

1. Work Control Number
VFS-65670

CLOSED

Signature **S S U E D** Date/Time

Lawrence Petkus 5/10/02

Frank Arduis 5/10/02

WORK CONTROL CENTER

2. Originator
LAWRENCE PETKUS /WV-48 /4402
 Print Name/MS/Ext
Lawrence Petkus 5/10/02
 Signature/Date

3. Peer Review
SPANC 48
 Print Name/MS

4. Charge No. (Labor) (M & S)
 WH: 1210006 /NH

5. Equipment I.D.
 Eqpt/Instr/Valve # **63V-001**

6. Performance Code System Equipment
 A. Special Preparation 0 May be shut down 0 May be shut down
 B. X Normal Preparation 1 Must be shut down 1 X Must be shut down
 2 X Must be operating 2 Must be operating
 3 NA 3 NA
8/5/28/02

7. Estimated/Actual Hours
 SUPPORT GROUP EST. ACTUAL
 VIT Ops 120 120
 Maint
 QA
 RC Tech

8. System:
63I

9. Location:
MNOA

10. Dwg/Sketch:
 Yes No X
 Attached

11. Docs./Dwgs Rq. Revs:
 TM#
 ECN# NA X

12. Profile No.
N/A

13. Document Ref. No.
N/A

14. Quality Level
C

15. Safety Class
N

16. ALARA Trigger Level(s) [WV-984, Sec. 7.8.3] Exceeded Yes No X
 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 ARDUIS** DATE: **5-17-02**

26. Req'd. Finish Date:
June 12, 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 **LAWRENCE PETKUS** **5/10/02**
 (USQD Originator or Safety Analyst Signature) (Printed) (Date)
 If Yes: attach the completed USQD Form WV-3306, Sections V, VI, and VII."

29A. HLW - Does W.O. provide instr. For Maint., Ops. Support etc. for Vit Sys 63I, 63J, L, K, 63P, 68, 69A, B or 200A, B Yes X No
 B. Is Maint/support/testing/R&D issue listed in WVPD-200 Part IV HLW activities list? Yes X No
 C. Is the activity designated HLW? Yes No X

30. Type of work:
 Fab Test
 Install Calib
 Mod/Repair X Other
 Insp

31. Title:
CFMT WATER FLUSH NUMBER 2

32. Resp. W/MS Work Group:
VITRIFICATION OPERATIONS

33. WGS (Print Name): **KEVIN SLONSKI**
 WGS *Kevin Slonksi* (Walkdown Sat)

34. Work Group Manager:
JOSEPH CURCIO

35. Review Walkdown Approvals (Signature/Date)
 CM *Frank Arduis 5/10/02* MS-48 IH&S *John Sweeney 5/10/02* MS-AA16
 Maint *N/A* MS- QA *Donald W. Smith 5/10/02* MS-013
 RE *Eric A. Zamboni 28 May 02* MS-26 Eng *N/A* MS-
 FM *MS 6/3/02* MS- EA *Jerald Rock 5/28/02* MS-WU-50
 WMS *N/A* MS- Ori *Lawrence Petkus 6/3/02* MS-78
 SAE *Jeffery Linn 5/28/02* MS-

36. Changed during review cycle Keroute to:
 MS-
 MS-
 MS-
 MS-
 MS-

37. Brief Information of Work Completion for History Record
 () Yes
 (X) No (Check One)

 (Attach additional pages as necessary)

38. Documentation of Work Completion
Lawrence Petkus **6-27-02**
 Work Group Supervisor Date
Lawrence Petkus **6-27-02**
 Originator Date

Caro

CFMT WATER FLUSH NUMBER 2

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. An agglomeration of slurry has been identified at nozzle "U" from previous flushes and inspection.

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 to MFHT transfer jet and jumpers must be removed to provide access to Nozzle F for cleaning and inspection. The tank will be flushed with demineralized water at high pressure, approximately 1000 psig, using a Gamajet® V self rotating spray nozzle. Following the water flush, the CFMT will be inspected through the use of a remote in-cell CCTV camera (Rees). After inspection additional cleaning may be done through nozzle V, if necessary. 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 with out damage. The Assembly must be hung by its wall bracket, or suspended from the crane or the flange.
- 2.5 A dynamometer will be used with the Remote Camera to indicate any binding or pull on the camera assembly.
- 2.6 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.

2.7 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. See Attachment A.

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 CFMT 12 inch Cleaning Fixture

3.1.2 3" PUREX Cleaning Fixture (Will not be put in-cell unless needed for cleaning at CFMT Nozzle V.)

3.1.3 12 - inch nozzle cleaner (Will not be put in-cell unless needed.)

+ Complete *[Signature]* Date 6-13-02

3.2 Perform pre job briefing.

+ Briefing Complete, *[Signature]* Date 6-13-02 / 6-14-02

4 MATERIAL SPECIAL TOOLS AND EQUIPMENT

4.1 Locate the blank flange for Nozzle F. This blank was used during CFMT flush #1..

5 PERFORMANCE

5.1 Sample CFMT per SOP 63-23. SAE to 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". Record level data and sample numbers if substitute samples are used, else, label sample bottles "BF-V01-1" through "BF-V01-x"

Level	Reading	Density	Reading
LI-0148	36.9	DI-0149	1.155
LI-0153	37.3	DI-0154	1.152
LI-0156	37.7	DI-0157	1.169
LIXX-0153	32.4	DIXX-0154	1.159
Record sample numbers <u>76-SF-1-8</u>		By <u>T.P. Shaw</u>	Date <u>5-28-02</u>

76-WH-42-60

4-13-02

+ Sampled by: D. Schwke Date: 5-3-02 (WI-21-40)

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 the jet /insert 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".
- 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.

FIRST FLUSH

NOTE: Tasks 5.9 and 5.10 may be done in any order.

- 5.9 Record CFMT and MFHT Rad Probe readings from monitor at the Sample Station Window.

+ CFMT 23.5 R/hr MFHT 80.0 R/hr By *BM* Date 6/14/02

- 5.10 Inspect CFMT interior through Nozzle F with the Remote Camera. See section 6.0.
- 5.11 Pick up Cleaning Fixture and attach hose from wall plug, 1C11. to Cleaning Fixture Staubli connector
- 5.12 Install Cleaning Fixture on CFMT, nozzle F. Bail in E-W orientation, with the spray nozzle pointing ~South,(toward the Agitator).
- 5.13 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 ≈ 45 inches in CFMT; Spray rate is 26 minutes per cycle)

5.14 Remove Cleaning Fixture from Nozzle F.

5.15 Bring Cleaning Fixture to Sample Station and disconnect the pressure hose. Hang Fixture from wall.

NOTE: Tasks 5.16 and 5.17 may be done in any order.

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

+ CFMT 15.0 MFHT 96.8 By: rad Date: 6-14-02

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

SECOND FLUSH

5.18 Retrieve Nozzle F Blank Flange (Ref 4.0). Place nuts in Nut Cups at Sample Station. Install blank flange on CFMT Nozzle F.

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

5.20 Obtain CFMT Boil Down Sheet from SAE.

5.21 Boil CFMT per SOP 63-21 to reduce level.

5.22 Spray demister pad for at least 10 minutes during boiling period per SOP 63-21.

+ Completed Flush D. Schaefer Date 6-17-02

5.23 Cool CFMT to less than 35 °C.

5.24 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.

- 5.25 Loosen nuts and remove blank flange on CFMT nozzle F
- 5.26 Bring blank Flange to the Sample Station and remove nuts from nut cups.
- 5.27 Pick up Cleaning Fixture and bring to sample station.
- 5.28 Attach hose from wall plug, 1C11. to Cleaning Fixture Staubli connector
- 5.29 Reinstall spray flange on F. Bail in NE - SW orientation, with spray nozzle pointing ~ south- east.
- 5.30 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 ≈ 45 inches in CFMT; Spray rate is 26 minutes per cycle)
- 5.31 Remove Cleaning Fixture from Nozzle F..
- 5.32 Bring Cleaning Fixture to Sample Station and disconnect the pressure hose. Locate Fixture on wall hanger.

NOTE: Tasks 5.33 and 5.34 may be done in any order.

5.33 ~~Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station~~ K8J 6-18-02
 Window. K8J
6-18-02

+

GFMT _____ MFHT _____ K8J 6-18-02
 By _____ / _____ K8J 6-18-02

* - CURRENT EQUIPMENT NOT OPERABLE, COG ENGINEER DETERMINED THAT ~~CFMT~~ K8J 6-18-02
 INFORMATION IS NOT NECESSARY TO COMPLETE THIS WORK ORDER. K8J 6-18-02

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

Third Flush (Decision Point)

- 5.35 Is Third flush required? Based on the above video inspection, Select one:
- A. Flushing Complete; Go to Task 5.48 for Reassembly and Sampling 20.
 - B. Repeat flush from Nozzle "F"; Repeat the Second Flush, tasks 5.18 to 5.34, and then Go to Task 5.48. _____.
 - C. Flush CFMT from Nozzle "V" Continue below.

+ By Cog Engineer *Lawrence R. R. R.* Date 6/18/02

- 5.36 Obtain CFMT Boil Down Sheet from SAE.
- 5.37 Boil CFMT per SOP 63-21 to reduce level.
- 5.38 Cool CFMT to less than 35 °C.
- 5.39 Remove level probe from CFMT Nozzle "V".
- 5.39.1 "Drop" level probe # 3 from the Auto blow down cycle and "Discard" from the level average at HIC-0160 and HIC-0153, respectively.
 - 5.39.2 Shut off air flow to level probe #3 at HIC-0153, HIC-0154, and HIC-0155.
 - 5.39.3 Close valves and caution tag per SOP 00-05.
 - 6-IA-GA-1031 Pene 2821(B)
 - 6-IA-GA-1033 Pene 2821(A)
 - 6-IA-GA-1035 Pene 2821 (C)
 - 5.39.4 Remove Level probe jumper 2821 -V-001-V, H-11-7753.
 - 5.39.5 Lay down jumper for reuse.
- 5.40 The 3 inch PUREX Cleaning Fixture will be brought in-cell by other work documents, retrieve the Cleaning Fixture from the cart and attach the hose from wall plug 1C11, to the Fixture Staubli connector.
- 5.41 Install the PUREX Cleaning Fixture in CFMT nozzle V.
- 5.42 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 ≈ 45 inches in CFMT; Spray rate is 26 minutes per cycle)
- 5.43 Remove Cleaning Fixture from Nozzle V.
- 5.44 Bring Cleaning Fixture to Sample Station and disconnect the pressure hose. Set

fixture on floor..

NOTE: Tasks 5.45 and 5.46 may be done in any order.

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

+ CFMT 8.5 R
on nozzle "K" MFHT ^{new 6-25-02} 0.2 R
134 R/hr By: [Signature] Date: 6-25-02

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

5.47 Return level probe in CFMT Nozzle V to service:

5.47.1 Install Level probe jumper 2821 -V-001-V, H-11-7753 in CFMT nozzle V.

5.47.2 Open valves and remove caution tag per SOP 00-05.

6-IA-GA-1031 Pene 2821(B)

6-IA-GA-1033 Pene 2821(A)

6-IA-GA-1035 Pene 2821 (C)

5.47.3 Open air purges, to level probe #3 at HIC-0153, HIC-0154, and HIC-0155.

5.47.4 Re-enable level probe # 3, "Keep" the probe in the Auto blow down cycle and "Use" the level in the average at HIC-0160 and HIC-0153, respectively.

Reassembly and Sampling

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

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

5.50 Install CFMT jumpers:

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

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

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

5.51 Remove Caution Tag at Agitator breaker (63-MCC-2, cubicle 3 E), and close. Start ✓

CFMT Agitator at HIC-0101.

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

5.53 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	69.4	DI-0149	1.085
LI-0153	69.5	DI-0154	1.082
LI-0156	70.0	DI-0157	1.100
LIXX-0153	64.1	DIXX-0154	1.089
Record Sample numbers 77 WH 1-6 By <i>T. P. Shaw</i> 16/25/02			

5.54 Boil to reduce level in the CFMT as necessary

6 OPERATION OF REMOTE CAMERA

6.1 Verify / Set up camera controller at MWOA . See attachment A for picture of camera controller with "HOME" settings.

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. USE A DYNAMOMETER WITH THE REMOTE CAMERA FIXTURE TO PROVIDE INDICATION OF BINDING. Connect cables at the Sample Station if necessary.

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

NOTE: Cog. Engineer to be present for video inspections.

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

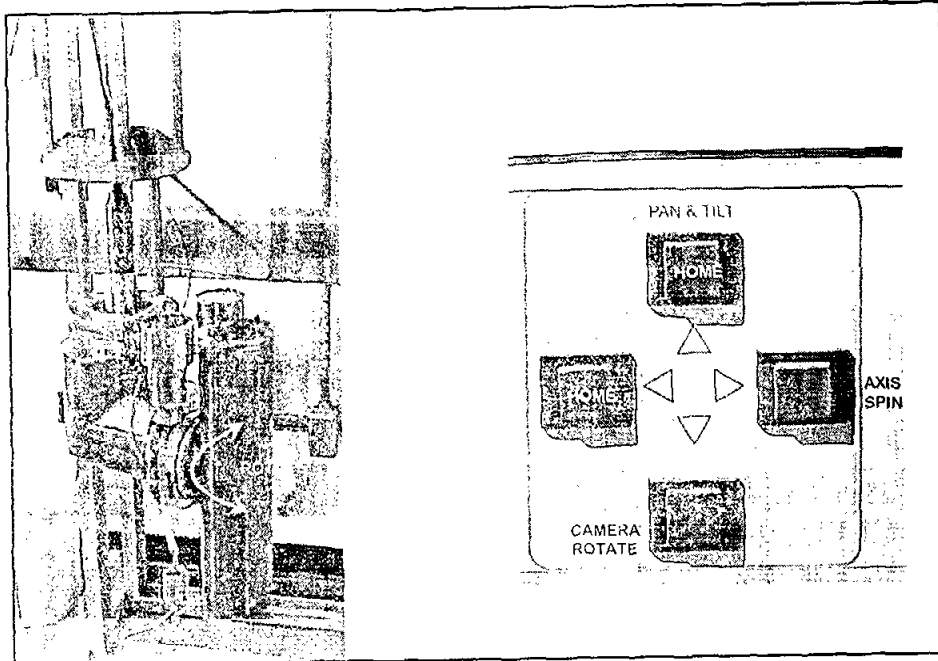
7 POST MAINTENANCE TESTING

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.

ATTACHMENT A
REMOTE CAMERA CONTROLLER



Remote camera movement and Home position

Project/Document ID: CFMT WATER FLUSH NUMBER 2	Rev. 0	FC# 0
Hazards Analyst: Lawrence Petkus	Date: May 10, 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	RP - Radiation Protection
FM - Facility Manager	SA&I - Safety Analysis & Integration
FS - Field Services	USQD Orig - USQD Originator
IS&EM - Industrial Safety & Emergency Management	WCS - Waste Characterization Services
MPOSS - Main Plant Operations Shift Supervisor	

YOU SHALL CONSIDER BOTH NORMAL OPERATIONS AND PROCESS UPSET CONDITIONS.
Sheet 1 of 4

#	Yes	No	Potentially Hazardous Situations	Cog. Dept
Radiological and Utilities				
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
Chemical 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
Fire and Explosion				
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
Safety Basis				
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
Emergency Preparedness				
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
Environmental, Waste Minimization, Pollution Prevention, and Regulatory				
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
Equipment Status * 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 *
Industrial Safety & Emergency Management and Construction Safety				
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-Issuance Walkdown Checklist

Work Instruction Number: VFS-65070-WD

Title: CR-9 WATER PUMP #2

WGS: KEVIN SLOMBA
 (Print)

Walkdown Assigned To: FRANK ANDUS
 (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? #1		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.)

#1 THE POSITION OF THE SPRAY HEAD IN N-S ORIENTATION EAST S.12 AND NE-SW ORIENTATION SOUTH S.29 CAN'T BE ACHIEVED, WITH HOLES IN SPRAY HEAD TANK FLANGE.

.. change orientation bail E-W head ~ South
 NE-SW ~ S-E

Pre-Job Briefing Checklist

Work Instruction No.: WO- WFS-65670

Date: 6-12-02

Title: CFMT flush #2

Attendance: (Print Name/Signature)

M.V. Walker

Responsible Work Group Supervisor (WGS) or designee

Assigned Workers (Print Name/Signature):

G. Streczywik / [Signature]

D. Schunke / [Signature]

T. Ploetz / [Signature]

J. Kalina / [Signature]

(Work Instruction Originator)

(IH&S Engineer)

(Radiological Engineer)

(facility designee)

()

(Technical Specialist)

(IH&S Field Representative)

(Radiological Control Technician)

()

()

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

- [] [x] Estimated individual or collective dose greater than 100 person-mrem.
- [] [x] Predicted airborne radioactivity concentrations in excess of one Derived Air Concentration (DAC) to a worker taking into account assigned respiratory protection factors.
- [] [x] Work area removable contamination levels that exceed 100 times the releasable contamination levels in table 2-2 of WVDP-010.
- [] [x] Entry into areas where dose rates exceed 1.0 rem/hour.
- [] [x] 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.
- [] [x] Potential for significant radiological exposures.

Section B: ALARA AND NON-ALARA JOBS

- 1. Yes Ensured scope of work is understood?
Sat- covered with work order review
- 2. Yes Ensured identified worker Health & Safety training requirements have been verified by reviewing the workers' Health & Safety Training Tracking Badges?
Sat
- 3. Yes Ensured hazards and hazard controls, including LO/TO are understood?
 N/A Lo/to per work order
- 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 facility in idle
- 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 Crane ops per 63-47
- 8. Yes Identified safe stopping conditions and hold points for necessary breaks in work?
 N/A If any problems notify Voss
- 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 _____


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: M.V. Walker  6-12-02
Print Name Signature Date