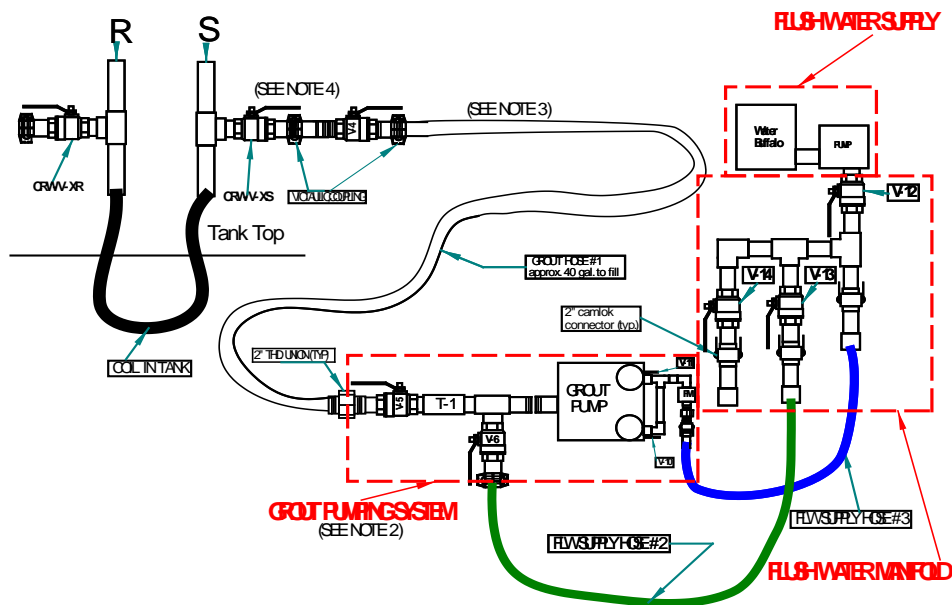


Passport Information

Date Created	04/01/2015
Planner Name	Alexander, Ona
Planner Telephone	8-2715
Equipment Name	TANK 12 FAILED Cooling Coils
Facility	HTF
CLI Number	241912H
Functional Class	PS

1.0 Scope of Work:

Grout individual FAILED Chromate Cooling Coils @Tank 12 Chromate Valve House.



AHA Number TF-23181				Drawing M-M6-H-8831			
Pre Job Briefing Checklist OPS-SO-LWO.01				Procedure N/A			
SRWP	003	or Job Specific RWP	16-HTF-200	Calibration Datasheet N/A			
Permits N/A				ASME B31.3:	X	Yes	No
Fluid Service: Category: NORMAL							
<ul style="list-style-type: none"> Additional Attachments: SRR-LWE-2014-00162 Video Inspection Plan. REF: Spill Prevention, Control and Countermeasures. 1E6, 05-12.03. REF: Spill Response and Reporting. 1E6, 05-01.04. REF: Attachments B,D, F & G, C-SPP-F-00057, HLWM-16004, SRR-LWE-2014-00147, CG-590 GROUT MIXING AND PUMPING OPERATING INSTRUCTIONS Tank 12-H Closure Assurance Plan #SRR-LWE-2015-00032 Rev. 0". 							

2.0 Precautions and Limitations:

- 2.1. Workers shall perform Individual Hazard Analysis (IHA) for this task, which includes continual self-analysis of work scope, hazards and controls (reference Savannah River Site General Employee Basic Hazard Control Handbook).
- 2.2. The vendor supplied grout hoppers may be refilled as needed to accomplish this work scope.
- 2.3. Encapsulated Lead Blankets will be utilized to minimize worker exposure to open riser conditions.
- 2.4. Utilize fire retardant materials (plastic, wood, etc.) to support the work tasks, do not store combustibles required for the job near ignition sources, and do not allow job waste to accumulate on or near tank top.
- 2.5. Portable eyewash units with rinse wands shall be positioned, readily available, in the immediate work area, with an unobstructed travel path, for each potentially exposed employee, where potential exposure to chemicals exists. Number of employees exposed at any given time should be limited. In case of exposure to eyes, eyewash for required immediate 15 minute flush. In case of exposure to skin or body, rinse wand for immediate flush of affected area then escort personnel to a plumbed unit to complete the 15 minute flush. Contaminated clothing to be removed immediately and exposed person to seek immediate medical attention.
- 2.6. Crane activity will be required for the placement Supersack Grout bags and tote placement/removal. This activity will be repeated as required for duration of work scope. REF: Assoc. Ordinary Lift (HLWM-16004) and Critical Lift (HLW-CL-2014-00094) for rigging equipment.
- 2.7. In the event of a grout material spill: Contact the control room, Stabilize the work area and Notify the LWGS of the event and that a time-out has been taken. A dedicated individual shall be identified for spill response.
- 2.8. Utilize buckets/kiddie pools/witches hats for catch containment at line break locations. Skid pans will be utilized for staging catch containment and for pigging activities. Use HEPA vacuum to clean tools, materials and reusable PPE contaminated with silica-bearing dusts.
- 2.9. Coppus with Hepa will be required (in close proximity to line break locations) for all line breaks associated with coil grouting activities

Precautions and Limitations continued:

<u>Personal Protective Equipment (PPE) – 8Q Procedure 61</u>	
Description	Used @ Section(s)/Step(s)
PVC / Nitrile gauntlet gloves.	Required by workers directly involved with grout pumping/pouring activities or handling of slick line.
Reflective or high visibility blaze orange warning vest, shirt or jacket.	For personnel involved with flagging/spotting heavy equipment related activities (i.e. placing and replacing flush water totes/containers as required.)
Face Shield w/Safety glasses.	UVEX Bionic face shield and safety glasses w/side shields when engaged in grout pumping/pouring, slick line cleaning, or pressure washing activities.
Face shield & chemical goggles.	May be utilized in lieu of UVEX Bionic face shield and safety glasses.
Foam inserts for noise.	Hearing protection is required when using or when near power tools or loud equipment, and as established by IH Noise Surveys & area postings.
Long sleeve clothing.	Or disposable sleeves, required for workers directly involved with grout pumping/pouring or slick line cleaning activities.
Coveralls, disposable type	Required for clean out of slick line and pressure washing activities.
Chemical resistant apron	Required for workers directly involved with grout pumping/pouring or slick line cleaning activities. May be waived by IH personnel for heat stress related purposes.
Negative Pressure w/HEPA	Resp. protection: FF respirator w/HEPA cartridge (H or N code for dust) – cartridges must be marked N/C As required by IH when mixing granulated materials that create dust.
Knee protection	Shall be used when working for extended periods in the kneeling position.
List other hazards and the necessary controls.	Be aware of biting/stinging insects, rodents, spiders, snakes, bird droppings, etc. Stay alert to changing weather conditions.

Chemicals (MSDS) – Per AHA	
WASTELOCK 770	31051-1
SLICK WILLIE 2 : NEW AND IMPROVED (identified as a carcinogen)	43554-1
COOLING COIL GROUT DRY FEED MIXTURE (identified as a carcinogen)	47087-1

3.0 Prerequisites:**Initial/Date/**☐**Note:** The steps in section **3.0 PREREQUISITES** may be completed in any order.

- 3.1. ENGINEERING: **ENSURE** that USQ(s) have been approved and issued to allow grouting of Operable cooling coils to commence

USQ Number: USQ-HTF-2015-00532 Revision Number 0

_____	_____	_____
Print Name	Signature	Date

- 3.2. FLM: **ENSURE** the following permits are available to support the scope of work.

RWP/SRWP #: **RWP# 16-HTF-200 and/or SRWP# 16-HTF-003.**
AHA #: **TF- 23181**

CRITICAL LIFT# **Critical Lift HLW-CL-2015-00302.**

ORDINARY LIFT# **Ordinary Lift HLWM-16004 for 22 Ton crane (grout bags).**

_____	_____	_____
Print Name	Signature	Date

NOTE: Pre-job briefing shall identify persons/positions responsible for spill response.

- 3.3. LWGS/FLM: **PERFORM** a pre-job briefing per **OPS-SO-LWO.01.** _____ /

- 3.4. Construction: **NOTIFY** GCO for container request prior to performing work. _____ /

- 3.5. Construction: **NOTIFY** IH prior to performing work.

- 3.6. Construction: **NOTIFY** RPD prior to performing work _____ /

- 3.7. Construction: **NOTIFY** Camera Inspection Crew (**Contact: Danny Blair 803 335-8094**). _____ /

- 3.8. Construction: **NOTIFY** Shift Manager prior to performing work. _____ /

- 3.9. Construction: **REQUEST** the Shift Manager to evaluate entry into any and all appropriate LCO(s) prior to starting work

Shift Manager Signature _____ Date _____ /

Section 3.0 Prerequisites continued.**Initial/Date**

- 3.10. Construction: **VERIFY** “Tank 12 Grout Activities RPD Survey Strategy/Plan” is approved for implementation, and place a copy in the package prior to start of work.
- 3.11. Construction: **ENSURE** RPD has performed the necessary steps to ensure proper radiological controls are in place, including the following;
- Air samplers set up.
 - Labels for temp. shielding at job site.
 - Metal HRA Warning Tags at job site
 - Barricades in place and Monitor points and step off pads in place.
- 3.12. Hoses and cords crossing rad. boundaries tagged and secured. _____ /
- 3.13. Construction: **EVALUATE** the work site plans/layout and determine if installed eyewash/safety shower units are required and appropriately located to support the task(s). _____ /
- 3.14. Construction: **ENSURE** to stage additional eyewash with rinse wand as required. _____ /
- 3.15. Construction: **ENSURE** all valves to be installed for grouting are in the closed position prior to installation. _____ /
- 3.16. Construction: **NOTIFY** OPS Rep/RCO/IH of line break locations prior to performing line break activities. _____ /
- 3.17. Construction: **VERIFY** testing of hoses and other components has been completed to the extent necessary to support the following work scope. _____ /
- 3.18. Construction: **ENSURE** Valve House HVAC Unit is operable. _____ /
- 3.19. Construction: **ENSURE** required tools/ materials are staged in work area and drip pans/pools/buckets are in place where required at coil/hose connection locations. _____ /
- 3.20. Construction: **ENSURE** a Spill KIT has been staged at the Valve House, and in proximity to any/all work locations where hose will be manipulated (disconnected /reconnected) on a regular basis. _____ /
- 3.21. Construction **VERIFY** hay bales installed to divert accidental spills. _____ /

Section 3.0 Prerequisites continued.**Initial/Date/**☐

Note 1: CG-590 set-up activities have been performed in work order 1337683-34 (SET-UP & RUN CG-590 FOR TK.12.).

Note 2: The following three steps implement requirements of Manual 8Q, Procedure 10 for working near overhead electrical lines.

3.22. PIC/FLM: **VERIFY** the following justification is applicable: *It is not feasible to lockout the 13.8 kV overhead lines and process systems as it would have a significant impact on HTF Operations. A Demarcation line and dedicated spotters will be utilized for all Lift activities.*

_____/

3.23. PIC/FLM: **BRIEF** workers performing the work, and workers in close proximity to the work location should contact with the lines occur, on the following emergency action expectations: *Emergency response for unexpected contact with overhead electrical line will be per P.I.C. direction and will be communicated during pre-job briefing.*

_____/

3.24. PIC/FLM: **ENSURE** the following controls are established:

- Dedicated spotters/flag persons who understand pre-identified methods of communicating (e.g., hand signals, radio) to prevent contact with the overhead lines are utilized. Use of radios is the preferred method of communication between spotter/flag person and equipment operator. ☐
- A demarcation line (e.g. cone, painted line, barricade) has been established before operating the equipment. ☐
- A demarcation sketch is included in this Work Order. ☐
- Work is only performed during daylight hours. ☐
- Container is prepped and dunnage installed for waste disposal activities. ☐

3.25. Construction: **ENSURE** the critical lift procedure HLWM-16004 and TM 90-7, Appendix G have been completed to allow Crane Setup.

_____/

Section 3.0 Prerequisites continued.**Initial/Date**

3.26. Construction: **ENSURE** Work Order **1337683-33** Grout Placement has been completed through grout placement #1 (at least 2-0' of grout per T-CLC-F-00496). **AND** at least 24 hours have elapsed since the end of Placement 1.

_____/____

3.27. Construction: **VERIFY** grout to be placed in cooling coils has been procured under C-SPP-F-00057. **LEAD CDE**

_____/____

3.28. Construction: **ENSURE** IH has established Hearing Protection boundaries for Grout Pump and Mobile Crane locations.

_____/____

3.29. Construction: **ENSURE** RPD verifies that the sustained wind speed at the work site is not greater than 10 mph prior to *lift activities* **AND**

IF conditions are degrading, then work may proceed to place the job in a more stable condition with concurrence from the RPD Facility Manager.

RPD Facility Manager/Designee Signature _____ Date _____

RPD Facility Manager/Designee Signature _____ Date _____

RPD Facility Manager/Designee Signature _____ Date _____

RPD Facility Manager/Designee Signature _____ Date _____

RPD Facility Manager/Designee Signature _____ Date _____

RPD Facility Manager/Designee Signature _____ Date _____

4.0 <u>Task Performance: Preparation Of Work Area in & Adjacent to Valve House</u>	<u>Initial/Date</u>
4.1. Construction: ENSURE work area Barricades & Postings have been updated (REF: 8Q Procedure 9) prior to start of work activities.	/
4.2. Construction: ENSURE adequate lighting for the work activities is available.	/
4.3. Construction: ENSURE plastic /paper is installed, as required in work area.	/
4.4. Construction: ENSURE FLW Supply Hose #3 is routed & connected between “Flush Water Manifold” (i.e. TEMP-V-12) and the “Grout Pumping System” AND FLW Supply Hose #2 is routed and connected between “Flush Water Manifold” (i.e. TEMP-V-13) and TEMP-V-6 of the “Grout Pumping System”. (REF: Tank 12 Failed Coils Grout Fill Configuration sketch included in this work order)	/
4.5. Construction: CONNECT joints between hoses (if req'd) (REF: Tanks 12 Grout Fill Configuration FAILED Coils sketch included in this work order) and ENSURE joints in hose, are bagged with clear plastic including absorbents.	/
4.6. Construction: ENSURE equipment, kiddie pools, B-25 container(s), and absorbents, have been positioned to support, ‘Attachment D-Cleaning/Pigging of Grout Hose’.	/
4.7. Construction: CONNECT Grout Hose #1 to “Grout Pumping System” (i.e. TEMP-V-5).	/
4.8. Construction: ENSURE all coil isolation valves AND valves associated with Sketch: HLW-SKM-2015-00024 REV. A SHEET 1 OF 1 are in the CLOSED position.	/
CDE Inspection (walk down) Hold Point	
4.9. CDE: WALKDOWN/VERIFY Steps 4.4. through 4.8. have been completed and signed off AND hoses are ready for use.	
_____	_____
Print Name	Signature
	Date
4.10. Construction: ENSURE cameras are installed in Tank 12, as specified in Video Inspection Plan, SRR-LWE-2014-00162 .	/

Section 4.0 continued: Coil grouting (FAILED coils)**Initial/Date**

Note 1: Attachment “B” will be required during the performance of Steps 4.11. thru 4.24.

Note 2: Attachment “F” may be initiated as needed.

Note 3: Attachment “D” may be initiated as needed.

Note 4: IH will verify noise barricade posting adequacy during coil grouting activities.

Note 5: See Attachment “B” for signoffs for steps 4.11. through 4.24. Package documentation (sign-off) of steps 4.11. thru 4.24. will be performed when all coils have been grouted.

4.11. Construction: **VERIFY** Tank 12 Purge Exhaust Ventilation is operating.

_____/____

Note 1: RPD will perform step 4.12. concurrently with 4.13. through 4.23.

Note 2: See Attachment “G” Cooling Coil Grout Placement ***RCO Action Step*** for sign-offs.

*****RADCON ACTION STEP*****

4.12. Construction: **ENSURE** RCO performs contamination surveys during hose install/removal at each coil and document in box (on Attach. “G”). **PERFORM** dose rate survey on piping and if levels exceed 5mrem/hr@ 5cm (above background) of the line, at any point of the line, **THEN RELOCATE** workers to a low background area and **NOTIFY** RCO FLM and LWGS for path forward.

_____/____

Note 1: Proper PPE and splash guard (rad bag, plastic) will be utilized at all line break locations.

Note 2: Quality & composition of expected liquids at line break location: less than 12 ounces per location. Possible coil grout mix and residual chromate cooling water.

Note 3: Care should be taken when maneuvering grout hoses from coil to coil.. Fully charged grout hose weighs 5 lbs. per foot. Utilize a minimum of 2 people for lifting activities over 30 lbs. and crane or other mechanical means for any lift over 100 lbs.

Note 4: RCO shall complete Poly Bottle and Catch Containment Checklist (OSR 4-864) for line break locations and include in technical work document.

4.13. Construction: **CONNECT** Grout Hose #1 to coil supply [i.e. CRW-V-(X)S] OR return [i.e. CRW-V-(X)R]at coil to be grouted via TEMP-V-1.

_____/____

4.14. Construction: **ENSURE TEMP-V-6 is CLOSED.**

_____/____

Section 4.0 continued: Coil Grouting (FAILED coils)**Initial/Date**

4.15. Construction: **GROUT** Failed cooling coils as follows:

4.15.1. **IF** grouting **SUPPLY** side coil, **THEN**:

4.15.1..1. **ENSURE** CRW-V-(X)S grout Supply valve is **OPEN** and corresponding CRW-V-(X) R (Return) valve is **CLOSED** and **PROCEED** to step 4.16.

_____/

4.15.2. **IF** grouting **RETURN** side coil, **THEN**:

4.15.2..1. **ENSURE** CRW-V-(X)R grout Return valve is **OPEN** and corresponding CRW-V-(X)S (Supply) valve is **CLOSED** and **PROCEED** to step 4.16.

_____/

4.16. Construction: **PERFORM** the following to prepare grout mixture:

4.16.1. **IF** this is the first batch of grout being mixed, **THEN**

REQUEST IH to perform noise surveys while equipment is running.

_____/

Note: HEPA vacuum to be utilized to clean tools, materials and reusable PPE contaminated with silica-bearing dusts.

4.16.2. **PREPARE** Grout Mixture as follows (per CG-590 **GROUT MIXING AND PUMPING OPERATING INSTRUCTION: MIX** 1 Supersack bag of coil grout with 75 gallons of water for 6 minutes prior to pumping of grout.

_____/

4.17. Construction: **ENSURE TEMP-V-4** and **TEMP-V-5** are **OPEN**.

_____/

4.18. Construction: **IF** first coil of the day or first coil after pigging **THEN PERFORM** the following:

4.18.1. Construction: **COMPLETE** Attachment "F".

_____/

4.18.2. Construction: **PUMP** 150 gallons of grout through cooling coil.

_____/

4.18.3. Construction: **PERFORM** B31.3 Initial Service Leak Test with documentation included in work package.

_____/

Section 4.0 continued: Coil Grouting (FAILED coils)**Initial/Date**

4.19. Construction: **IF NOT** first coil of the day or first coil after pigging **THEN** PERFORM the following:

4.19.1. Construction: **PUMP** 150 gallons of grout through cooling coil.

_____ /

4.19.2. Construction: **PERFORM** B31.3 Initial Service Leak Test with documentation included in work package.

_____ /

4.20. Construction: **SHUT** down grout pump **WHEN**:

_____ /

- Acceptable quantity of grout (150 gal. each coil) has been pumped into coil as indicated on flow meter **OR**
- Directed by PIC to stop grout fill.

4.21. Construction: **RECORD** amount of grout to coil on Attachment "B".

_____ /

4.22. Construction: **PREPARE** to disconnect grout hose as follows:

4.22.1. **PLACE** in service a HEPA filtered Copus blower at the source during all hose disconnecting activities, with the circular duct placed within one duct's diameter from the source of contamination.

_____ /

4.22.2. **ENSURE** blower exhaust is directed away from personnel.

_____ /

4.22.3. **ENSURE** Cooling Coil Isolation Valve at grout hose connection (S or R) is **CLOSED**.

_____ /

4.22.4. **ENSURE TEMP-V-4** and **TEMP-V-5** are **CLOSED**

_____ /

4.23. Construction: **DISCONNECT** grout hose from coil supply or return at grouted coil and relocate to next coil location.

_____ /

4.24. Construction: **REPEAT** Steps 4.11 through 4.23. as required until all failed coils have been grouted. Sign-off of these steps will be completed after all failed coils have been grouted.

_____ /

Note: Supply manifold containing TEMP-V-5, TEMP-T-1 and TEMP-V-6 shall be flushed and/or pigged at end of shift or as directed by PIC.

ALARA

Use caution when handling packaged Low Level Waste due to contamination potential.

Section 4.0 continued: Coil Grouting (FAILED coils)**Initial/Date**4.25. Construction: **PERFORM** housekeeping activities as follows:

_____/____

- **PACKAGE** all Low Level Waste for disposal, **AND**
ENSURE a completed waste tag is attached to each waste package.
- **REMOVE** any waste and/or excess material generated from the work activities.
- **REQUEST** RPD to survey any tools used in the CA and if unable to clear dispose of as LLW.
- **Waste** could be dry or mixed grout for waste tanks

5.0 Post Maintenance Testing & Return to Service:N/A**6.0 Post Work & Feedback:**6.1. Construction: **ENTER** any feedback including field revisions and recommendations for improvements for future work in Passport OR NA if no feedback applies (CO Comments - Mechanic Feedback to be addressed by Work Control).

_____/____

6.2. FLM/Designee: **CHECK** the work package for completeness and ensure all documents used during the job are identified on the P211 Work Package Print Report in section Print Report - Work Order Record Documents (M102 / M104) or, if added during work execution, identified in Documents added to work package in field.

_____/____

6.3. CDE: **ENSURE** all M&TE used has been documented in the work package and the M&TE Use has been properly completed.

_____/____

7.0 Attachments / References:

SRR-LWE-2014-00162 Video Inspection Plan.

REF: Spill Prevention, Control and Countermeasures. 1E6, 05-12.03.

REF: Spill Response and Reporting. 1E6, 05-01.04.

REF: Attachments B,D, F & G

C-SPP-F-00057

HLWM-16004

SRR-LWE-2014-00147

CG-590 GROUT MIXING AND PUMPING OPERATING INSTRUCTIONS