

<p style="text-align: center;"><b>WO-120814563 DCN-23874 Stage 1</b></p>	<p style="text-align: center;"><b>Attachment A Remove /Delete old equipment from the Pit side on the Fuel Transfer System</b></p>	<p style="text-align: center;"><b>SQN-1-CVR-079-0005 Aux Building Fuel Transfer Canal</b></p>
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**SCOPE:**

The Scope of this work order is Remove/Delete Old Equipment from the Pit Side of the Fuel Transfer System to make room for the New Equipment for Fuel Transfer System.

**1.0 EQUIPMENT CATEGORY:** SR QR NQR

**[1.1]** See Work Order form and associated asset form for equipment classification.

**[1.2]** Materials identified for Safety Related (SR) end use applications shall be QA Level 1 or QA Level 2. QA Level 3 may be used if the commodity is listed in NPG-SPP-04.4, "Material Issue, Control, and Return," Appendix C QA III, Exemption List and for EQ components is also listed in App. A, "10CFR50.49 Tagging Exemption List". All other QA Level 3 material for SR use shall be reviewed and approved by the Procurement Engineering Group (PEG).

Materials identified for Quality Related (QR) end use applications shall be as stated per NEDP-4. QA level 0 materials may be used on equipment requiring only position retention (Q10) per Appendix E, Page 6, Note 2 of NEDP-4

**[1.3]** Refer to MMDP-1 and NEDP-4 for material requirements

**[1.4]** This work order does [ ] / does not [ X ] affect maintenance rule equipment. (Reference: NPG-SPP-03.4).

If YES, list affected Equipment: \_\_\_\_\_  
 \_\_\_\_\_

**[1.5]** Is work performed in this Work Order EQ (Environmental Qualification) Related?

YES NO

If YES, the Responsible Engineer shall ensure that all Environmental Qualification Maintenance Work Records are included as applicable and processed in accordance with NPG-SPP-09.2.

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**2.0 REQUIREMENTS:**

- [2.1] All Persons working in this work order SHALL make entry into the "WORK ORDER SIGNATURE AND INITIALS SHEET".
- [2.2] Maintain Configuration Control per MMDP-1 and/or NPG-SPP-10.1.
- [2.3] Inclusion of FME discussion during pre-job briefings.
- [2.4] **ENSURE** housekeeping requirements for the area(s) and equipment/component(s) affected by this WO are addressed in accordance with NPG-SPP-01.3. **DOCUMENT** housekeeping activities on attachment "H"
- [2.5] The circle/slash place keeping method SHALL be used for all work performed in this work order.
- [2.6] If directed by the work supervisor, WO steps may be re-performed and worked out of sequence unless the WO package contains a specific requirement that steps be performed in sequence.
- [2.7] Torque all non-electrical and/or electrical connections per MMTP-104 unless otherwise specified or directed by Drawings, Vendor Manuals, Maintenance Instructions, Modification Instructions or other design output documents. The good bolting practices, methodology and guidance in MMTP-104 shall replace all previous generic tightening instructions and requirements (i.e. snug tight) provided in implementation documents such as maintenance instructions, modification instructions, etc.
- [2.8] Extreme caution should be exercised while working on or near permanent plant equipment or panels to prevent inadvertent actuation or isolation signals.
- [2.9] **ENSURE** appropriate work permits are obtained as required to support work activities per 0-TI-215.

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**2.0 REQUIREMENTS: (continued)**

- [2.10] Throughout this instruction, where an IF/THEN statement exists, the step should be N/A if the stated condition does not exist otherwise N/A's shall be performed per MMDP-1.
- [2.11] IF this WO requires breaching of hazard barriers, (doors, hatches, penetration seals, etc.) ensure requirements of NPG-SPP-18.4.6 are implemented.
- [2.12] OBTAIN impairment permit(s) prior to breaching any fire boundary to route conduits. Refer to NPG-SPP-18.4.6 for Fire Impairment Permits. All conduits passing through fire barriers to be sealed per MAI-3.4A , QC inspection is required. Penetrations that pass into secondary containment may also require Secondary containment breaching permit in accordance with 0-TI-412.
- [2.13] **All fire Impairments have a 30 day expiration. Any extensions to fire impairment permits will be requested prior to expiration. Any fire impairment permit extensions made after 30 days will require a PER to be written.**
- [2.14] Responsible craft shall notify fire operations group when fire barriers/penetrations have been breached.
- [2.15] Responsible craft **SHALL, USE** TVA-TSP-18.006 (TVA Safety Manual, Safety Procedure 6) and the Job Safety Analysis Planning Guide to determine if a Job Safety Analysis (JSA) is required.
- [2.16] The Craft Foreman **SHALL, PERFORM** a pre-job briefing to familiarize those involved with the scope and requirements of this work order, prior to starting work. Refer to TVA form 40897 for the TVA Pre-job Briefing Checklist.

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**2.0 REQUIREMENTS: (continued)**

**[2.17]** The following is a list of procedures. Those associated with the performance of this work order are indicated with a mark ( X ).

**Note:** There are numerous other "programmatic" procedures that are applicable to all work orders (e.g. NPG-SPP-31.1, "Document Control", etc.). They are not listed. This list is intended to specify only those procedures which are uniquely applicable to this work order.

**Note:** The following procedures are for reference only. Additions or deletions of the below listed procedures does not require revision to this work order. Field engineer shall initial and date all changes.

X	MMDP-1	Maintenance Management System
X	MMTP-104	Guidelines & Methodology for Assembling & Tensioning Threaded Connections
X	NPG-SPP-06.9.3	Post-Modification testing
	NPG-SPP-05.4	Chemical Traffic Control
X	NPG-SPP-01.3	Housekeeping
X	NPG-SPP-06.4	Measuring and Test Equipment
X	NPG-SPP-06.5	Foreign Material Control -- Level Number: 1
X	NPG-SPP-09.17	Temporary equipment control
X	NPG-SPP-22.206	Verification Program
X	NPG-SPP-18.4.6	Control of Fire Protection Impairments
X	NPG-SPP-06.9.1	Conduct of testing
	NPG-SPP-18.4.6	Control of fire protection impairments
	NPG-SPP-18.4.7	Control of transient combustibles
X	NPG-SPP-18.4.8	Control of ignition sources (hot work)
X	NPG-SPP-06.1	Work Order Process
	NPG-SPP-06.9.1	Conduct of Testing
X	NPG-SPP-07.3	Work Activity Risk Management Process
X	NPG-SPP-07.6	NPG Work Control Planning Procedure
	NPG-SPP-09.2	Equipment Environmental Qualification (EQ) Program
X	NPG-SPP-10.2	Equipment Clearance Program
	G-38	Installation, Modification, and Maintenance of insulated cables rated up to 15000 volts
	G-40	Installation, Modification, and Maintenance of Electrical Conduit, Cable Trays, Boxes, Containment Electrical Penetrations, Electrical Conductor Seal Assemblies, Lighting and Miscellaneous Systems.
X	MMDP-10	Brazing and Welding
	M/AI-11.1	Piping/Tubing Supports
	M/AI-11.3	Piping Installation
X		Framatome Installation Manual
X	-	TVA Safe Work Requirements Manual

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### 3.0 PRECAUTIONS AND LIMITATIONS:

- [3.1] NPG-SPP-18.4.9 and TVA Safe Work Requirements Manual requirements for “Working on / or Near Energized Electrical Equipment” SHALL be met during the performance of this work.
- [3.2] If this WO is performing work inside energized panels or equipment ensure energized terminal blocks/terminal points are protected against inadvertent shorting by tools, loose parts, loose cable ends, or personal items etc. to prevent personal injury, damage to plant equipment, and or inadvertent equipment activation. A JSA will be required for this activity. **Reference** TVA-TSP-18.1022 for guidance in developing the JSA.
- [3.3] **\*\*Use the QV&V process and exercise \*STAR\* during performance of this work order!!\*\***
- [3.4] Exercise care not to bump or jar panels in any Unit Board to prevent accidental relay operation.
- [3.5] All electrically powered hand tools SHALL be supplied through a ground fault circuit interrupter (GFCI) with a current overload device of the appropriate rating. Reference TVA Safe Work Requirements Manual section 19.6.
- [3.6] IF this WO requires breaching of hazard barriers, (doors, hatches, penetration seals, etc.) **ensure** requirements of NPG-SPP-18.4.6 are implemented.
- [3.7] Responsible craft **shall notify** fire operations group when fire barriers/penetrations have been breached.
- [3.8] Requirements of TVA Safety Procedure Number 18.721 (rigging) and TVA Safety Procedure Number 18.802 (Requirements for safe operation of cranes) shall be followed for all rigging operations.
- [3.9] **Work progress and place keeping** to be maintained by circle and slash method.
- [3.10] When needed changes or additions are identified against approved work orders, the proposed change will be reviewed by the lead discipline field engineer. this review will determine if the change constitutes a revision as defined by MMDP-1.

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**4.0 PREREQUISITES:**

**[4.1]** Pre-Job Briefing has been conducted IAW TVA-TSP-18.006 and TVA Pre-Job Form 40897 is Filled Out.

Craft Foreman: \_\_\_\_\_ Date \_\_\_\_\_

**[4.2]** Where QC Inspections are required, the Cognizant Engineer and/or Foreman shall verify that the applicable components are ready for QC Inspection, (i.e. applicable physical work complete, drawings and procedures verified for use, signoffs complete, 575's/Issue Tickets included in the work order, etc.), prior to requesting the inspection from the QC group.

(This should be discussed during pre-job briefings.)

The Foreman shall signoff below to acknowledge understanding the intent of this requirement

Craft Foreman: \_\_\_\_\_ Date \_\_\_\_\_

**[4.3]** Foreign Material Control Requirements Evaluation has been performed IAW NPG-SPP-6.5 and if applicable Form 40928 is Filled Out.

**[4.4]** With loads exceeding 50 pounds Craft Foreman to ensure a JSA is prepared prior to moving any material or equipment, in accordance TVA Safe Work Requirements Manual section 38.

**[4.5]** **PRIOR** to start of work, if a hold order clearance is required, initiate a hold order clearance and verify that it is in place on applicable equipment in accordance with NPG-SPP-10.2.

YES Clearance Number(s): \_\_\_\_\_ [ ] Hold order not required

Supervisor/Designee: \_\_\_\_\_ Date \_\_\_\_\_

**[4.6]** The responsible craft foreman and supervisor SHALL SIGN below signifying that they understand their responsibilities of MAI-1.3 (general requirements for modifications) and management's expectations to verify that any work performed meets the requirements of the installing procedure(s)

Craft Foreman: \_\_\_\_\_ Date \_\_\_\_\_

Supervisor/Designee: \_\_\_\_\_ Date \_\_\_\_\_

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**[5.0] WORK INSTRUCTIONS**

**[5.1] Coordinate with OPS** for verification that all energy has been removed from the Fuel Transfer system for equipment removal.

Performed By \_\_\_\_\_/Date\_\_\_\_\_

**[5.2] Coordinate with Radcon Protection** prior to entering any zone to remove equipment

Performed By \_\_\_\_\_/Date\_\_\_\_\_

**[5.3] Coordinate** with Radcon to set up a zone to place removed equipment to be surveyed prior to discarding.

Performed By \_\_\_\_\_/Date\_\_\_\_\_

**[5.4] Remove** Pit Side Upender Frame Arm in accordance with Section 8.0 of Framatome Instruction Manual.

Performed By \_\_\_\_\_/Date\_\_\_\_\_

**[5.5] Remove** Pit Side Sheaves in accordance with Section 9.0 of Framatome Instruction Manual.

Performed By \_\_\_\_\_/Date\_\_\_\_\_

**[5.6] Remove** Pit Side Wire Rope in accordance with Section 10.0 of Framatome Instruction Manual .

Performed By \_\_\_\_\_/Date\_\_\_\_\_

**[5.7] Perform** Section 11.0 (Pit Side Emergency Wire Rope Release and Preparation) of Framatome Instruction Manual .

Performed By \_\_\_\_\_/Date\_\_\_\_\_

**[5.8] Remove** Pit Side Push Arm in accordance with Section 12.0 of Framatome Instruction Manual .

Performed By \_\_\_\_\_/Date\_\_\_\_\_



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**[5.0] WORK INSTRUCTIONS Cont.**

**[5.9] Remove** Pit Side Conveyor Car and Fuel Basket in accordance with Section 13.0 of Framatome Instruction Manual .

Performed By \_\_\_\_\_/Date \_\_\_\_\_

**[5.10] Coordinate** with electrical to determ and remove the Pit Side Control Console in accordance with Section 14.0 of Framatome Instruction Manual.

Performed By \_\_\_\_\_/Date \_\_\_\_\_

**[5.11] Coordinate** with electrical to remove the Pit Side Upender Hoist in accordance with Section 15.0 of Framatome Instruction Manual.

Performed By \_\_\_\_\_/Date \_\_\_\_\_

**[5.12] Coordinate** with electrical to remove the Pit Side Conveyor Car Winch in accordance with Section 16.0 of Framatome Instruction Manual.

Performed By \_\_\_\_\_/Date \_\_\_\_\_

**[5.13] Place** removed equipment in storage location at the direction of Radcon.

Performed By \_\_\_\_\_/Date \_\_\_\_\_

**[5.14] Coordinate** with System Engineer or Framatome to determine what will be reused from removed equipment prior to discarding any equipment removed.

Performed By \_\_\_\_\_/Date \_\_\_\_\_

**[5.15] Discard** old sheaves and wire rope that were removed from the Pit Side of the Fuel Transfer System after coordination with engineering or Framatome support personal.

Performed By \_\_\_\_\_/Date \_\_\_\_\_