242-A Evaporator System Valve Exercising

Tank Farm Plant Operating Procedure

USQ # GCX-2

<table>
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<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
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<td>I-5</td>
<td>09/13/2017</td>
<td>Inconsequential change to address format issue</td>
<td>Adjusted signatures in Data Sheet 1 to match format guide.</td>
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<td>I-4</td>
<td>03/23/2017</td>
<td>Request by Operations to better clarify valve status.</td>
<td>Modified Steps 5.12.7 and 5.12.9 to add additional valve checks. Modified Data Sheet 1 to rearrange valve check sequence. Changed order in Data Sheet 1.</td>
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<td>I-3</td>
<td>07/12/2016</td>
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<td>I-2</td>
<td>11/30/2015</td>
<td>Operations request</td>
<td>5.3.1 &amp; 5.4.1 Changed from &quot;AIR ON&quot; to &quot;STM OFF&quot;. 5.16.3 Table removed Check marks, 5.16.7 through 5.16.10 removed Check marks</td>
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<td>I-1</td>
<td>08/25/2015</td>
<td>Operations request</td>
<td>Note added to 2.1 Page 18 Changed ZS-CA12A1 to ZS-CA1-2A2 Page 23 Changed 18 to 8 in table</td>
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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for exercising control valves and diversion valves when the Evaporator facility is shutdown.

1.2 Scope

This procedure applies to the 242-A Evaporator, its systems, and components.

2.0 INFORMATION

2.1 General Information

NOTE Equipment Identification Numbers (EINs) in this procedure match the equipment Call outs in the MCS and may not be identical to EINs in SmartPlant based on historical issues with equipment labels in the MCS.

2.1.1 This procedure should be performed at least once a month or as specified by the Shift Manager.

2.1.2 The preferred method of observing valve operations is to have the Backside Operator observe the valve movement locally (at the valve installed location) and the control room operator observe the valve movement on the MCS system ensuring the valve is operated to its full expected range. If a Backside Operator is not available, the valve exercising will be performed by the control room operator while observing the valve movements on the MCS system.

2.1.3 Some valves cannot be observed for movement locally (at the valve installed location) due to their location in the facility. These valves will be observed using the MCS system.

2.1.4 Valves FIC-C1005, FIC-EC3-1, FIC-CA1-6 do not have true MCS valve position indicators associated with those valves. The green bar graphs on those valves are representative of the MCS output, not necessarily the real valve position.

2.1.5 This evolution is normally performed during Shutdown Mode but at the direction of the Shift Manager, selected valves may be tested during Operational Mode.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

Hazards associated with performance of this procedure are addressed by the General Hazards Analysis (GHA).

3.2 Radiation and Contamination Control

3.2.1 Work in radiological areas will be performed using a Radiological Work Permit following review by Radiological Control per the ALARA Work Planning procedure TFC-ESHQ-RP_RWP-C-03, (ALARA Work Planning).

3.2.2 When work is performed in or when work will result in a high contamination, high radiation or an airborne radioactivity area, then an approved work package must be developed which is reviewed by Radiological Control per the ALARA Work Planning procedure TFC-ESHQ-RP_RWP-C-03, (ALARA Work Planning). Any changes in the work package that affects radiological aspects of the work must be approved by the appropriate project Radiological Control management.

3.3 Limits

HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements

AC 5.7 Waste Leak Evaluation Program
SAC 5.8.5 Waste Transfer System Overpressure and Flow Transient Protection
AC 5.9.4 Waste Characteristics Controls

4.0 PREREQUISITES

4.1 Field Preparations

4.1.1 IF directed by the Shift Manager,

OR

IF unable to perform this procedure because of maintenance and/or plant configuration, RECORD “N/A” in the appropriate blocks of Data Sheet 1.
5.0 PROCEDURE

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.1 Exercise HV-RC3-3 Process Condensate Divert Valve

5.1.1 ENSURE P-C100 (G18/7, F23/3) CONDSATE TANK PUMP status is CF-OFF.

5.1.2 ENSURE HV-RC3-3 (G44/6, G18/12, F25/5, F26/5) PROCESS CONDSATE DIVERT VALVE is set to CF-NORM status.

5.1.3 SET HV-RC3-3 (G44/6, G18/12, F25/5, F26/5) PROCESS CONDSATE DIVERT VALVE to CF-DVRT status.

5.1.4 CHECK HV-RC3-3 (G44/6, G18/12, F25/5, F26/5) PROCESS CONDSATE DIVERT VALVE status changes to CF-DVRT.

5.1.5 SET HV-RC3-3 (G44/6, G18/12, F25/5, F26/5) PROCESS CONDSATE DIVERT VALVE to CF-NORM status.

5.1.6 CHECK HV-RC3-3 (G44/6, G18/12, F25/5, F26/5) PROCESS CONDSATE DIVERT VALVE status changes to CF-NORM.

5.1.7 IF valve does not operate smoothly/correctly as observed locally or on the MCS, PERFORM Steps 5.1.3 through 5.1.6 up to three additional times.

5.1.8 RECORD activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.2 Exercise FIC-C1005 PC Flow to F-C-1

NOTE - Valve FIC-C1005 does not have a true MCS position indicator associated with this valve. The green bar graph on this valve is representative of the MCS output, not necessarily the real valve position.

- Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.2.1 **ENSURE** FIC-C1005 (G18/9, F23/2) PC FLOW TO F-C-1 is set to MANUAL and OUTPUT, 35.

NOTE - Valve FIC-C1005 has a software travel limiter installed in the MCS software to prevent the valve from opening more than 85% and closing more than 35%.

5.2.2 **SET** FIC-C1005 (G18/9, F23/2) PC FLOW TO F-C-1 to OUTPUT, 85.

5.2.3 **CHECK** FIC-C1005 (G18/9, F23/2) PC FLOW TO F-C-1 OUTPUT changes to 85%.

5.2.4 **SET** FIC-C1005 (G18/9, F23/2) PC FLOW TO F-C-1 to OUTPUT, 35.

5.2.5 **CHECK** FIC-C1005 (G18/9, F23/2) PC FLOW TO F-C-1 OUTPUT changes to 35%.

5.2.6 **IF** valve does not operate smoothly/correctly as observed locally or on the MCS, **PERFORM** Steps 5.2.2 through 5.2.5 up to three additional times.

5.2.7 **RECORD** activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.3 Exercise HV-RC1-3 Steam Condensate Divert Valve

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.3.1 **ENSURE** FV-EA1-1 (G13/10, F12/3) REBOILER STEAM FLOW VALVE is in STM OFF status.

5.3.2 **ENSURE** HV-RC1-3 (G14/10, F30/7) STEAM CONDSATE DIVERT VALVE is set to CF-NORM status.

5.3.3 **SET** HV-RC1-3 (G14/10, F30/7) STEAM CONDSATE DIVERT VALVE to CF-DVRT status.

5.3.4 **CHECK** HV-RC1-3 (G14/10, F30/7) STEAM CONDSATE DIVERT VALVE status changes to CF-DVRT.

5.3.5 **SET** HV-RC1-3 (G14/10, F30/7) STEAM CONDSATE DIVERT VALVE to CF-NORM status.

5.3.6 **CHECK** HV-RC1-3 (G14/10, F30/7) STEAM CONDSATE DIVERT VALVE status changes to CF-NORM.

5.3.7 **IF** valve does not operate smoothly/correctly as observed locally or on the MCS, **PERFORM** Steps 5.3.3 through 5.3.6 up to three additional times.

5.3.8 **RECORD** activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.4 Exercise HV-EA1-2 Steam Condensate Divert Valve

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.4.1 **ENSURE** HV-EA1-2 (G14/9, F30/1) STEAM CONDENSATE DIVERT VALVE is set to CF-NORM.

5.4.2 **ENSURE** FV-EA1-1 (G13/10, F12/3) REBOILER STEAM FLOW VALVE is in the STM OFF status.

5.4.3 **SET** HV-EA1-2 (G14/9, F30/1) STEAM CONDENSATE DIVERT VALVE to CF-DVRT.

5.4.4 **CHECK** HV-EA1-2 (G14/9, F30/1) STEAM CONDENSATE DIVERT VALVE status changes to CF-DVRT.

5.4.5 **SET** HV-EA1-2 (G14/9, F30/1) STEAM CONDENSATE DIVERT VALVE to CF-NORM.

5.4.6 **CHECK** HV-EA1-2 (G14/9, F30/1) STEAM CONDENSATE DIVERT VALVE status changes to CF-NORM.

5.4.7 **IF** valve does not operate smoothly/correctly as observed locally or on the MCS, **PERFORM** Steps 5.4.3 through 5.4.6 up to three additional times.

5.4.8 **RECORD** activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.5 **Exercise HV-EA1-4 Steam Condensate Block Valve**

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.5.1 **ENSURE** HV-EA1-2 (G14/9, F30/1) is in CF-NORM.

5.5.2 **ENSURE** HV-EA1-4 (G14/1, F30/0) is set to MANUAL.

5.5.3 **ENSURE** HV-EA1-4 interlock is set to bypass at MCS.

5.5.3.1 **SELECT** valve graphic (G14/1).

5.5.3.2 **SELECT** diamond in lower left corner.

5.5.3.3 **SELECT** device state overall bypass button.

5.5.4 **SET** HV-EA1-4 (G14/1, F30/0) STEAM CONDSATE BLOCK VALVE to OPEN.

5.5.5 **CHECK** HV-EA1-4 (G14/1, F30/0) STEAM CONDSATE BLOCK VALVE status changes to OPEN.

5.5.6 **SET** HV-EA1-4 (G14/1, F30/0) STEAM CONDSATE BLOCK VALVE to CLOSED.

5.5.7 **CHECK** HV-EA1-4 (G14/1, F30/0) STEAM CONDSATE BLOCK VALVE status changes to CLOSED.

5.5.8 **IF** valve does not operate smoothly/correctly as observed locally or on MCS, **PERFORM** Steps 5.5.3 through 5.5.7 up to three additional times.

5.5.9 **ENSURE** HV-EA1-4 interlock bypass has been removed.

5.5.10 **RECORD** activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.6 **Exercise PIC-CA1-7 Evaporator Absolute Pressure**

**NOTE** - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.6.1 **ENSURE** PIC-CA1-7 (G16/10, G10/13, F14/8, F3/6) EVAP ABSOLUTE PRESSURE is set to MANUAL and OUTPUT, 0.

5.6.2 **SET** PIC-CA1-7 (G16/10, G10/13, F14/8, F3/6) EVAP ABSOLUTE PRESSURE to OUTPUT, 100.

5.6.3 **CHECK** PIC-CA1-7 (G16/10, G10/13, F14/8, F3/6) EVAP ABSOLUTE PRESSURE OUTPUT value goes to 100%.

5.6.4 **SET** PIC-CA1-7 (G16/10, G10/13, F14/8, F3/6) EVAP ABSOLUTE PRESSURE to OUTPUT, 0.

5.6.5 **CHECK** PIC-CA1-7 (G16/10, G10/13, F14/8, F3/6) EVAP ABSOLUTE PRESSURE OUTPUT value goes to 0%.

5.6.6 **IF** valve does not operate smoothly/correctly as observed locally or on the MCS, **PERFORM** Steps 5.6.2 through 5.6.5 up to three additional times.

5.6.7 **RECORD** activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.7 Exercise PIC-EC1-2 URW Back Pressure Controller

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.7.1 **ENSURE** Valve 3-11 is CLOSED.

5.7.2 **ENSURE** PIC-EC1-2 (G17/8, F14/1) URW BACK PRESSURE CONTROLR is set to MANUAL and OUTPUT, 0.

NOTE - Used Raw Water Backpressure Control valve HV-EC1-2 has a travel limiter installed internally to prevent HV-EC1-2 from closing more than 65%, and a software block set at 55% closed.

5.7.3 **SET** PIC-EC1-2 (G17/8, F18/14, F14/1) URW BACK PRESSURE CONTROLR to OUTPUT, 55.

5.7.4 **CHECK** PIC-EC1-2 (G17/8, F18/14, F14/1) URW BACK PRESSURE CONTROLR OUTPUT changes to 55%.

5.7.5 **SET** PIC-EC1-2 (G17/8, F18/14, F14/1) URW BACK PRESSURE CONTROLR to OUTPUT, 0.

5.7.6 **CHECK** PIC-EC1-2 (G17/8, F18/14, F14/1) URW BACK PRESSURE CONTROLR OUTPUT changes to 0%.

5.7.7 **IF** valve does not operate smoothly/correctly as observed locally or on the MCS, **PERFORM** Steps 5.7.3 through 5.7.6 up to three additional times.

5.7.8 **RECORD** activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.8 Exercise FIC-EC1-1 E-C-1 Condenser URW Flow Controller

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.8.1 ENSURE Valve 3-11 is CLOSED.

5.8.2 ENSURE FIC-EC1-1 (G17/5, F18/2, F14/3) E-C-1 CONDENSER URW FLOW CONTROLLER is set to MANUAL and OUTPUT, 0.

5.8.3 SET FIC-EC1-1 (G17/5, F18/2, F14/3) E-C-1 CONDENSER URW FLOW CONTROLLER to OUTPUT, 100.

5.8.4 CHECK FIC-EC1-1 (G17/5, F18/2, F14/3) E-C-1 CONDENSER URW FLOW CONTROLLER OUTPUT changes to 100%.

5.8.5 SET FIC-EC1-1 (G17/5, F18/2, F14/3) E-C-1 CONDENSER URW FLOW CONTROLLER to OUTPUT, 0.

5.8.6 CHECK FIC-EC1-1 (G17/5, F18/2, F14/3) E-C-1 CONDENSER URW FLOW CONTROLLER OUTPUT changes to 0%.

5.8.7 IF valve does not operate smoothly/correctly as observed locally or on the MCS, PERFORM Steps 5.8.3 through 5.8.6 up to three additional times.

5.8.8 RECORD activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.9 Exercise FIC-EC3-1 E-C-3 Condenser URW Flow Controller

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

- Valve FIC EC3 1 does not have a true MCS position indicator associated with this valve. The green bar graph on this valve is representative of the MCS output, not necessarily the real valve position.

5.9.1 **ENSURE** FIC-EC3-1 (G16/9, F14/4) E-C-3 CONDENSER URW FLOW CONTROLR is set to MANUAL and OUTPUT, 100.

5.9.2 **SET** FIC-EC3-1 (G16/9, F14/4) E-C-3 CONDENSER URW FLOW CONTROLR to OUTPUT, 0.

5.9.3 **CHECK** FIC-EC3-1 (G16/9, F14/4) E-C-3 CONDENSER URW FLOW CONTROLR OUTPUT changes to 0%.

5.9.4 **SET** FIC-EC3-1 (G16/9, F14/4) E-C-3 CONDENSER URW FLOW CONTROLR to OUTPUT, 100.

5.9.5 **CHECK** FIC-EC3-1 (G16/9, F14/4) E-C-3 CONDENSER URW FLOW CONTROLR OUTPUT changes to 100%.

5.9.6 **IF** valve does not operate smoothly/correctly as observed locally or on the MCS, **PERFORM** Steps 5.9.2 through 5.9.5 up to three additional times.

5.9.7 **RECORD** activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.10 Exercise FIC-CA1-1 Evaporator Feed Flow

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.10.1 ENSURE P-AW-102 (G301/7, F0/1) FEED PUMP is OFF.

5.10.2 IF PB-1 RECIRC PUMP is not in operation, ENSURE PB1-BYPAS (G12/8, F5/2) PB-1 SHUT DOWN BYPASS is BYP ON.

5.10.3 ENSURE HV-CA1-1 (G301/8, F0/8) EVAP FEED VALVE is CLOSED status.

5.10.4 ENSURE FIC-CA1-1 (G301/6, F0/6) EVAP FEED FLOW is set to MANUAL and OUTPUT, 0.

5.10.5 SET FIC-CA1-1 (G301/6, F0/6) EVAP FEED FLOW to OUTPUT 100.

5.10.6 CHECK FIC-CA1-1 (G301/6, F0/6) EVAP FEED FLOW OUTPUT changes to 100%.

5.10.7 SET FIC-CA1-1 (G301/6, F0/6) EVAP FEED FLOW to OUTPUT 0.

5.10.8 CHECK FIC-CA1-1 (G301/6, F0/6) EVAP FEED FLOW OUTPUT changes to 0%.

5.10.9 IF valve does not operate smoothly/correctly as observed on MCS, PERFORM Steps 5.10.5 through 5.10.8 up to three additional times.

5.10.10 RECORD activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.11 Exercise FIC-CA1-6 Upper De-Entrainer Spray Flow

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

- Valve FIC-CA1-6 does not have a true MCS position indicator associated with this valve. The green bar graph on this valve is representative of the MCS output, not necessarily the real valve position.

5.11.1 **ENSURE** Valve 5-97 is CLOSED.

5.11.2 **ENSURE** FIC-CA1-6 (G10/5, F3/11) UPPER DE-ENTRN SPRAY FLOW is set to MANUAL and OUTPUT, 100.

5.11.3 **SET** FIC-CA1-6 (G10/5, F3/11) UPPER DE-ENTRN SPRAY FLOW to OUTPUT, 0.

5.11.4 **CHECK** FIC-CA1-6 (G10/5, F3/11) UPPER DE-ENTRN SPRAY FLOW OUTPUT changes to 0%.

5.11.5 **SET** FIC-CA1-6 (G10/5, F3/11) UPPER DE-ENTRN SPRAY FLOW to OUTPUT, 100.

5.11.6 **CHECK** FIC-CA1-6 (G10/5, F3/11) UPPER DE-ENTRN SPRAY FLOW changes to 100%.

5.11.7 **IF** valve does not operate smoothly/correctly as observed locally or on the MCS, **PERFORM** Steps 5.11.3 through 5.11.6 up to three additional times.

5.11.8 **RECORD** activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.12 Exercise HV-CA1-7 and HV-CA1-9 BOT-DUMP Bottoms Dump Valves

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.12.1 PRIOR to proceeding with this section, ENSURE AW Farm Primary Exhauster is operating.

5.12.2 ENSURE C-A-1 vessel is empty. (TSR-006, AC 5.7, SAC 5.8.5, AC 5.9.4)

5.12.3 ENSURE 5-40 is CLOSED. (TSR-006, AC 5.7, SAC 5.8.5, AC 5.9.4)

5.12.4 ENSURE PB1-BYPAS (G12/8, F5/2) PB-1 SHUT DOWN BYPASS is in BYP ON.

5.12.5 ENSURE BOT-DUMP (G12/14, F8/3) BOTTOMS DUMP VALVES are set to BLOCK status.

5.12.6 SET BOT-DUMP (G12/14, F8/3) BOTTOMS DUMP VALVES to DUMP status.

5.12.7 CHECK the following:
- BOT-DUMP (G12/14, F8/3) BOTTOMS DUMP VALVES status changes to DUMP
- HV-CA1-7 changes to CF-OPEN
- HV-CA1-9 changes to CF-OPEN
- HV-CA1-8 changes to CF-CLOSD.

5.12.8 SET BOT-DUMP (G12/14, F8/3) BOTTOMS DUMP VALVES to BLOCK status.

5.12.9 CHECK the following:
- BOT-DUMP (G12/14, F8/3) BOTTOMS DUMP VALVES status changes to BLOCK
- HV-CA1-7 changes to CF-CLOSD
- HV-CA1-9 changes to CF-CLOSD
- HV-CA1-8 changes to CF-OPEN.
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<td>5.12</td>
<td>Exercise HV-CA1-7 and HV-CA1-9 BOT-DUMP Bottoms Dump Valves (Cont.)</td>
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<td>5.12.10</td>
<td><strong>IF</strong> valves do not operate smoothly/correctly as observed locally, or on the MCS, <strong>PERFORM</strong> Steps 5.12.6 through 5.12.9 up to three additional times.</td>
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<tr>
<td>5.12.10.1</td>
<td><strong>IF</strong> valves do not operate smoothly/correctly, <strong>CONTACT</strong> Engineering.</td>
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<td>5.12.11</td>
<td><strong>RECORD</strong> activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.</td>
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5.13 Exercise HV-CA1-1 Feed Valve

5.13.1 ENSURE C-A-1 vessel is empty. (TSR-006, AC 5.7, SAC 5.8.5, AC 5.9.4)

5.13.2 CHECK HV-CA1-1 (G301/8, F0) interlock is clear.

5.13.3 IF yellow diamond appears above valve, PERFORM the following:

5.13.3.1 SELECT HV-CA1-1 valve graphic (G301/8).

5.13.3.2 SELECT yellow diamond in lower left corner.

5.13.3.3 SELECT device state reset button.

5.13.3.4 CHECK HV-CA1-1 valve closes (G301/8).

5.13.3.5 IF HV-CA1-1 (G301/8, F0) interlock fails to clear, NOTIFY Shift Manager.

5.13.4 ENSURE HV-CA1-1 (G301/8, F0) EVAP FEED VALVE is set to MANUAL.

5.13.5 OPEN HV-CA1-1 (G301/8, F0) EVAP FEED VALVE.

5.13.6 CLOSE HV-CA1-1 (G301/8, F0) EVAP FEED VALVE.

5.13.7 RECORD activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.14 Exercise HV-CA1-2/2A

5.14.1 ENSURE C-A-1 vessel is empty. (TSR-006, AC 5.7, SAC 5.8.5, AC 5.9.4)

5.14.2 ENSURE valve 5-47 is CLOSED. (TSR-006, AC 5.7, SAC 5.8.5, AC 5.9.4)

5.14.3 ENSURE HV-CA1-2 (G47/14, F9) SLURRY FLUSH VALVES is set to MANUAL.

5.14.4 SET HV-CA1-2 (G47/14, F9) SLURRY FLUSH VALVES to SL OUT.

5.14.5 ENSURE both the following valves reach POSN-1 (G47/6, 8).
   - HV-CA1-2 ([6] ZS-CA1-21)

5.14.6 SET HV-CA1-2 (G47/14, F9) SLURRY FLUSH VALVES to BLOCK.

5.14.7 ENSURE both the following valves reach POSN-2 (G47/7, 9).
   - HV-CA1-2 ([7] ZS-CA1-22)

5.14.8 RECORD activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.15 Exercise HV-EC1-1 Vacuum Breaker Valve

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

5.15.1 ENSURE HV-EC1-1 (G16/6, F14/5) VACUUM BREAKER VALVE is set to OPEN status.

5.15.2 SET HV-EC1-1 (G16/6, F14/5) VACUUM BREAKER VALVE to CLOSED status.

5.15.3 CHECK HV-EC1-1 (G16/6, F14/5) VACUUM BREAKER VALVE status changes to CLOSED.

5.15.4 SET HV-EC1-1 (G16/6, F14/5) VACUUM BREAKER VALVE to OPEN status.

5.15.5 CHECK HV-EC1-1 (G16/6, F14/5) VACUUM BREAKER VALVE status changes to OPEN.

5.15.6 IF valve does not operate smoothly/correctly as observed locally or on the MCS, PERFORM Steps 5.15.2 through 5.15.5 up to three additional times.

5.15.7 RECORD activity was completed on Data Sheet 1 and any comments/problems noted on Attachment 1.
5.16 Exercise Sump Jet Gang Valves

NOTE - Sections 5.1 through 5.16 may be completed in any logical order or parallel with each other.

- Exercising of the Sump Jet Gang Valves should only be performed at the direction of the Shift Manager.

5.16.1 REQUEST permission from Shift Manager to exercise sump jet gang valves.

5.16.2 ENSURE valve 5-46 is CLOSED.

NOTE - The four steam flush gang valves operate in conjunction with one another and consist of valves HV-STM-SUMP-1, HV-VENT-SUMP-1, HV-AIR-SUMP-1, and HV-BLK-SUMP-1. When the controller JGV-SUMP is turned "ON", valve HV-VENT-SUMP-1 CLOSES, valves HV-STM-SUMP-1 and HV-BLK-SUMP-1 OPEN.

- When the controller JGV-SUMP is turned "OFF", valve HV-STM-SUMP-1 closes and HV-AIR-SUMP-1 OPENS. After a time delay HV-AIR-SUMP-1 and HV-BLK-SUMP-1 CLOSE, and HV-VENT-SUMP-1 OPENS.

- The valve position indicator is located on the valve body and position indication is observed by watching the valve shaft indicator move to the OPEN or CLOSE position of the indicator scale.

5.16.3 REQUEST Backside Operator to confirm that the following valves are in position indicated:

<table>
<thead>
<tr>
<th>Valve</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>HV-STM-SUMP-1</td>
<td>CLOSED</td>
</tr>
<tr>
<td>HV-AIR-SUMP-1</td>
<td>CLOSED</td>
</tr>
<tr>
<td>HV-BLK-SUMP-1</td>
<td>CLOSED</td>
</tr>
<tr>
<td>HV-VENT-SUMP-1</td>
<td>OPEN</td>
</tr>
</tbody>
</table>

5.16.4 REQUEST backside operator to observe movement of valve position indicators for the following valves:
- HV STM SUMP 1,
- HV AIR SUMP 1,
- HV VENT SUMP 1
- HV BLK SUMP 1.

5.16.5 SET JGV-SUMP (G12/10/F7/1) SUMP TRANSFER JG-VALVE to ON status.
5.16 Exercise Sump Jet Gang Valves (Cont.)

5.16.6 CONFIRM that JGV-SUMP (G12/10/F7/1) SUMP TRANSFER JG-VALVE status changes to ON.

5.16.7 CONFIRM that the following occurs:
   - HV-VENT-SUMP-1 Closes
   - HV-STM-SUMP-1 Opens
   - HV-BLK-SUMP-1 Opens.

5.16.8 SET JGV-SUMP (G12/10/F7/1) SUMP TRANSFER JG-VALVE to OFF status.

5.16.9 CONFIRM that the following occurs:
   - HV-STM-SUMP-1 Closes
   - HV-AIR-SUMP-1 Opens.

5.16.10 AFTER timer controlled blowdown is complete, CONFIRM the following:
   - HV-AIR-SUMP-1 Closes
   - HV-VENT-SUMP-1 Opens
   - HV-BLK-SUMP-1 Closes.

5.16.11 CONFIRM JGV-SUMP (G12/10/F7/1) SUMP TRANSFER JG-VALVE status changes to OFF.

5.16.12 IF directed by Shift Manager,

   OR

   IF sump jet gang valve(s) do not operate smoothly/correctly as observed locally or on MCS, PERFORM Steps 5.16.5 through 5.16.10 up to three additional times.

5.16.13 RECORD activity as completed on Data Sheet 1, and any comments/problems noted on Attachment 1.
5.17 Records

5.17.1 **PERFORM** the following for records identified within this procedure.

5.17.1.1 **RECORD** the number of times the record was generated in applicable column

   **OR**

   **PLACE** a check mark (✓) in the N/A column.

5.17.1.2 **SUBMIT** the package to FWS/OE/Shift Manager.

<table>
<thead>
<tr>
<th>Records Submittal Checklist</th>
<th>Number of times completed</th>
<th>N/A (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5.17 Records</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5.17.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Data Sheets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Sheet 1 - 242-A Evaporator Valving Exercise Data Sheet</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Attachments</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment 1: Comment Page</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.17.2 **FWS/OE/Shift Manager SEND** the completed records to the Central Shift Office for records retention.

_________________________/_________________________/ ____________
Signature       Print (First and Last)       Date
FWS/OE/Shift Manager

The record custodian identified in the company-level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.
## Data Sheet 1 - 242-A Evaporator Valving Exercise Data Sheet

<table>
<thead>
<tr>
<th>Valve ID</th>
<th>Position Valve Is to Be Left In</th>
<th>Number of times valve was Operated or NA</th>
<th>Valve Operated smoothly/correctly Y/N *</th>
</tr>
</thead>
<tbody>
<tr>
<td>HV-RC3-3 (G44/6, F25/26)</td>
<td>NORMAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIC-C1005 (G18/9, F23)</td>
<td>35%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HV-RC1-3 (G14/10, F30)</td>
<td>NORMAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HV-EA1-2 (G14/9, F30)</td>
<td>NORMAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HV-EA1-4 (G14/1, F30/0)</td>
<td>CLOSED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIC-CA1-7 (G16/10, F14)</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIC-EC1-2 (G17/8, F14)</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIC-EC1-1 (G17/5, F14)</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIC-EC3-1 (G16/9, F14)</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIC-CA1-1 (G301/6, F0)</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIC-CA1-6 (G10/5, F3)</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HV-CA1-7 &amp; HV-CA1-9 (G12/14, F8)</td>
<td>BLOCK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HV-CA1-1 (G301/8, F0)</td>
<td>CLOSED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HV-CA1-2/2A (G47/14, F9)</td>
<td>BLOCK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HV-EC1-1 (G16/6, F14)</td>
<td>OPEN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jet Gang Valves (G12/10/F7/1)</td>
<td>HV-AIR-SUMP-1: CLOSED</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HV-BLK-SUMP-1: CLOSED</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HV-STM-SUMP-1: CLOSED</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HV-VENT-SUMP-1: OPEN</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* - If the valve did not operate smoothly/correctly, describe problems encountered on Attachment 1 Comment Page of this procedure.

________________________/________________________/________________________
Signature              Print (First & Last)         Date
Completed by

________________________/________________________/________________________
Signature              Print (First & Last)         Date
Reviewed by

<table>
<thead>
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<th>Document No.</th>
<th>Rev/Mod</th>
<th>Release Date</th>
<th>Page</th>
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<td>TO-600-999</td>
<td>I-5</td>
<td>09/13/2017</td>
<td>24 of 25</td>
</tr>
</tbody>
</table>
Attachment 1: Comment Page

Record Any Comments/Problems Encountered During Performance of the Procedure Below.