

Control Number

-63499

WO

Off-Shift Issuance:

Signature

Date/Time

3. Peer Review Curtis / WV-48 Signature/Date Curtis 3/27/02	
4. Charge No. (Labor) (M & S) WH 1210006 /WH	
5. Equipment I.D. Eqpt/Instr/Valve # 63V-001 CFMT	
6. Performance Code A. Special Preparation 0 May be shut down B. X Normal Preparation 2 X Must be operating Other:	
7. Estimated/Actual Hours SUPPORT GROUP EST. 120 ACTUAL 120 VIT Ops Maint QA RC Tech	
8. System: 63I	
9. Location: MNOA	
10. Dwg/Sketch: Yes No X Attached	
11. Docs./Dwgs Rqd. Revs: TM# ECN# NA X	
12. Profile No. N/A	
13. Document Ref. To APR 5 2002 N/A	
14. Quality Level C	
15. Safety Class N	
16. ALARA Trigger Level(s) [WV-984, Sec. 7.3.3] Exceeded Yes ALARA Checklist Attached: Yes N/A Detailed Dose Estimate Attached: Yes N/A	
17. Eng. Approval Rqd. Yes No X	
18. RWP Required: Yes No X RWP No.	
19. Hoisting & Rigging: NA Routine X Non-routine Critical (Ref. SOP 00-38) Yes No X	
20. QA Insp. Rqd: Yes No X	
21. Welding or Special Process Rqd: Yes No X If Yes, Cite	
22. Special Qualification Rqd.: Yes No X	
23. IWP required: Yes No X IWP No.	
24. Ground Disturbance Permit Required: Yes NA X Attached	
25. RWG Walkdown: (Print) NAME: FRANK ARDUUS DATE: 3-27-02	
26. Req'd. Finish Date: April 30, 2002	
27. Key Event KE 560P	
28. "Is a USQ Safety Evaluation (USQD Form WV-3306, Sections V, VI, and VII) required? *Yes No X Lawrence Petkus (USQD Originator or Safety Analyst Signature) If Yes: attach the completed USQD Form WV-3306, Sections V, VI, and VII."	
29. HLT - Does W.O. provide instr. For Maint., Ops. Support etc. for Vit Sys 63I, 63J, L, K, 63P, 68, 69A, B or 200A, B B. Is Maint/support/testing/R&D issue listed in WVPD-200 Part IV HLT activities list)? C. Is the activity designated HLT?	
30. Type of work: Fab Test Install Calib Mod/Repair X Other Insp	
31. Title: CFMT WATER FLUSH	
32. Resp. WUNS Work Group: VITRIFICATIONS OPERATIONS	
33. WGS (Print Name): R.G. MURKES WGS (Walkdown Sat)	
34. Work Group Manager: JOSEPH CURCIO	
35. Review/Walkdown Approvals (Signature/Date) CMO N/A 3/27/02 MS-46 Maint N/A MS-46 RE E.A. Lawler 3/27/02 MS-226 FM M. 3/27/02 MS-46 WMS N/A MS-46 SAE Ching Kim 4/5/02 MS-48	
36. Changed during review cycle Reroute to: MS- MS- MS- MS- MS- MS-	
37. Brief Information of Work Completion for History Record Yes No (Check One)	
38. Documentation of Work Completion Work Group Supervisor Date 5-6-02 Originator Date 5-13-02	

J3 FIELD CHANGE	1. Work Order Number: <u>VFS 63499/I - WO</u>	2. Field Change Number: (Obtained from WCC) FC [ 1 ]
3. Originator* <u>LAWRENCE PETKUS</u> Name/MS		3A. Peer Reviewer <u>Chuck Curtis/WV-48</u> Name/MS
4. WO Title: CFMT WATER FLUSH		6. ALARA Trigger Level Exceed Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5. WO Group: HLWOPS		5A. RWG/Walkdown (Print) NAME: <u>N/A</u> DATE: <u>5/3/02</u> 5B. WGS <u>N/A</u> <u>5/3/02</u> [Walkdown Sat]
7. Description of Field Change REPLACE PAGES 7 THROUGH 9 ( OF 9 )		7a. ECN/TM # <u>N/A</u>
CHANGE TASK 5.34 TO ALLOW THE VOSS TO SELECT THE ORIENTATION OF THE CLEANING TOOL.		
CHANGE TASK 5.45 TO SPECIFICALLY PROVIDE FOR THE USE OF NORMAL FEED PREPARATION SAMPLES TO BE USED AS THE FINAL FLUSH SAMPLES. FEED PREPARATION SAMPLE NUMBERS WOULD BE USED TO IDENTIFY THE SAMPLES.		
<div style="border: 2px solid black; padding: 10px; display: inline-block;"> ISSUED MAY 3 2002 WORK CONTROL CENTER </div>		
8. Reason for Change: <u>FACILITATE CLEANING AND NORMAL OPERATION WITHOUT DUPLICATING EFFORT</u>		
9. "Is a USQ Safety Evaluation (USQD Form WV-3306, Sections V, VI, and VII) required? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
<u>Lawrence Petkus</u> (USQD Originator or Safety Analyst Signature)		<u>LAWRENCE PETKUS</u> (Printed)
		<u>May 2, 2002</u> (Date)
10. Review/Concurrence Approval (Signature/Date)		11. Estimated Hours
CM <u>Mark for Paul</u> MS- <u>48</u>	IH&S <u>N/A</u> MS- <u>      </u>	Ops <u>      </u>
Maint <u>N/A</u> MS- <u>      </u>	OR <u>John W. [Signature]</u> <u>5/3/02</u> MS- <u>144-3</u>	Maint <u>      </u>
RE <u>[Signature]</u> MS- <u>      </u>	Eng. <u>N/A</u> MS- <u>      </u>	RP <u>      </u>
FM <u>[Signature]</u> MS- <u>VH-3</u>	Orig. <u>OK TO Issue</u> <u>5/3/02</u> MS- <u>      </u>	QA <u>      </u>
SAE <u>H.S. [Signature]</u> MS- <u>48</u>	MS- <u>      </u>	Other <u>      </u>
12.		
A. <input checked="" type="checkbox"/> No Hazards Identified/No existing Hazards Modified (No new screen attached)		
B. <input type="checkbox"/> Hazard Screen (Form WV-3909) Attached. (For Review Only)		
CC: <u>      </u> MS- <u>      </u>		
* If the J3 originator is not the same person as the J1 originator, advise J1 originator and include in cc:		

J3 FIELD CHANGE	1. Work Order Number: <u>VFS 63499/I - WO</u>	2. Field Change Number: (Obtained from WCC) FC [ 2 ]
3. Originator* <u>LAWRENCE PETKUS</u> Name/MS	3A. Peer Reviewer <u>C.A. CURTIS</u> Name/MS	<u>5/10/02</u> Signature/Date
4. WO Title: CFMT WATER FLUSH	5A. RWG/Walkdown (Print) NAME: <u>N/A</u> DATE: <u>5/10/02</u>	6. ALARA Trigger Level Exceed Yes ___ No <u>X</u>
5. WO Group: HLWOPS	5B. WGS <u>N/A</u> <u>5/10/02</u> [Walkdown Sat]	
7. Description of Field Change  DELETE TASKS 5.23 TO 5.39		7a. ECN/TM #  N/A
<div style="border: 2px solid black; padding: 10px; display: inline-block;"> <b>I S S U E D</b>  <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">MAY 13 2002</div> <b>WORK CONTROL CENTER</b> </div>		
DELETE THE SECOND FLUSH OF THE CFMT TASKS 5.23 TO 5.39 <u>Replace pg 6 &amp; 7 w/ attached markup</u>		
8. Reason for Change: <u>REMOTE HANDLING CHARACTERISTICS OF THE CLEANING FIXTURE MUST BE IMPROVED BEFORE PROCEEDING</u>		
9. "Is a USQ Safety Evaluation (USQD Form WV-3306, Sections V, VI, and VII) required? Yes ___ No <u>X</u> <u>Lawrence Petkus</u> <u>LAWRENCE PETKUS</u> <u>May 2, 2002</u> (USQD Originator or Safety Analyst Signature) (Printed) (Date) If Yes: attach the completed USQD Form WV-3306, Sections V, VI, and VII."		
10. Review/Concurrence Approval (Signature/Date) CM <u>[Signature]</u> MS- <u>48</u> IH&S <u>N/A</u> MS- <u>48</u> Maint <u>N/A</u> MS- <u>48</u> QA <u>[Signature]</u> MS- <u>AAA03</u> RE <u>N/A</u> MS- <u>48</u> Eng. <u>N/A</u> MS- <u>48</u> FM <u>[Signature]</u> MS- <u>V1-3</u> Orig <u>Lawrence Petkus</u> MS- <u>48</u> SAE <u>N/A</u> MS- <u>48</u>		11. Estimated Hours Ops _____ Maint _____ RP _____ QA _____ Other _____
12. A. <input checked="" type="checkbox"/> No Hazards Identified/No existing Hazards Modified (No new screen attached) B. <input type="checkbox"/> Hazard Screen (Form WV-3909) Attached. (For Review Only) CC: _____ MS- _____		
* If the J3 originator is not the same person as the J1 originator, advise J1 originator and include in cc:		

## **CFMT WATER FLUSH**

### **1 INTRODUCTION**

#### **1.1 PURPOSE**

The CFMT will be flushed to remove residual slurry from the tank internals. The tank head space is a particular target area for slurry removal.

#### **1.2 SCOPE:**

Tank flushing hardware will be introduced into the cell. Slurry samples are taken before and after the flushes to assess how much material is dislodged. The sampling is done per SOP. CFMT Sample pump jumpers must be removed to provide access to Nozzle "G" for cleaning and inspection. The tank will be flushed with demineralized water at high pressure, approximately 1000 psig, using a Gamajet self rotating spray nozzle. Following the water flush, the CFMT will be inspected through the use of a remote in-cell CCTV camera (Rees). Water used to flush the CFMT will be processed as part of the HLW stream. Set up and operation of the high pressure water pump is done under separate WO.

### **2 PRECAUTIONS AND LIMITATIONS:**

- 2.1 The flush water is at high pressure, approximately 1200 psig, as it is delivered by the pump. Any leaks or spray can cause damage to skin or body parts.
- 2.2 The CFMT will be open to the cell atmosphere during parts of this work, neither CFMT boiling nor Melter feeding can occur during periods when any CFMT nozzle is open.
- 2.3 CFMT Agitator shall be tagged out during cleaning and inspection.
- 2.4 The Remote Camera cannot be set down on the pan tilt mechanism without damage. The Assembly must be hung by its wall bracket, or suspended from the crane or the flange.
- 2.5 The tank cleaner assembly cannot be set down on the spray nozzle. The Assembly must be hung by its wall bracket, or suspended from the crane or the flange.
- 2.6 The Remote Camera must be in the HOME position, looking straight up, when entering or leaving a tank penetration. The camera will fit in 12 inch diameter openings or larger.

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### 3 PREREQUISITES

3.1 VOSS / Cog Engineer: Verify that the following Hardware is ready for CFMT flush.  
Preparation and Inspection is done on a separate Work Request.

3.1.1 Remote Camera Assembly

3.1.2 Wall hangers.

3.1.3 Cleaning Fixture

3.1.4 12 - inch nozzle cleaner ( Will not be put in-cell unless needed.)

+ Complete *RAM* Date 4-30-02

3.2 Remote camera cable is in place per VFS 61978.

3.3 Perform pre job briefing.

+ Briefing Complete, *RAM* Date 5-1-02

### 4 MATERIAL SPECIAL TOOLS AND EQUIPMENT

4.1 Locate the blank flange for Nozzle F. This blank was used on Nozzle G earlier.

### 5 PERFORMANCE

NOTE: The Load In of the Remote Camera, Cleaning Fixture, and Hangers per SOP 03-13 must be completed prior to Task 5.8 of this Work Order

5.1 Sample CFMT per SOP 63-23. SAE to monitor sampling and provide AR. Record CFMT level and density readings here. If no chemical additions have been made to the CFMT since the last sample, this step may be skipped and marked "N/A". Label sample bottles "BF-V01-1" through "BF-V01-x"

Level	Reading	Density	Reading
LI-0148		DI-0149	
LI-0153		DI-0154	

Level	Reading	Density	Reading
LI-0156		DI-0157	
LIXX-0153		DIXX-0154	

+ Sampled by: N/A dfh Date: <sup>slw</sup>5-1-02 4

NOTE: Tasks 5.2 and 5.3 may be skipped if CFMT level is below 35 inches

- 5.2 Obtain Boil down Sheet from SAE.
- 5.3 Reduce CFMT volume to less than 35 inches per SOP 63-21
- 5.4 Cool CFMT to 35°C or less per SOP 63-21
- 5.5 Turn OFF ( or verify OFF) the CFMT Agitator at HIC-0101. Open the Agitator circuit breaker at 63-MCC-2 cubicle 3E and Caution Tag per SOP 00-05.
- 5.6 Remove CFMT to MFHT transfer jet, Nozzle "F", J-0115.
  - 5.6.1 close and caution tag valve 6-SH-GL-622 at penetration 4423.
  - 5.6.2 Remove jumper H-11-7361, steam to the transfer jet, 4423-V-001-F1. Place on floor for later re-use.
  - 5.6.3 Remove the slurry transfer jumper, H-11-7338, V-001-F2-V-011-EE. Place on floor for later re-use.

NOTE: CFMT will be opened to the cell. Vessel Vent pressure at PIC-1505 may be adjusted to maintain tank ventilation.

- 5.6.4 Remove CFMT nozzle F insert with jet. Spray with water to limit slurry spread, if needed.
- 5.6.5 Remove free nuts from the flange at a convenient window and place on floor for later re-use.
- 5.6.6 Inspect Nozzle F gasket to determine re-use. Gasket to be placed on CFMT nozzle "F".

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- 5.7 Using the crane camera, inspect CFMT Nozzle "F" for slurry caking on nozzle ID.
- 5.8 If needed, use the 12 inch flange cleaner to clean the flange. The objective is to avoid getting slurry on the Remote inspection camera.
- 5.8.1 Bring the 12 inch flange cleaner in cell
- 5.8.2 set on flange V-001- F
- 5.8.3 Operate the cleaner up and down with the Impact wrench to remove slurry
- 5.8.4 Remove cleaner from the nozzle. Store for potential reuse as authorized by the VOSS.

- 5.9 Record CFMT and MFHT Rad Probe readings from monitor at the Sample Station Window. *This step may be done at any time prior to the First Flush, Task 5.18 2P 5/1/02*

CFMT 200 R MFHT 250 R  
*South of CFMT Agitator* *South of MFHT Agitator*

by: *[Signature]*  
 Date: 5/1/02

NOTE: Tasks 5.10 through 5.13 may be done at any time before the start of the first CFMT inspection

- 5.10 Move the Transfer Cart with the Remote Camera, CFMT Cleaning Fixture, and hangers into the Vitrification Cell per SOP 63-56.
- 5.11 Install hangers on wall plugs in convenient locations in cell, to provide locations for the Camera and Cleaning Fixture.
- 5.12 Retrieve the Cleaning fixture and locate on one of the hangers.
- 5.13 Retrieve the Remote Camera, connect the camera to the camera cable at the Sample Station and operate the camera to verify that it functions. See Section 6.0 of this Work Order. Return to wall hanger if inspection is not immanent.

## FIRST FLUSH

- 5.14 Inspect CFMT interior through Nozzle F with the Remote Camera. See section 6.0.
- 5.15 Pick up Cleaning Fixture and bring to sample station. Place Nuts in nut cups.
- 5.16 Attach hose from wall plug, 1C11. to Cleaning Fixture Staubli connector

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- 5.17 Install Cleaning Fixture on CFMT, nozzle F. Bail in N-S orientation, with the spray nozzle pointing ~East
- 5.18 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55 - 60 minutes. ( 35 GPM  $\approx$  45 inches in CFMT; Spray rate is 26 minutes per cycle)
- 5.19 Loosen nuts and remove Cleaning Fixture from Nozzle F.
- 5.20 Bring Cleaning Fixture to Sample Station, remove nuts and disconnect the pressure hose. Hang Fixture from wall.
- 5.21 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window.

+ CFMT 170 R/hr MFHT 290 R/hr By: NDM Date: 5-2-02

- 5.22 Video inspection of the CFMT internals is to be performed per Section 6.0 of this Work Order.

## SECOND FLUSH

*delete steps FC 2*

- 5.23 Retrieve Nozzle F Blank Flange (Ref 4.0). Place nuts in Nut Cups at Sample Station. Install blank flange on CFMT Nozzle F.
- 5.24 Remove Caution Tag at Agitator breaker ( 63-MCC-2, cubicle 3 E), and close. Start CFMT Agitator at HIC-0101.
- 5.25 Obtain CFMT Boil Down Sheet from SAE.
- 5/2/02 5.26 Boil CFMT per SOP 63-21 to reduce level.
- 5.27 Spray demister pad for at least 10 minutes during boiling period per SOP 63-21.
- 5.28 Cool CFMT to less than 35 °C.
- 5.29 Turn OFF ( or verify OFF) the CFMT Agitator at HIC-0101. Open the Agitator circuit breaker at 63-MCC-2 cubicle 3E and Caution Tag per SOP 00-05.



*delete steps FC-2*

5.30 Loosen nuts and remove blank flange on CFMT nozzle F

5.31 Bring blank Flange to the Sample Station and remove nuts from nut cups.

5.32 Pick up Cleaning Fixture and bring to sample station. Place Nuts in nut cups.

5.33 Attach hose from wall plug, 1C11. to Cleaning Fixture Staubli connector

FC1>

5.34 Reinstall spray flange on F. ~~Bail in NE-SW orientation, with spray nozzle pointing south.~~ Orientation to be determined by VOSS for cleaning.

+ N-S \_\_\_\_\_ or NE-SW \_\_\_\_\_ VOSS \_\_\_\_\_ date \_\_\_\_\_

5.35 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55 - 60 minutes. ( 35 GPM  $\approx$  45 inches in CFMT; Spray rate is 26 minutes per cycle)

5.36 Loosen nuts and remove Cleaning Fixture from Nozzle F..

5.37 Bring Cleaning Fixture to Sample Station, remove nuts and disconnect the pressure hose. Locate Fixture on wall hanger.

5.38 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window.

+

CFMT \_\_\_\_\_ MFHT \_\_\_\_\_

By \_\_\_\_\_ / \_\_\_\_\_

5.39 Video inspection of the CFMT internals is to be performed per Section 6.0 of this Work Order.

*delete steps 5.23 to 5.39 Lock FC-2*

5.40 Remove gasket from Nozzle F and inspect at Maintenance Station. Replace, if necessary, with stock # 8022-007.0.

5.41 Retrieve CFMT to MFHT transfer jet from the apron, return Free Nuts to the flange, and install in Nozzle F.

5.42 Install CFMT jumpers:

FC#2

5.42.1 Install the slurry transfer jumper, H-11-7338, V-001-F2-V-011-EE.

5.42.2 Install jumper H-11-7361, steam to the transfer jet, 4423-V001-F1.

5.42.3 Remove CAUTION Tag and OPEN valve 6-SH-GL-622 at penetration 4423.

5.43 Remove Caution Tag at Agitator breaker ( 63-MCC-2, cubicle 3 E), and close. Start CFMT Agitator at HIC-0101.

5.44 Agitate the CFMT for a minimum of 60 minutes before sampling.

**FC1>**

5.45 Sample CFMT Sample CFMT per SOP 63-23. SAE to provide AR. Record CFMT level and density readings here. Normal Feed preparation samples may be used. If needed, label sample bottles "AF-V01-1" through "AF-V01-x"

Level	Reading	Density	Reading
LI-0148		DI-0149	
LI-0153		DI-0154	
LI-0156		DI-0157	
LIXX-0153		DIXX-0154	
Record Sample numbers _____ By _____ / _____			

5.46 Boil to reduce level in the CFMT as necessary

**6 OPERATION OF REMOTE CAMERA**

6.1 Verify / Set up camera controller at MWOA .

**NOTE:** Do not set the Remote Camera on the ground. The pan/ tilt mechanism will not support the camera. Always hang from the wall bracket.

6.2 Pick up Remote Camera from its wall bracket. Connect cables at the Sample Station if necessary.

6.3 Turn all units ON, check lights, camera motion and picture.

6.4 Set the Remote Camera in CFMT nozzle F and perform inspection of CFMT interior.

Video tape all inspections.

- 6.5 Return camera to the HOME position.
- 6.6 Carefully lift camera from the CFMT and return to its wall bracket.
- 6.7 Turn off camera electronics.
- 6.8 If the picture has deteriorated because of dirt, splash, or drips on the lense, bring the camera to the sample station for cleaning. The lense may be rinsed off with low pressure water.
- 6.9 If camera will not go to the HOME position, or it is stuck in position because the camera pan/ tilt cannot move the camera out of the way, proceed as follows:

NOTE: This recovery procedure will likely result in an in-operable camera.

- 6.9.1 Set camera down on its flange.
- 6.9.2 With the hook, engage the auxiliary bail on the remote camera flange.
- 6.9.3 Lift up on the bail until the entire camera begins to lift. The camera will drop off the pan/tilt assembly and hang by a tether.
- 6.9.4 Disengage from the auxiliary hook, and pick up the remote camera by the lifting bail.
- 6.9.5 Remove from the nozzle and bring a convenient window for storage. Camera recovery will be by separate work document.

- 6.10 Return Remote Camera to Wall Hanger for storage

## **7 POST MAINTENANCE TESTING**

No maintenance was done as a part of this Work Order

## **8 FINIAL CONDITIONS**

- 8.1 Store Spray Flange on wall hanger for further flushing of the CFMT and MFHT.
- 8.2 Remove hoses from cell wall to East Truck Lock.

FL#1

Project/Document ID:	CFMT WATER FLUSH	Rev.	0	FC#	0
Hazards Analyst:	Lawrence Petkus	Date:	March 26, 2002		

If the answer to any of the following questions in "Yes," consult the Department(s) indicated in the right-hand column for assignment of a Hazards Controls Specialist. Screening of a field change needs to address only the impact of the field change on the original Hazards Screen Checklist.

#### Cognizant Department Acronyms

EA - Environmental Affairs

FM - Facility Manager

FS - Field Services

IS&EM - Industrial Safety & Emergency Management

MPOSS - Main Plant Operations Shift Supervisor

RP - Radiation Protection

SA&I - Safety Analysis & Integration

USQD Orig - USQD Originator

WCS - Waste Characterization Services

### YOU SHALL CONSIDER BOTH NORMAL OPERATIONS AND PROCESS UPSET CONDITIONS.

Sheet 1 of 4

#	Yes	No	Potentially Hazardous Situations	Cog. Dept
<b>Radiological and Utilities</b>				
1a	✓		Will the work be performed in a radiologically posted area, i.e., radiological buffer area, radiation area, high radiation area, contamination area, etc.?	RP
1b		✓	Will the work involve high-activity sealed radioactive sources?	RP
1c		✓	Will the work involve any type of excavation or ground intrusion (e.g., driving posts, installing Hilti bolts)? (See WV-370; use Form WV-3521.)	RP, IS&EM
1d		✓	Will the work involve any type of construction, remodeling, or demolition?	RP, IS&EM, FS
1e		✓	Will the work be conducted on equipment containing radiation detectors?	RP
1f	✓		Will the work involve systems or vessels containing High-Level Radioactive Waste?	RP
<b>Chemical</b> Note: Obtain and review Material Safety Data Sheets for all chemicals involved.				
2a		✓	Will toxic, carcinogenic, flammable, or reactive chemicals be involved (either used, e.g., lead paint, PCBs, or generated, e.g., wastes)?	IS&EM
2b		✓	Will corrosive or oxidizing chemicals other than water be used or generated?	IS&EM
2c		✓	Will compressed or uncompressed gases in cylinders or bottles or cryogenics be involved, e.g., halon in cylinders?	IS&EM
2d		✓	Will the work involve piped-in chemicals, chemical sensors, or equipment or piping containing chemicals?	IS&EM
2e		✓	Will the work involve Trade/Brand name chemicals that do not list all the ingredients on the MSDS?	IS&EM
<b>Fire and Explosion</b>				
3a		✓	A. Will an open flame be used or produced?	IS&EM
3b		✓	B. Will a heat source greater than 100°C be used, produced, or located in close proximity to the work?	IS&EM
3c		✓	C. Will the work involve or require disabling a fire alarm or protection system?	IS&EM, MPOSS

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**YOU SHALL CONSIDER BOTH NORMAL OPERATIONS AND PROCESS UPSET CONDITIONS.**  
**Sheet 2 of 4**

#	Yes	No	Potentially Hazardous Situations	Cog. Dept
<b>Safety Basis</b> Note: This question is intended to trigger the early involvement of a USQD Originator and does <u>not</u> replace the USQP required by WV-914.				
4a		✓	Will the work involve any changes to facilities or procedures as described in a safety analysis or involve tests or experiments?	USQD Orig
<b>Emergency Preparedness</b>				
5a		✓	Will the work disable the 812-all-page system, the 222-plant-page system, or the sheltering alarm? (See SOP 00-04; use Form WV-2164.)	IS&EM, MPOSS
5b		✓	Will the work disable the meteorological tower or instrumentation?	IS&EM, MPOSS
5c		✓	Will the work block or render inaccessible any emergency access or emergency relocation routes or assembly areas?	IS&EM, MPOSS
5d		✓	Will the work affect the ability to respond to an emergency at an adjacent facility?	IS&EM, MPOSS
5e		✓	Will the work involve maintenance on or temporary or permanent relocation or disablement of emergency response equipment?	IS&EM, MPOSS
5f		✓	Will the work require the development of new or a change to existing emergency management postings, signs, or instructions (e.g., relocation route postings, assembly area maps, or ventilation or sheltering instructions)?	IS&EM
5g		✓	Will the work directly or indirectly affect the operability of the Emergency Operations Center's (EOC's) or the Technical Support Center's (TSC's) facility or equipment?	IS&EM, MPOSS
<b>Environmental, Waste Minimization, Pollution Prevention, and Regulatory</b>				
6a		✓	Will the work potentially result in any airborne releases (e.g., smoke, fumes, gases, exhaust, asbestos, dust, mercury, radioactive material)?	EA
6b		✓	Will the work potentially result in any liquid releases (e.g., water, petroleum products, mercury, chemicals) into the environment?	EA
6c		✓	Will the work produce any waste products (e.g., industrial waste, hazardous waste, mixed waste, radioactive waste) or involve the on-site or off-site transportation of any waste products?	WCS, EA
6d		✓	Will the work result in changes to the site storm water drainage system (e.g., changes to drainage pathways/patterns) or result in removal of established vegetative ground cover or exposure of soil to rain/snowfall?	EA
6e		✓	Will the work result in the siting of new structures, the relocation, demolition, or removal of existing structures, or modifications to existing structures (e.g., removing a tank or adding floor space to a building)?	EA
6f		✓	Will the work disable or be performed in close proximity to any environmental monitoring equipment (i.e., air monitors, groundwater wells, etc.)?	EA
6g		✓	Will the work require the disturbance of migratory bird nests or involve animal control?	EA
6h		✓	Will the work involve PCB items in use (e.g., transformers, capacitors, voltage regulators), PCB wastes, or the removal or abandonment of pipes that distribute natural gas?	EA
6i		✓	Will the work potentially affect wetlands, the flow of creeks or streams, or lake discharges?	EA

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**YOU SHALL CONSIDER BOTH NORMAL OPERATIONS AND PROCESS UPSET CONDITIONS.**  
**Sheet 3 of 4**

#	Yes	No	Potentially Hazardous Situations	Cog. Dept
<b>Equipment Status</b> * Facility Manager shall decide whether the Radiation and Safety Committee must review the proposed activity pursuant to WV-906.				
7a		✓	Will the work involve removing Process Safety Requirement (PSR) controlled equipment from service? (See WVDP-218.)	FM *
7b		✓	Will the work be performed on equipment identified in any Process Safety Requirement? (See WVDP-218.)	FM *
7c		✓	Will the work be performed on or disable Safety Class A, B, or C equipment? (See WVDP-204.)	FM *
7d		✓	Will the work be performed on ventilation systems or air effluent monitoring systems?	FM *
7e		✓	Will the work impair the operability of or have the potential to inadvertently actuate any alarm (e.g., fire detection, fire suppression, carbon monoxide, NOx, ammonia) system?	FM *, IS&EM, MPOSS
7f		✓	Will the work be performed on any standby or backup power supply? (See SOP 00-04, Appendix E.)	FM *
7g		✓	Will the work impair any breathing air supply or fresh air intake?	FM *
<b>Industrial Safety &amp; Emergency Management and Construction Safety</b>				
8a		✓	Will the work be performed on open-sided platforms or roofs more than 4 feet above ground level or more than 6 feet up on a ladder?	IS&EM or FS
8b		✓	Will the work require designing and/or building a permanent fall-protection system for other than field or construction use?	IS&EM
8c		✓	Will the work require burning, welding, or grinding or involve forms of high energy (e.g., electrical, steam, high-pressure air, or water)?	IS&EM
8d		✓	Will the work require entry into a confined space?	IS&EM
8e		✓	Will the work produce a breathing hazard (dust, fumes, solvent vapors, etc.) requiring use of respiratory protection for non-radiological purposes?	IS&EM
8f		✓	Will the work require handling asbestos or insulation-containing materials?	IS&EM
8g		✓	Will the work be conducted on or near live electrical components with more than 50 volts alternating current (VAC)?	IS&EM
8h		✓	Could the work or job location result in "heat" or "cold" injuries such as heat exhaustion, frost bite, or hypothermia?	IS&EM
8i		✓	Will the work produce noise greater than 85 dBA at the job site or at other locations?	IS&EM
8j		✓	Will the work produce paint or chemical fumes at the job site or at other locations?	IS&EM
8k		✓	Will the activity involve manual lifting of materials, power tools, vibrating equipment, or repetitive motions that could cause musculoskeletal injury?	IS&EM
8l	✓		Will the work involve hoisting and/or rigging activities?	IS&EM or FS
8m		✓	Will the work result in the temporary or permanent routing of utilities (e.g., electricity, air, gas, steam, water, gasoline, fuel oil) that may become damaged as a result of exposure to personnel or vehicular traffic?	IS&EM

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**YOU SHALL CONSIDER BOTH NORMAL OPERATIONS AND PROCESS UPSET CONDITIONS.**  
**Sheet 4 of 4**

#	Yes	No	Potentially Hazardous Situations	Cog. Dept
8n		✓	Will the work result in the temporary or permanent routing of utilities (e.g., electricity, air, gas, steam, water, gasoline, fuel oil) that may unintentionally become covered in some manner by material (e.g., snow, water, sand, dirt, gravel, mud, boxes, containers)?	IS&EM
8o		✓	Will the work breach a system known or suspected to contain hazardous materials (e.g., mercury) or energy sources (e.g., steam, electricity)?	IS&EM
8p		✓	Will the work be performed in an area where previous spills of hazardous materials (e.g., mercury) are known or suspected to have occurred?	IS&EM
8q		✓	Will the work involve conditions where the unexpected energization or startup of machines or equipment or the release of stored energy could cause injury or death to personnel? (See SOP 00-04.)	FM

**Nuclear Criticality**

9a		✓	Will the work involve or potentially involve greater than 1 gram of fissionable material (e.g., U-233, U-235, Pu-239, Pu-241)?	SA&I
9b		✓	Will the work be conducted in or Impact the FRS's Fuel Storage Pool (FSP) or Cask Unloading Pool (CUP) while fuel is in transport to, in storage in, or being handled in the CUP?	SA&I
9c		✓	Will the work involve or potentially involve a structural or dimensional change to a TRU or a suspect-TRU waste container?	SA&I
9d		✓	Will the work impact any fissionable material contained in the GPC, PMC, XC-1, or XC-2?	SA&I

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Pre-Job Briefing ChecklistWork Instruction No.: VFS 63499Date: 5-1-02Title: CPMT WATER FLUSHAttendance: (Print Name/Signature)Richard G. Myers

Responsible Work Group Supervisor (WGS) or designee

Assigned Workers (Print Name/Signature):

D. Duke Mark

A.S. MORGAN 1/28/02

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

☐ \_\_\_\_\_  
(Work Instruction Originator)☐ \_\_\_\_\_  
(Technical Specialist)☐ \_\_\_\_\_  
(IH&S Engineer)☐ \_\_\_\_\_  
(IH&S Field Representative)☐ \_\_\_\_\_  
(Radiological Engineer)☐ \_\_\_\_\_  
(Radiological Control Technician)☐ \_\_\_\_\_  
(facility designee)☐ \_\_\_\_\_  
( )☐ \_\_\_\_\_  
( )☐ \_\_\_\_\_  
( )Section A: ALARA TRIGGER LEVELS

Check all that apply. If any ALARA Trigger levels are exceeded (any "yes" checked below), perform Section B and Section C. If no ALARA Trigger levels are exceeded (all "no" below), perform Section B only.

YES NO

[ ] [ ] Estimated individual or collective dose greater than 100 person-mrem.

[ ] [ ] Predicted airborne radioactivity concentrations in excess of one Derived Air Concentration (DAC) to a worker taking into account assigned respiratory protection factors.

[ ] [ ] Work area removable contamination levels that exceed 100 times the releasable contamination levels in table 2-2 of WVDP-010.

[ ] [ ] Entry into areas where dose rates exceed 1.0 rem/hour.

[ ] [ ] Potential releases of radioactive material to the environment (onsite or offsite) that could produce a concentration greater than or equal to ( $\geq$ ) one Derived Concentration Guide (DCG) or other limits for an individual radionuclide or  $\geq$  one for the sum of the fractional DCG for a mixture of radionuclides per DOE Order 5400.5.

[ ] [ ] Potential for significant radiological exposures.



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**Section B: ALARA AND NON-ALARA JOBS**

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1. ☒ Yes Ensured scope of work is understood?  
\_\_\_\_\_  
\_\_\_\_\_
2. ☒ Yes Ensured identified worker Health & Safety training requirements have been verified by reviewing the workers' Health & Safety Training Tracking Badges?  
\_\_\_\_\_  
\_\_\_\_\_
3. ☒ Yes Ensured hazards and hazard controls, including LO/TO are understood?  
☐ N/A  
\_\_\_\_\_  
\_\_\_\_\_
4. ☐ Yes Discussed applicable permits (e.g., Ground Disturbance Permit, etc. )?  
☒ N/A  
\_\_\_\_\_  
\_\_\_\_\_
5. ☒ Yes Discussed facility/area conditions including impact of other work in the area?  
☐ N/A  
\_\_\_\_\_  
\_\_\_\_\_
6. ☒ Yes Discussed coordination with support groups including individual assignments?  
☐ N/A  
\_\_\_\_\_  
\_\_\_\_\_
7. ☒ Yes Discussed all steps including "skill of craft", completion criteria, and cleanup?  
☐ N/A  
\_\_\_\_\_  
\_\_\_\_\_
8. ☒ Yes Identified safe stopping conditions and hold points for necessary breaks in work?  
☐ N/A  
\_\_\_\_\_  
\_\_\_\_\_
9. ☐ Yes Reviewed Emergency Response actions?  
☒ N/A  
\_\_\_\_\_  
\_\_\_\_\_
10. ☐ Yes Identified and verified availability of required waste containers?  
☒ N/A  
\_\_\_\_\_  
\_\_\_\_\_

## Section B (continued)

11. ☒ Yes Discussed "Lessons Learned" from recent events? If "Yes", list below.  
☒ N/A SPRAY NOZZLE DESIGN INADEQUATE, ENGINEERING  
NOTIFIED PM 5-1-02
12. ☐ Yes Discussed PPE and IWP requirements?  
☒ N/A
13. ☐ Yes Applicable MSDS's for chemicals and hazardous materials available and  
☒ N/A understood?
14. ☐ Yes Radiation Protection discussed radiation conditions and RWP requirements?  
☒ N/A
15. Additional comments: (Use additional sheets as necessary)

Pre-Job Briefing Prepared By:

Responsible WGS:

R. G. Means

Print Name



Signature

5-1-02

Date

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**Section C: ALARA JOBS ONLY**

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1. Pre-Job Dose Estimate \_\_\_\_\_ person-mrem  
( $<100$  person-mrem or total rom Form WV-2481)
2. ☐ Yes Discussed the following radiological condition of the workplace?  
Contamination Levels: \_\_\_\_\_  
Penetrating Rad. Levels: \_\_\_\_\_  
Non-Penetrating Rad. Levels: \_\_\_\_\_  
Hot-Spots: \_\_\_\_\_  
Low Dose "Stand By" Area: \_\_\_\_\_  
\_\_\_\_\_
3. ☐ Yes Discussed Radiological Control Requirements listed below?  
Stay Time and Basis (time, DRD reading, etc.): \_\_\_\_\_  
Special Dosimetry: \_\_\_\_\_  
\_\_\_\_\_
4. ☐ Yes Discussed Radiologically Limiting Conditions (such as contamination or radiation levels) that may void the RWP?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. ☐ Yes Discussed Radiological Control Hold Points?  
☐ N/A \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. ☐ Yes Discussed work place preparation such as those listed below?  
Power and Lighting Requirements: \_\_\_\_\_  
Ventilation Requirements: \_\_\_\_\_  
Breathing Air Requirements: \_\_\_\_\_  
Pre-staged Tools: \_\_\_\_\_  
Pre-staged Equipment: \_\_\_\_\_  
\_\_\_\_\_
7. ☐ Yes Discussed Pre-Assembly Requirements listed below?  
☐ N/A Equipment Requiring Assembly Prior to Entering Radiological Area: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. ☐ Yes Discussed Temporary Shielding Requirements?  
☐ N/A \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**Section C: ALARA Jobs ONLY (continued)**

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9. ☐ Yes Discussed Waste Minimization Measures?☐ N/A10. ☐ Yes Discussed Completion Criteria (required post-decon rad levels, post-maintenance equipment operational checks, etc.)?11. ☐ Yes Discussed Contingency Plans to Anticipate Difficulties (actions and equipment required to correct probable difficulties)?

12. Other/Comments

Pre-Job Briefing Prepared By:

Responsible WGS:

Print Name

Signature

Date

Pre-Job Briefing Approved By:

Rad. Control Technician:

## Pr - Issuance Walkdown Checklist

Work Instruction Number: VFS-63499-W.O.Title: CFMT WATER FLUSHWGS: RICK MEYERS

(Print)

Walkdown Assigned To: FRANK ANDERSON

(Print)

STEPS	YES	NO	NA
Adequate controls (IWP, RWP, LO/TO, Equip. Release Form, etc.) in place?	X		
Sequence of steps correct & exceptions clearly understood?	X		
The level of detail is appropriate for the intended work group?	X		
Steps clearly identify the action to be taken?	X		
All equipment/components affected by work document are labeled by either temporary or permanent labels?	X		
Equipment/Component identification matches field labeling?	X		
Chemicals used are identified and MSDS's included?			X
Required special tools and materials identified?	X		
Isolation points identified and understood?	X		
Limitations are expressed quantitatively?	X		
Sign-offs identified, & space for signature & data recording provided?	X		
References to other documents necessary, clear, & available?	X		
Required drawings/sketches are included and adequate?	X		
Attachment section & step numbers match the work instruction?	X		
Units of measure & ranges used in attachments, match the work instruction & instrumentation?	X		
Warnings, Cautions, & Notes do NOT contain action steps?	X		
Warnings, Cautions, & Notes are clearly identifiable & precede the steps to which they apply?	X		
Interface with system status, & steps by operating personnel understood?	X		
Interface with support groups including hold-points & responsibilities understood?	X		
Post maintenance testing identified & acceptable results indicated?			X
Do any operator aids need to be updated to reflect the procedure change?			X

Comments: (Steps marked "No" require comment. Use additional sheets as necessary.)