Passport Information	
Date Created	04/29/2015
Planner Name	Patton, Gary W
Planner Telephone	208-2324
Equipment Name	Tank 12 Bulk Fill
Facility	HTF
CLI Number	241912
Functional Class	PS

1.0 **Scope of Work:** Place grout in Waste Storage Tank 12 (241-912H) to support tank closure. This includes removal of riser cover port plugs, tremie installation into risers and pumping of grout through slick line piping. There are 9 grout 'Placements' to fill the Primary Tank, Annulus and then a placement for each Riser and Riser Cap per the Additional Attachments and in conjunction with:

- Grout Strategy For Tanks 12 Closure # SRR-LWE-2014-00147.
- Structural Integrity Requirements Calculation No. T-CLC-F-00496 R1
- Video Inspection Plan For Tank12 During Grouting Activities # SRR-LWE-2014-00162
- Type I Tank Top Vertical Loading Evaluation Calculation No. T-CLC-H-00503, (Tank 12) ; **SRR-CWDA-2012-00051 Revision 2**
- Furnishing and Delivery of Tank Closure Grout C-SPP-F-00055 Rev 4
- **Tank 12-H Closure Assurance Plan #SRR-LWE-2015-00032 Rev. 0".**

AHA Number: TF-23984				Drawing: See Additional Attachments			
Pre Job Briefing Checklist: OPS-SO-LWO.01				Procedure: C-SPP-F-00055			
SRWP	**003**	Job Specific RWP	**16-HTF-183**	Calibration Datasheet: N/A			
Permits: Safe Work Permit				ASME B31.3:		Yes	**X** No
Fluid Service: N/A							
Additional Attachments: **Attachment A**-Tremie Installation Steps, **Attachment B**-Cleaning/Pigging of Slickline, **Attachment C**-Flammability Control Evaluation, **HTF-SKM-2015-00015**-Slickline Support Layout **HTF-SKM-2015-00021**-Grout Placement Plan, **HTF-SKM-2014-00033**-Riser Generic Formwork Detail **HTF-SKM-2014-00034**-Truck Route **ATTACHMENT "I" Riser Sign-off Sheet 1** - Port Plug Removal, **ATTACHMENT "J" Riser Sign-off Sheet 2** – Bulk Fill Placements 1-6, **ATTACHMENT "K" Riser Sign-off Sheet 3** - Riser Placements **Daily Truck Log**-Gate, **Daily Truck Log**-Pump, **Tank Grout Operations Daily Checklist**, **SRR-ESH-2015-00002** Tank 12 Grout RCO Survey Strategy **SRR-CWDA-2012-00051 Revision 2**							

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. Warning barricades are required for work areas to control unauthorized access to the work area, identify hazards associated with work, and prevent personnel contact with falling objects and moving parts of equipment.

2.3. If unexpected loss of ventilation or improper air flow occurs, place job in a safe condition, exit the area, and **NOTIFY** RCO FLM, PIC, and IH for path forward.

2.4. If problems or conditions are encountered that were not anticipated or covered under the AHA or associated permits, or the boundaries of the work need to be modified or changed as the job progresses, **SUSPEND WORK**, Notify supervision, and return the work package to the work coordinator or planner for required revisions.

2.5. Safety shower/eyewash equipment must be located in accessible locations that require no more than 10 seconds to reach. The safety shower/eyewash equipment shall be located on the same level as the hazard. Travel distance from the point of exposure to safety shower/eyewash equipment may not exceed 50 feet., 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. In the event of a spill of grout material greater than 5 gallons out of secondary containment, **CONTACT** the Shift Manager for Direction

2.7. Personnel should not attempt to lift more than they are capable of lifting. If equipment is hard or awkward to handle, mechanical means should be used and/or additional personnel should perform the task. Proper lifting techniques should be used. Loads should be lifted with the legs instead of the back while twisting or bending at the waist should be avoided. Slickline weight: approx. 150lbs for a 10 foot pc. Tremie weight: approx. 30lbs for a 20 foot roll. Care should be taken when moving or connecting slickline and riser tremie. Mechanical assistance in the form of a grass hopper lifting tool will be used to position the sections of the slickline when possible. If field conditions will not allow the use of a grass hopper, friction clamps attached to a lifting bar with additional personnel will be used.

3.0 **Prerequisites:** Steps in this section may be completed in any order. **Initial/Date/☐**

3.1. Engineering: **ENSURE** that USQ's have been approved and issued for tank grout placement.

USQ Number: **USQ-HTF-2015-00435** Revision Number: **0**

ENG: _____ _____ _____
Print Name *Signature* *Date*

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

RWP/SRWP #: **15-HTF-003 Non-Intrusive / 16-HTF-183 Intrusive Work**
AHA #: **TF-23984**

_____ _____ _____
Print Name Signature Date

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

3.3. PIC: **PERFORM** a pre-job briefing per **OPS-SO-LWO.01.** ____/____

3.4. Construction: **NOTIFY** GCO for a container request at least 48 hours prior to performing work. ☐

3.5. Construction: **NOTIFY** IH 24 hrs. prior to performing work. ☐

3.6. Construction: **NOTIFY** RCO prior to performing work. ☐

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

3.8. Construction: **NOTIFY** Shift Manager daily prior to grouting activities, that gates L and V will be utilized for Grout Truck ingress and egress, **AND REQUEST** SOM to notify and provide alternate route in case of emergency to Fire Department 7-4340, 5-2117 and SRSOC. ☐

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 _____ ____/____

3.10. Construction: **VERIFY** Tank 12 Grout RCO Survey Strategy is approved for implementation, and place a copy in the package prior to start of work. ☐

Section 3.0 Prerequisites: Cont. **Initial/Date/☐**

3.11. Construction: **ENSURE** RCO has performed the necessary steps to ensure proper radiological controls are in place. ☐

3.12. Construction: **ENSURE** grout pumps and slickline piping system is installed and ready for use per WO# 1337683-34. ☐

3.13. Construction: **ENSURE PIC** completes Attachment "C" *Flammability Control Evaluation* daily. ☐

3.14. Construction: **ENSURE** *Tank Grout Operations Daily Checklist* is performed daily. ☐

3.15. Construction: **EVALUATE** the work site plans/layout and determine if installed eyewash/safety shower units are appropriately located to support the task(s). ☐

3.16. Construction: **ENSURE** to stage additional eyewash with rinse wand as required. ☐

3.17. Construction: **ENSURE** test areas, safety showers and hay bales at storm drains are installed, operable and ready for use per WO# 1337683-52. ☐

3.18. Construction: **ENSURE** water supply is available to support work activities and clean-out grout trucks. ☐

3.19. Construction: **ENSURE** tremie piping along with associated (heavy sleeving or Lexan box sealed to riser) is available and ready for installation into tank risers. ☐

3.20. Engineering: **PERFORM** engineering evaluation to determine minimum purge flow requirement to maintain flammable vapor concentration below 20% LFL and required time for response to a loss of ventilation. Copy of the evaluation to be placed in package.

Engineering Evaluation #: _____

Engineering:

_____	_____	_____
PRINT	SIGN	DATE

Section 3.0 Prerequisites: Cont. **Initial/Date/☐**

3.21. Construction: **VERIFY** I & M has staged camera equipment per SRR-LWE-2014-00162*"Inspection Plan for Tank 12 During Tank Grouting Activities"*. ☐

3.22. Construction WGS: **PERFORM** walk down with workers and planner to discuss work, beginning with the portion of task to be performed first. ☐

3.23. Construction: **ENSURE** URS is notified to perform grout testing per C-SPP-F-00055 Rev 4 Attachment 5.3. ☐

3.24. Construction: **ENSURE** IH has established Hearing boundaries for Grout Pump and Concrete Truck locations. ☐

Note: It is not feasible to lockout the 13.8 kV overhead line(s) and medium steam, as it would have a significant impact on HTF Operations. A Demarcation line(s) and dedicated spotters will be utilized.

3.25. Construction: ENSURE the following controls are in place when using the crane(s). ☐

- Dedicated spotters/flag persons, who understand pre-identified methods of communicating (e.g., hand signals, radio) with equipment operators to prevent contact with the lines, will be utilized. Use of radios is the preferred method of communication between spotter/flag persons and equipment operators.
- Perform work during daylight hours.
- No work on rainy or foggy days
- Ground the crane(s).
- Demarcation line(s) (i.e. cone, painted line, barricade) will be established by LWGS.
- LWGS will ensure a sketch of the work location is included.
- Pre-job briefing shall be performed prior to starting work.
- Containers are prepped for introduction of flush water and grout.
  NOTE: Emergency response for unexpected contact with overhead electrical line will be per P.I.C. direction and will be communicated during pre-job briefing.

R-2 FIELD REV

3.26. Construction: **ENSURE** a Spill KIT has been staged at a central location on tank top and in proximity to any/all work locations where hose will be manipulated (disconnected /reconnected) on a regular basis. 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. See package 1337683-69 for spill response instructions. ____/____

4.0 Task Performance: **Initial/Date**

REMOVAL OF RISER COVER PORT PLUGS and TREMIE INSTALL

NOTE: Steps 4.1 through 4.8 will be performed for each riser where grout is placed. Grout may only be placed through Risers 1, 3, 5, 8, EAST Annulus, WEST Annulus, Annulus Ventilation Inlet and Annulus Ventilation Exhaust. Placement through any other risers requires Engineering approval prior to placement.

Individual Riser sign-offs done only on "**Attachment "I" Riser Sign-off Sheet 1-Port Plug Removal"** on a daily, as needed basis, per PIC.

Any risers not used on "**Attachment "I" Riser Sign-off Sheet 1 – Port Plug Removal"** shall have an 'N/A' next the riser name.

Package sign-off of these steps 4.1 thru 4.10 will be done when **all initial tremies** have been installed**.**

RADCON ACTION STEP

NOTE: RCO will perform step 4.1. concurrently with steps 4.2 thru 4.8.

4.1. Construction: **ENSURE** RPD performs radiation and contamination surveys ***during tremie installation activities,*** **AND**

IF radiological conditions are greater than any of the following levels:

Contamination (dpm/100cm2)		Probe		Dose Rate (mrem/hr)		Airborne	
200	α	NA	α	1000	Extremity	RnTh	Dac/hr
30,000	$\beta\gamma$	NA	$\beta\gamma$	300	Skin		
Riser area				80	WB Working Rate		

THEN DECON/WRAP to less than levels above. **IF** working dose rate exceeds levels above, obtain PIC and RCO FLM approval to continue.

Construction: **RECORD** Action Taken (Note: N/A if levels not exceeded):

Tank Riser: **SEE** 'Attachment "I" Riser Sign-off Sheet 1-Port Plug Removal' for any actions taken.

Construction_____ RPD _____ _____/_____

4.2. Construction: **VERIFY** tank & annulus ventilation is operating prior to start of work process to remove riser cover port plugs during tank and annulus bulk fill. _____/_____

4.3. Construction: **ENSURE** ***HIGH RAD CONTROL PROCEDURE*** for the removal of port plug is initiated if required. _____/_____

Section 4 continued: **Initial/Date**

4.4. Construction: **REMOVE** riser cover port plug with OPS REP present, **AND ENSURE RCO** performs an air flow check to ensure airflow is DOWN INTO the Tank and NOT OUT to atmosphere and **IF** airflow check fails **THEN** place work in a safe condition, exit area and **NOTIFY** RPD FLM, IH, and LWGS of conditions. _____/_____

IH ACTION STEP

4.5. Construction: **ENSURE** IH/IH qualified RCO **PERFORMS** a Mercury Vapor Survey during **Riser port plug cover removal for tremie installation activities**, IF mercury levels are greater than 0.008 mg/m3 within the breathing zone THEN replace cover, SUSPEND work and NOTIFY LWGS and the Area Industrial Hygienist. Work may proceed using supplied air respiratory protection once IH concurrence is obtained.

Survey Results: _____ mg/m^3Hg _____/_____

4.6. Construction: **INSTALL initial** tremie (pre-sleeved or lexan box) into Primary Tank, Annulus, and Annulus Inlet risers with PIC/RPD/ DA direction into tank riser cover port. _____/_____

4.7. Construction: **ENSURE** tremie is mechanically secured at top of tank riser. _____/_____

4.8. Construction: **ATTACH** tremie onto 5" slickline per Manufacturer's assembly instructions and have CDE validate installation. CDE_____/_____

_____/_____

*** HOLDPOINT***

4.9. PIC: Prior to initiating grouting operations **ENSURE** IH / IH qualified RCO performs flammability monitoring of the tank and annulus vapor space to verify flammable vapor levels are less than 20 % LFL **IF** greater than 20% LFL operate forced ventilation until flammable vapor levels are less than 20% LFL _____/_____

_____ % LFL Tank

_____ % LFL Annulus

Section 4 continued: **Initial/Date**

***** HOLDPOINT*****

4.10. Construction CDE: **VERIFY** Tank 12 grout addition authorization for startup is approved by the Tank 12 Closure SRR Project Manager.

Authorization is verified by Tank 12 Project Manager:

_____	_____	_____	____/____
Print	*Signature*	*Date*	

PLACEMENT OF GROUT

NOTE 1: There are 9 grout 'Placements' to fill the Primary Tank, Annulus Tank and Annulus Inlet Piping per '**Sketch 1- Grout Placement Plan'.**

NOTE 2: RPD will perform radiological surveys per the 'Tanks 12 Grout Activities RPD Survey Strategy/Plan", during *all* grout placements and slickline clean outs.

NOTE 3: An ISLT is required to be performed whenever a leg of the slickline is used followed by periodic inspections for leaks.

NOTE4: IH will verify noise barricade posting adequacy during placement of grout.

Placement 1 - Primary Tank, to 2 ft.

NOTE: Steps 4.11 thru 4.14 will be performed for each riser where grout is placed.
Individual riser documentation completed on "**Attachment "J" Riser Sign-off Sheet 2 - Placement 1-3'** on a daily, as needed basis, per PIC.
Risers on '**Attachment "J" Riser Sign-off Sheet 2 - Placement 1-3'** not utilized for grout fill shall have an 'N/A' next to the riser name.
Package documentation (sign-off) of **steps 4.11 thru 4.15** will be performed when **Placement 1** is complete.

4.11. Construction: **PERFORM** visual inspection of installed tremie. ____/____

4.12. Construction: **IF** tremie is not installed in desired grout location, **THEN INSTALL** tremie into riser with PIC/RPD/ DA direction, per **Attachment A** – 'Tremie Installation Steps' AND **VERIFY** tremie is within 10 ft of tank bottom or last grout lift. **An 'Attachment A - Tremie Installation Steps'** to be used for **each** riser and **each** length installed. ____/____

DA to VERIFY: ____/____

Section 4 continued: **Initial/Date**

4.13. Construction: **PLACE/POUR** Grout (fill to 24 inches; NOT TO EXCEED 400 cu. yds.) **DIRECTING empty** trucks to the wash-out/clean-out location; North East of RBOF/244-H. ____/____

4.14. Construction: **INITIATE 'Attachment B-Cleaning/Pigging of Slickline'** as needed. ____/____

4.15. Construction CDE: **VERIFY** the amount of grout placed for each riser and **RECORD** the total for Placement 1 **AND OBTAIN** concurrence from PIC and DA.

Placement 1 Total _____yds^3 CDE ____/____ PIC ____/____ DA____/____

END OF Placement 1 - Primary Tank, to 2 feet.

- **Note: Placement sequence may very as long as they meet the Structural Integrity Requirements Calculation No. T-CLC-F-00496 R1.**

Placement 2 - Annulus, to 1ft.

NOTE: Steps 4.16 thru 4.19 will be performed for each riser where grout is placed.
Individual riser documentation completed on '**Attachment "J" Riser Sign-off Sheet 2 - Placement 1-3'** on a daily, as needed basis, per PIC.
Risers on '**Attachment "J" Riser Sign-off Sheet 2 - Placement 1-3'** not utilized for grout fill shall have an 'N/A' next to the riser name.
Package documentation (sign-off) of **steps 4.16 thru 4.20** will be performed when **Placement 2** is complete.

4.16. Construction: **PERFORM** visual inspection of installed tremie. ____/____

4.17. Construction: **IF** tremie is not installed in desired grout location, **THEN INSTALL** tremie into riser with PIC/RPD/ DA direction, per **Attachment A** – 'Tremie Installation Steps' AND **VERIFY** tremie is within 10 ft of annulus bottom or last grout lift. An **'Attachment A** to be used for **each** riser. ____/____

DA to VERIFY: ____/____

4.18. Construction: **PLACE/ POUR** Grout (fill to 12 inches; NOT TO EXCEED 32 cu. yds.) **ENSURE** the grout is introduced between the outside radius of the ventilation duct and the annulus steel wall as required by SRR-LWE-2014-00147 **AND DIRECT empty** trucks to the wash-out/clean-out location North East of RBOF/244-H. ____/____

Section 4 continued: **Initial/Date**

4.19. Construction: **INITIATE 'Attachment B - Cleaning/Pigging of Slickline'** as needed. ____/____

4.20. Construction CDE: **VERIFY** the amount of grout placed for each riser and **RECORD** the total for Placement 2 **AND OBTAIN** concurrence from PIC and DA.

Placement 2 Total _____ yds^3 CDE____/____ PIC____/____ DA____/____

END OF Placement 2 - Annulus to 1ft.

Placement 3 – Annulus Inlet Piping (Lower Horizontal)

NOTE: Tremie installation in Annulus Inlet to fill the interior of **horizontal** Inlet Piping. Continue grout filling of both legs of the horizontal inlet piping "until grout is observed exiting the all horizontal ducting distribution holes". The **vertical** section of the Annulus **Inlet** Piping will be filled during Placements 4-9. However, the Annulus **Exhaust** Piping will be filled in the riser fill work package.

NOTE: Steps 4.21 thru 4.24 will be performed for each riser where grout is placed.
Individual riser documentation completed on '**Attachment "J" Riser Sign-off Sheet 2 - Placement 1-3'** on a daily, as needed basis, per PIC.
Risers on '**Attachment "J" Riser Sign-off Sheet 2 - Placement 1-3'** not utilized for grout fill shall have an 'N/A' next to the riser name.
Package documentation (sign-off) of **steps 4.21 thru 4.25** will be performed when **Placement 3** is complete.

4.21. Construction: **PERFORM** visual inspection of installed tremie. ____/____

4.22. Construction: **IF** tremie is not installed in desired grout location, **THEN INSTALL** tremie into riser with PIC/RPD/ DA direction, per **Attachment A** – 'Tremie Installation Steps' AND **VERIFY** tremie is within 10 ft of annulus bottom or last grout lift. An **'Attachment A** to be used for **each** riser. ____/____

DA to VERIFY: ____/____

4.23. Construction: **PLACE/POUR** Grout (NOT TO EXCEED 32 cu. yds.) **DIRECTING** empty trucks to the wash-out/clean-out location; North East of RBOF/244-H . ____/____

4.24. Construction: **INITIATE 'Attachment B - Cleaning/Pigging of Slickline'** as needed. ____/____

Section 4 continued: **Initial/Date**

4.25. Construction CDE: **VERIFY** the amount of grout placed for each riser and **RECORD** the total for Placement 3 **AND OBTAIN** concurrence from PIC and DA.

Placement 3 Total _____ yds^3 CDE____/_____ PIC____/_____ DA____/_____

END OF Placement 3 – Annulus Inlet Piping (Lower Horizontal)

Placements 4 thru 9 – Primary Tank, Annulus, and Annulus Inlet Piping (Vertical)

NOTE: The **vertical** section of the Annulus **Inlet** Piping will be filled during Placements 4-9. However, the Annulus **Exhaust** Piping will be filled in the 'Riser Placement' section of the work package .

NOTE: Steps 4.26 thru 4.29 will be performed for each riser where grout is placed.
Individual riser documentation completed on '**Attachment "K" Riser Sign-off Sheet 3 - Placement 4-9'** on a daily, as needed basis, per PIC.
Risers on '**Attachment "K" Riser Sign-off Sheet 3 - Placement 4-9'** not utilized for grout fill shall have an 'N/A' next to the riser name.
Package documentation (sign-off) of **steps 4.26 thru 4.31** will be performed when all **Placements 4-9'** are complete.

4.26. Construction: **PERFORM** visual inspection of installed tremie. _____/_____

4.27. Construction: **IF** tremie is not installed in desired grout location, **THEN INSTALL** tremie into riser with PIC/RPD/ DA direction, per **Attachment A** – 'Tremie Installation Steps' AND **VERIFY** tremie is within 10 ft of last grout lift. **An 'Attachment A - Tremie Installation Steps'** to be used for **each** riser and **each** length installed. _____/_____

DA to VERIFY: _____/_____

Section 4 continued: **Initial/Date**

NOTE: Steps 4.28.1 thru 4.29. may be worked concurrently.

4.28. Construction: Complete Grout placement 4 through 9 as follows:

4.28.1. Construction: **PLACEMENT 5**: **PLACE/POUR** (a minimum of 10 trucks) Tank Grout in the Annulus tank, **DIRECTING empty** trucks to the wash-out/clean-out location; North East of RBOF/244-H. ____/____

4.28.2. Construction: **PLACEMENT 5**: **PLACE/POUR** 1 Supersack of Cooling Coil Grout in the Annulus Inlet Duct. ____/____

4.28.3. Construction: **PLACEMENT 5**: **PLACE/POUR** Tank Grout in the Annulus tank (Fill to 10 feet. DO NOT EXCEED A TOTAL of 158 cu.yds.), **DIRECTING empty** trucks to the wash-out/clean-out location; North East of RBOF/244-H. ____/____

4.28.4. Construction: **PLACEMENT 4**: **PLACE/POUR** Tank Grout into Primary Tank (Fill to 5 ft.-NOT TO EXCEED 483 cu.yds.) **DIRECTING empty** trucks to the wash-out/clean-out location; North East of RBOF/244-H. ____/____

4.28.5. Construction: **PLACEMENT 6**: **PLACE/POUR** Tank Grout into Primary Tank (Fill to 15 ft.-NOT TO EXCEED 1610 cu.yds.) **DIRECTING empty** trucks to the wash-out/clean-out location; North East of RBOF/244-H. ____/____

4.28.6. Construction: **PLACEMENT 7**: **PLACE/POUR** Grout in the Annulus Tank (a minimum of 13 trucks) **DIRECTING empty** trucks to the wash-out/clean-out location; North East of RBOF/244-H. ____/____

4.28.7. Construction: **PLACEMENT 7**: **PLACE/POUR** 2 Supersacks of Cooling Coil Grout in the Annulus Inlet. ____/____

4.28.8. Construction: **PLACEMENT 7**: **PLACE/POUR** Tank Grout in the Annulus tank (Fill to 20 feet. DO NOT EXCEED A TOTAL of 270 cu.yds.), **DIRECTING empty** trucks to the wash-out/clean-out location; North East of RBOF/244-H. ____/____

4.28.9. Construction: **PLACEMENT 8**: **PLACE/POUR** Grout into Primary Tank (Appox.1680 cu.yds.) **DIRECTING empty** trucks to the wash-out/clean-out location; North East of RBOF/244-H. ____/____

4.28.10. Construction: **PLACEMENT 9**: **PLACE/POUR** Grout in the Annulus Tank (Aprox.120 cu.yds.) **DIRECTING empty** trucks to the wash-out/clean-out location; North East of RBOF/244-H. ____/____

4.28.11. Construction: **PLACEMENT 9**: **PLACE/POUR** 1 Supersack of Cooling Coil Grout (or until inlet is full) in the Annulus Inlet. ____/____

Section 4 continued: **Initial/Date**

4.29. Construction: **INITIATE 'Attachment B - Cleaning/Pigging of Slickline'** as needed. _____/_____

4.30. Construction CDE: **RECORD** the amount of grout placed **AND OBTAIN** concurrence from PIC and DA.

Placement 4 – Primary Tank _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Placement 5 – Annulus Tank _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Placement 5 – Annulus Inlet _____ yds^3 CDE _____/_____ PIC_____/_____ DA _____/_____

Placement 6 – Primary Tank _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Placement 7 – Annulus Tank _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Placement 7 – Annulus Inlet _____ yds^3 CDE _____/_____ PIC_____/_____ DA_____/_____

Placement 8 – Primary Tank _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Placement 9 – Annulus Tank _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Placement 9 – Annulus Inlet _____ yds^3 CDE _____/_____ PIC_____/_____ DA_____/_____

4.31. PIC: **ENSURE** Tank Farm Operations personnel **EVALUATES** the operability of tank and annulus ventilation **AND**

SECURES ventilation per SW11.1-CLOSURE-VENT. _____/_____

4.32. PIC: **INITIATE** weekly flammable vapor concentration monitoring of risers per WSRC-TR-2003-00087 Section 6.8.1. (See Attachment C) _____/_____

END OF Placements 4-9 – Primary Tank, Annulus, and Annulus Inlet Piping (Vertical)

FIELD
R2

Riser Placements

NOTE: Steps 4.33 thru 4.39 will be performed for each riser where grout is placed.
Individual riser documentation completed on '**Attachment "L" Riser Sign-off Sheet 4 – Riser Placements'** on a daily, as needed basis, per PIC.
Risers on '**Attachment "L" Riser Sign-off Sheet 4 – Riser Placements'** not utilized for grout fill shall have an 'N/A' next to the riser name.
Package documentation (sign-off) of **steps 4.33 thru 4.43** will be performed when **grouting of all Risers, including Annulus Exhaust Piping** is complete**. IF water is present, THEN the addition of dry grout material is acceptable Per the guidance of SRR-CWDA-2012-00051 Revision 2**

4.33. Construction: **ENSURE** portable ventilation is available **AND**

PLACED per Rad Con direction within one duct diameter of riser opening. ____/____

4.34. PIC: **VERIFY** that flammable vapor concentrations have been sampled and meet acceptable levels prior to grouting each riser, per Attachment C - Excerpt from WSRC-TR-2003-00087 Section 6.8.1. ____/____

NOTE: Estimated riser fill volumes Center 7 cu yds
1-8 2 cu yds
Annulus 3.2 cu yds

4.35. Construction: **PERFORM** visual inspection of installed tremie/slickline/hose. ____/____

4.36. Construction: **IF** tremie/slickline/hose is not installed in desired grout location, **THEN INSTALL** tremie/slickline/hose into riser with PIC/RPD/ DA direction, per **Attachment A** – 'Tremie Installation Steps' AND **VERIFY** tremie/slickline/hose is within 10 ft of last grout lift. **An 'Attachment A - Tremie Installation Steps'** to be used for **each** riser and **each** length installed. ____/____

DA to VERIFY: ____/____

Section 4 continued: **Initial/Date**

CAUTION

If an interruption in grouting riser has a duration greater than 8 hours, monitoring of vapor space concentration shall be completed and<20% LFL before grout can continue.

4.37. PIC: **IF** a delay of > 8 hours has occurred during riser pour, **OR**

IF > 8 hours has elapsed since riser flammability sampling was completed, **THEN**

HAVE riser being grouted resampled for flammable vapors and document in PIC log. ____/____

4.38. PIC: **IF** riser required resampling for flammability, **THEN**

VERIFY vapor concentration is <20% LFL prior to continuing. ____/____

Field REV 2

4.39. Construction: **PLACE/POUR** GROUT; **IF** water is present **Then** add Dry Grout Per the guidance of SRR-CWDA-2012-00051 Revision 2 **AND DIRECT** all trucks to the wash-out/clean-out location North East of RBOF/244-H. ____/____

4.40. Construction: **INITIATE** '**Attachment B - Cleaning/Pigging of Slickline'** as needed. ____/____

4.41. Construction: **DISCONNECT** tremie/slickline/hose from each riser with PIC/RPD/DA direction. ____/____

Section 4 continued: **Initial/Date**

4.42. Construction CDE: **RECORD** the amount of grout placed **AND OBTAIN** concurrence from PIC and DA.

Riser 1 _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser 2 _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser 3 _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser 4 _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser 5 _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser 6 _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser 7 _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser 8 _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser N _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser E_____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser S _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Riser W _____ yds^3 CDE _____/_____ PIC_____/_____ DA_____/_____

Riser C _____ yds^3 CDE _____/_____ PIC_____/_____ DA_____/_____

Annulus Inlet _____ yds^3 CDE _____/_____ PIC_____/_____ DA_____/_____

Annulus Exhaust _____yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

4.43. Construction CDE: **VERIFY** the amount of grout placed for Tank 12 and **RECORD** the total below:

Tank 12 Total _____ yds^3 CDE_____/_____ PIC_____/_____ DA_____/_____

Section 4 continued: **Initial/Date**

4.44. Construction: **CONTACT** RPD to perform surveys prior to removing tools/materials from radiological work area. ____/____

NOTE: All low-level waste should be packaged for disposal by Waste Generator and verified by Waste Verifier prior to disposal.

4.45. Construction: **PERFORM** housekeeping activities as follows: ____/____

- **CLEAN** tools used.
- **REMOVE** waste and/or excess material generated from work activities.
- **DISPOSE** of waste per GCO/Waste Verifier directions.

5.0 Post Maintenance Testing & Return to Service:

N/A

6.0 Post Work & Feedback:

6.1. Construction LWGS/PIC: **PERFORM** a post job walk-down to verify all work is completed for this task. ____/____

6.2. Construction CDE: **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. 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). ____/____

6.4. Construction CDE: **ENSURE** all MT&E has been documented in the work package and the MT&E Log has been properly completed CDE and/or QCE may initial/date. This step may be marked N/A with justification statement and initialed/dated by the CDE if no MT&E was used. ____/____