitor Control System (MCS) interlock and control logic. The Anti-foam System is controlled by 8 faceplates shown on Faceplate Group Sheet 35 on the MCS monitor (see Appendix B). Each faceplate provides a readout of the instrument's monitoring parameters, such as flow rate, tank level, and pump status. The status of each faceplate is managed by MCS keyboard commands to start or stop the pump or agitator and provide instantaneous readings of liquid level and anti-foam flow rate.

Drawing H-2-99949 Sheet 3 provides an illustration of a faceplate for a particular device; Appendix B contains a copy of the Anti-foam System Faceplate Group Sheet as it is shown at the MCS monitor.

Each faceplate directly involved with a particular aspect of the Anti-foam System will be described in the appropriate section of this document.

---

[1] D/3 is a trademark of Texas Instruments

2.2 Anti-foam Chemical

The anti-foam chemical used at the 242-A Evaporator is Dow-Corning 1520-US, a non-toxic, non-hazardous silicone solution in a water emulsion. The Material Safety Data Sheet (MSDS) number for the anti-foam chemical is MSDS #12961A.

Dow-Corning 1520-US was identified as the optimum anti-foam chemical during boildown studies performed using simulated waste (Internal Memo #65453-84-200, J. E. Martens/M. T. Jansky to N. L. Pontius, August 17, 1984).

2.3 Anti-foam System Major Elements

The P&ID Drawing H-2-99000 shows the major components of the Anti-foam System. This P&ID Drawing also indicates the components monitored by the MCS.

2.3.1 TK-E-102 Anti-foam Tank

The evaporator anti-foam solution is pumped into the anti-foam tank from a 55 gallon drum and mixed with water from the filtered raw water system (P&ID Drawing H-2-99003, and WHC-SD-WM-SDD-031), per operating procedure TO-660-141. The tank is monitored for level. The following sections are the description and requirements of the tank.

2.3.1.1 Tank Construction (Drawing H-2-69367)

The present tank was manufactured using drawing H-2-41589. It is constructed of ASTM-A36 carbon steel with 10 various sized nozzles. The tank is a sloped bottom tank 84 cm (32 inches) tall, and 76.2 cm (30 inches) in diameter. The tank itself is supported by four 45.7 cm (18 inch) ASTM-A36 carbon steel legs with the bottom of the tank 35.6 cm (14 inches) above the floor.

2.3.1.2 Tank Nozzles

TK-E-102 incorporated 10 nozzles located at various positions around the tank (see P&ID Drawing H-2-99000 for nozzle locations and identification) that are used for chemical addition, solution removal, venting, instrumentation, and supporting the agitator assembly.

The tank nozzles are identified and sized for their specific function as follows on Table 2-1 (following page).

NOZZLE	SIZE	FUNCTION
A	1"	Tank Drain Line
B	2"	Tank Vent
C	2"	Recirculation Line from P-E-102
D	2"	spare
E	2"	spare
F	3"	Weight Factor Instrument Penetration
G	1"	Exit Line to P-E-102
H	1"	Overflow Line to Drain
K	8"	Agitator Penetration
L	6"	Chemical Addition
M	2"	Filtered Raw Water Addition

Table 2-1: TK-E-102 Nozzles

2.3.2 Weight Factor Instrumentation

Weight factor or dip-tube manometry is a remote method of measuring the liquid level of the anti-foam solution in the tank. The principle use of the weight factor manometry is the measurement of air pressure developed by displacing the anti-foam solution in an open tube that has been inserted into the tank. The air pressure in the tube is the tank hydrostatic pressure which is equal to the tank level. The value is called the weight factor (WF) and is displayed both locally and on the MCS faceplate.

- **WFI-E102, Antifoam Tank Wt-Factor**

  Source: WFT-E102-1, weight factor transmitter, monitors weight factor of anti-foam solution in TK-E-102. The transmitter was purchased and installed in accordance with specification B-100-P11, sheet Y-227, and drawing H-2-69307.

  This device monitors the liquid level in TK-E-102 and indicates a WHITE analog alarm of low and low-low levels of 12 and 5 inches, respectively. A YELLOW analog High level alarm is activated at a level of 25 inches.
  Faceplate Display:

  0 to 30 IN

- **FIC-E102-1, Flow Controller**

  This flow controller is a Fischer & Porter #10A3135N-53RT2110 valve and rotameter assembly that controls the amount of air flowing into the lower weight factor dip tube in the anti-foam solution. The flow controller was purchased and installed in accordance with drawing H-2-69307.

  Rotameter Display:

  0.2 to 2.5 scfh

- **FIC-E102-2, Flow Controller**

  This flow controller is a Fischer & Porter #10A3135N-53RT2110 valve and rotameter assembly that controls the amount of air flowing into the upper or reference weight factor dip tube in the anti-foam solution. The flow controller was purchased and installed in accordance with drawing H-2-69307.
  Rotameter Display:

  0.2 to 2.5 scfh

- **WFI-E102-2, Local Weight Factor Indicator**

  This indicator gauge displays the weight factor within TK-E-102. The indicator was purchased and installed in accordance with specification B-100-P11, sheet Y-227, and drawing H-2-69307.

  Display:

  0 to 40 in H_2O

2.3.3 Agitator

The A-E-102 Agitator is driven by a 3/4 horsepower, 480 Volt, 3 phase electric motor mounted on top of the anti-foam tank at nozzle "K", see drawings H-2-10096 and H-2-99000. The motor runs at 1360 Revolutions Per Minute (RPM) with reduction gearing used to drive the agitator paddles at 340 RPM, a 4:1 reduction ratio. Speed reduction is required to minimize shear stresses in the anti-foam solution, which tend to break down the active ingredient.

- **A-E-102**

  This MCS device controls the operation of TK-E-102 agitator. This device is used to start and stop the agitator motor.

  Faceplate Display:

CF-OFF - Indicates the agitator is not running as confirmed by the motor contactor or current transmitter.
CF-ON - Indicates the agitator is running as confirmed by the motor contactor or current transmitter.
SD-RESET - Indicates a temporary status during the resetting of the SHUTDOWN status.
SHUTDOWN - Indicates the agitator motor has stopped as confirmed by the contactor without being commanded to stop.
INTERLOK - Indicates interlock #27A has been activated.
STOPPING - Indicates the agitator motor has been commanded to stop, but the confirm is still present.

- **YS-A-E102, Antifoam Agitator Motor Confirm**

This MCS faceplate displays the status of the agitator motor.

Faceplate Display:

OFF - Indicates the agitator motor is off and is not running.
ON - Indicates the agitator motor is on and is running.

2.3.4 Anti-foam System Piping

Pipe, fittings, and valves for transfer of anti-foam solution from TK-E-102 to the C-A-1 Vapor-Liquid separator are per Piping Material Code M-9. Because pump P-E-102 is a positive displacement piston pump, a check valve and an accumulator (a small surge tank) are located near the pump outlet between the pump and flow element FE-E102-1. A safety relief valve, PSV-E102-1, is located downstream of the check valve. PSV-E102-1 is set at 60 psi, with a return line of M-9 pipe to nozzle C of TK-E-102. The anti-foam transfer pipe is routed from the AMU room to the Evaporator room via the fifth floor of the condenser room. The anti-foam solution passes through a pressure reducing valve, PSV-E102-3, set at 19 psi, and a backflow preventer before entering the evaporator room.

Pipe, fittings, and valves for the TK-E-102 drain and overflow lines are per Piping and Material Code M-9. A drain line branches from the anti-foam transfer line on the fifth floor of the condenser room, through a vacuum breaker, to the 2"DR-400-M9 drain funnel. Pipe, fittings, and valves for this drain line are per Piping and Material Code M-5.

Pipe, fittings, and valves for the TK-E-102 vent line and filtered raw water addition line are per Piping and Material Code M-5.

Anti-foam system pipe, fittings, and valves are depicted on P&ID drawing H-2-99000.

2.3.5 P-E-102 Metering Pump

Pump P-E-102 is a Pulsafeeder model #680C positive displacement piston pump used to supply the C-A-1 Vapor-Liquid Separator with anti-foam solution from TK-E-102. The pump has a rated capacity of 6.7 gallons per hour and a rated pressure of 130 psig. The pump is driven by a 1/2 horsepower, 115 Volt single phase electric motor at 1750 RPM. Pump and motor were purchased in accordance with specification V-B534CEM4C-015, and vendor information number 22069, sheets 1629-1696.

2.3.6 MCS Devices and Faceplates

- **P-E-102**

  This MCS device controls the operation of P-E-102, metered pump. This device is used to start and stop the pump motor.

  Faceplate Display:

  CF-OFF - Indicates the pump is not running as confirmed by the motor contactor or current transmitter.
  CF-ON - Indicates the pump is running as confirmed by the motor contactor or current transmitter.
  SD-RESET - Indicates a temporary status during the resetting of the SHUTDOWN status.
  SHUTDOWN - Indicates the pump motor has stopped as confirmed by the contactor without being commanded to stop.
  INTERLOK - Indicates interlock #27B has been activated.
  STOPPING - Indicates the pump motor has been commanded to stop, but the confirm is still present.

- **YS-P-E102, Antifoam Pump Motor Confirm**

  This MCS faceplate displays the status of the pump motor.

  Faceplate Display:

  OFF - Indicates the pump motor is off and is not running.
  ON - Indicates the pump motor is on and is running.

- **Interlock #27 (A,B)**

  Interlock #27A:

  Event:
  Low liquid level in anti-foam tank, TK-E-102

  Interlock Action:
  Shut off agitator, A-E-102; faceplate A-E-102 shall confirm interlock is engaged; faceplate YS-A-E102 confirms that the agitator motor is not running.

  Interlock #27B:

  Event:
  Lo-Lo liquid level in anti-foam tank, TK-E-102

  Interlock Action:
  Shut off metered, pump P-E-102; faceplate P-E-102 shall confirm that interlock is engaged; faceplate YS-P-E102 confirms pump motor is not running.

2.3.7 FE-E102-1, Flow Element

The flow element is a Brooks model #9417-B7C1V2G oval rotor, stainless steel, positive displacement flow element. The meter can handle fluid flow rates up to 0.5 gallons per minute at a viscosity of 8000 centipoise (cps). The flow meter was purchased in accordance with specification #V-B534-CEM3-005, sheet Y-112, and vendor information number 22069, sheets 3188-3209.

2.3.8 FT-E102-1, Flow Transmitter

The flow transmitter is a Brooks model 4023-1B1A1 Differential Inductance Converter providing a 4-20 mA output signal to the MCS. The flow transmitter was purchased in accordance with specification #V-B534-CEM3-005, sheet Y-112 and vendor information number 22069, sheets 3188-3209.

- **FI-E102-1, Antifoam Flow To-Evap Vessel**

  Source: FT-E102-1, flow transmitter, monitors the flow of anti-foam to C-A-1.

  Faceplate Display:

  0 to 0.5 GPM

- **FIC-E102, Antifoam Pump Stroke Controller**

  This MCS device controls the setting on the P-E-102 stroke controller. The setting is variable from 0.01 GPM to 0.1 GPM.

  Faceplate Display:

  0 to 0.5 GPM

- **FQI-E102, Antifoam To-Evap Totalizer (x1)**

  This device monitors the total amount of anti-foam delivered to C-A-1.

  Faceplate Display:

  0 to 99,999 GAL

2.4 Electrical System

Power for the two major components of the Anti-foam system, agitator A-E-102 and pump P-E-102, come from MCC-1 and panelboard B, respectively. Agitator A-E-102 is connected to cubicle C-1 of MCC-1 (see drawing H-2-10096) and pump P-E-102 is on circuit 18 of panelboard B (see drawing H-2-85322).

2.5 Interfacing Sub-Systems

The following systems interface with the Anti-foam System.

- H-2-99003 P&ID Filtered Raw Water System
- H-2-98988 P&ID Evaporator Recirc System
- H-2-98995 P&ID Drain System

2.6 Operations and Maintenance Quality Assurance

The Quality Assurance approvals for all operating procedures for the Anti-foam System, and work packages related to Anti-foam System up-grades or maintenance will be specified by Waste Treatment Engineering in accordance with WHC-CM-3-5, section 12.7.

2.7 Safety

The Anti-foam System shall accommodate normal conditions and operation without jeopardizing safety to personnel or plant. The design, operation, and maintenance of all equipment shall be in accordance with applicable safety standards and good plant operation practices . Application of the As Low As Reasonably Achievable (ALARA) Program shall be maintained at all times to assure compliance with DOE Order 5480.11.

2.8 Applicable Documents, Specifications and Standards

This SDD is a supporting document for the 242-A evaporator and reflects the current system configuration as described in the following documents:

- 242-A Evaporator Safety Analysis Report (FSAR) WHC-SD-WM-SAR-023 Rev. 1B.
- 242-A Evaporator Dangerous Waste Permit Application, Dated June 1991, DOE/RL-90-42 Revision 0, Volume 1 and 2.
- Procurement Specification for General Instruments, Building 242-A Project B-100 Evaporator-Crystallizer Facilities, Specification B-100-P11
- Construction Specification For 242-A Building Evaporator/Crystallizer Upgrade (Process Upgrades) KEH Specification B-534-C1, Rev. 2, V-B534-C1-026.
- Commercial Equipment/Material Procurement Specification for General Instrumentation for 242-A Building Evaporator/Crystallizer Upgrade Specification B-534-CEM3, Rev. 1, V-B534-CEM3-005.

- Commercial Equipment/Material Procurement Specification for Anti-foam Pump P-E-102 for 242-A Building Evaporator/Crystallizer Upgrade Specification B-534-CEM4C, Rev. 1, V-B534-CEM4C-015.

3.0 MAINTENANCE

3.1 Maintenance Approach

Maintenance of the 242-A Evaporator Anti-foam system is managed and controlled by the following administrative procedures:

- Component Based Recall System (CBRS) per WHC-CM-8-7

  The CBRS system uses a computerized database to track, document and recall plant installed instruments and equipment requiring periodic maintenance/calibration.

- Preventive Maintenance (PMs) per WHC-CM-8-2

  The PM program directs the inspection of components on a routine controlled frequency. Equipment requiring repair and/or restoration or not performing it's intended function will, as a result of the PM program, be serviced or replaced.

- Job Control System (JCS) per WHC-CM-8-8

  The JCS system is used to provide information, guidance, and scheduling capabilities for needed maintenance activities. The types of work that may be performed by utilizing the JCS system include corrective maintenance, modification, preventive maintenance (predictive, periodic, and planned) and maintenance as a result of periodic surveillance of equipment.

4.0 ANTI-FOAM SYSTEM OPERATIONS

Operation of the Anti-foam system is per 242-A plant operating procedure #TO-660-141, "Inject Anti-foam Chemicals Into The 242-A Vapor/Liquid Separator C-A-1". This procedure provides a uniform and safe method to prepare anti-foam chemicals, inject the chemicals into the C-A-1 Vapor/Liquid separator, and flush the anti-foam system prior to extended shutdown.

Appendix A
242-A Evaporator Subsystems

APPENDIX A
242-A EVAPORATOR SUB-SYSTEMS

SYSTEM	DRAWING	SDD	SAFETY CLASS
ELECTRICAL DISTRIBUTION	H-2-10096	WHC-SD-WM-SDD-008	*
STANDBY POWER	H-2-10096 H-2-79519	WHC-SD-WM-SDD-009	*
RAW WATER/USED RAW WATER	H-2-98991 H-2-98994	WHC-SD-WM-SDD-010	*
SANITARY WATER	H-2-69287 H-2-69300	WHC-SD-WM-SDD-011	*
STEAM	H-2-98992	WHC-SD-WM-SDD-012	*
STEAM CONDENSATE	H-2-98993	WHC-SD-WM-SDD-013	*
COMPRESSED AIR	H-2-99001	WHC-SD-WM-SDD-014	*
HVAC - BUILDING VENTILATION	H-2-69249 H-2-99421	WHC-SD-WM-SDD-015	*
FIRE PROTECTION	H-2-85087 H-2-79865	WHC-SD-WM-SDD-016	*
EVAPORATOR LOOP	H-2-98988	WHC-SD-WM-SDD-017	*
SLURRY	H-2-98989	WHC-SD-WM-SDD-018	*
PROCESS CONDENSATE	H-2-98990	WHC-SD-WM-SDD-019	*
DRAIN	H-2-98995	WHC-SD-WM-SDD-020	*
DECONTAMINATION	H-2-98996	WHC-SD-WM-SDD-021	*
ELUENT	H-2-98997	WHC-SD-WM-SDD-022	*
VESSEL VENT	H-2-98998	WHC-SD-WM-SDD-023	*
VACUUM CONDENSER	H-2-98999	WHC-SD-WM-SDD-024	*
ANTI-FOAM	H-2-99000	WHC-SD-WM-SDD-025	*
JET GANG VALVE	H-2-99002	WHC-SD-WM-SDD-026	*
207-A RETENTION BASINS	H-2-69332	WHC-SD-WM-SDD-027	*
MONITORING AND CONTROL	N/A	WHC-SD-WM-SDD-028	*
PERSONNEL PROTECTION DEVICES	H-2-69330	WHC-SD-WM-SDD-029	*
TRANSFER LINES	H-2-70398 H-2-70399	WHC-SD-WM-SDD-030	*
FILTERED RAW WATER SYSTEM	H-2-99003	WHC-SD-WM-SDD-031	*
BUILDING STRUCTURE	N/A	WHC-SD-WM-SDD-032	*

* The safety class of the systems/components can be found in WHC-SD-WM-SEL-028

Appendix B
Faceplate Group Sheet

Appendix B
Faceplate Group Sheet

0	1	2	3	4	5	6	7
WFI-E101	DI-E101-2	LI-E101-1	TI-E101-2	P-E-101	YS-P-E101	A-E-101	YS-A-E101
V 0.05 80.00 IN 0.00	V 0.9000 2.000 SPG 0.900	V 1.9 3820 GAL 0	V 71.4 200.0 DEGF 0.0	MANUAL CF-OFF CF-ON SD-RESET SHUTDOWN INTERLOK STOPPING STARTING	DIGITAL INPUT ON OFF	MANUAL CF-OFF CF-ON SD-RESET SHUTDOWN INTERLOK STOPPING STARTING	DIGITAL INPUT ON OFF
ELUANT TANK CORRECTD WT FACTR	ELUANT TANK DENSITY	ELUANT TANK LEVEL	TK-E-101 LIQUID TEMP	ELUANT TANK PUMP	ELUANT PUMP MOTOR CONFIRM	ELUANT TANK AGITATOR	ELUANT AGITATOR MOTOR CONFIRM

8	9	10	11	12	13	14	15
WFI-E102	P-E-102	YS-P-E102	FI-E102-1	FIC-E102	FQI-E102	A-E-102	YS-A-E102
V 19.710 30.00 IN 0.00	MANUAL CF-OFF CF-ON SD-RESET SHUTDOWN INTERLOK STOPPING STARTING	DIGITAL INPUT ON OFF	V 0.0686 0.500 GPM 0.000	V 0.0686 S 0.0200 0.166 GPM A 0.000 OUT: 0% O C	V 59.62 200.0 GAL A 0.0 OUT: 0% C O	MANUAL CF-OFF CF-ON SD-RESET SHUTDOWN INTERLOK STOPPING STARTING	DIGITAL INPUT ON OFF
ANTIFOAM TANK WT FACTR	ANTIFOAM TANK PUMP	ANTIFOAM PUMP MOTOR CONFIRM	ANTIFOAM FLOW TO EVAP VESSEL	ANTIFOAM PUMP STROKE CONTROLR	ANTIFOAM TO EVAP TOTALIZR (X1)	ANTIFOAM TANK AGITATOR	ANTIFOAM AGITATOR MOTOR CONFIRM

COPY

35 ELUANT/ANTIFOAM P1