

WP 04-AD3012

Revision 4

Temporary Plant Modification Control

Management Control Procedure

EFFECTIVE DATE: 06/18/09

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APPROVED FOR USE

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INTRODUCTION ¹

This procedure establishes administrative requirements for control, installation, and design of temporary modifications to plant systems. It ensures that operators are aware of any changes to plant system design or configuration and the impact those changes may have on equipment.

Specific exclusions to this procedure are:

- Modifications to plant systems controlled through a temporary ECO.
- Instrument calibrations or scheduled/corrective maintenance work items requiring documented lead lifting and landing **OR** jumper installation and removal as part of a single set of approved work instructions
- Installation and removal of test instrumentation for monitoring and/or recording as part of a single set of approved work instructions
- Lifting and landing of leads as part of approved troubleshooting procedures
- Removal of Central Monitoring System (CMS) points from scan or alarm checking

Completed Temporary Plant Modification (TPM) Control Sheets and TPM Index Sheets generated by performance of this procedure are quality records.

REFERENCES

BASELINE DOCUMENTS

- DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities

REFERENCED DOCUMENTS

- WP 09-CN3007, Engineering and Design Document Preparation and Change Control
- WP 10-WC3011, Maintenance Process
- WP 12-FP3002, Hot Work Permits

PRECAUTIONS AND LIMITATIONS

- Authorizing Managers (AM) **SHALL** be qualified in accordance with OPS-02, Temporary Plant Modification Control - Authorizing Manager, or equivalent, **AND** be designated in writing by the Cognizant Operations Manager. AM's are qualified to authorize placement and removal of TPMs **AND** certify the completion of periodic TPM audits in accordance with this

procedure. Authorizing Managers **MAY** serve as Operations Technicians for performance of this procedure.

- Operations Technicians (OT) **SHALL** be qualified in accordance with OPS-02T, Temporary Plant Modification Control - Technician, or equivalent, **AND** be designated in writing by the Cognizant Operations Manager. OTs are qualified to install and remove TPMs from plant system **AND** conduct periodic TPM audits in accordance with this procedure.

- TPMs may be installed and removed only under the following conditions:

Modifications that are complex in nature (e.g., requiring fabrication or installation of special devices, jumpers, flanges, etc.) may only be accomplished under a Modification ("M") work order with an accompanying Engineering Change Order (ECO) **AND** in accordance with approved work instructions from WP 10-WC3011 and WP 09-CN3007.

- TPM markers are controlled by the Cognizant Operations Sections as follows:
 - Underground Facility Operations - J-01 through J-19 and LL-01 through LL-19
 - Hoisting Operations - J-20 through J-39 and LL-20 through LL-39
 - Waste Handling Operations - J-40 through J-59 and LL-40 through LL-59
 - Surface Facility Operations - J-60 through J-89 and LL-60 through LL-89

PREREQUISITE ACTIONS

- 1.0 Each Cognizant Operations Section establish a TPM logbook organized as follows:
 - Index
 - Active TPMs
 - Closed TPMs
- 2.0 Obtain prior approval of Cognizant Engineer (CE) before operating system in a modified configuration.

NOTE

Only in extreme cases may installation of jumpers, lifting or landing of leads, or placement of TPM markers be performed with circuits energized, and then only under the control of an approved Hot Work Permit, or equivalent, in accordance with WP 12-FP3002.

- 3.0 De-energize electrical circuits prior to installation of jumpers, lifting or landing of leads, or placement of TPM markers.
- 4.0 Tape or properly insulate exposed electrical leads to prevent inadvertent contact with energized circuits or ground.
- 5.0 Place TPM markers within 6 inches of free end of lifted lead, if possible.
- 6.0 Verify electrical jumpers are of sufficient length and conductors of appropriate size for their application, including the method of connection.
- 7.0 Verify "alligator" clips, clamps or similar attachment devices are **NOT** used for installation.
- 8.0 Verify electrical jumpers are bright orange to stand out from permanent cables or wires.
- 9.0 **IF** appropriately sized orange wire or cable is not available, **THEN** apply orange tape to appropriately sized jumper at **ENDS AND AT NOT LESS THAN** 4-inch intervals.
- 10.0 Fasten TPM markers securely to jumpers so as not to interfere with a circuit or surrounding components.
- 11.0 Place TPM markers so that marker identification is possible without requiring entry into energized equipment.
- 12.0 Verify mechanical jumpers are of sufficient length and of equal or better size and pressure rating for their application, including the method of connection.
- 13.0 Verify flanges or couplings used for attachment are of at least equal pressure rating and are compatible with the system on which they are installed.
- 14.0 Verify mechanical jumpers, flanges, and couplings are bright orange to stand out from permanent equipment.
- 15.0 **IF** appropriately sized orange material is not available, **THEN** apply orange tape to appropriately sized material at **NOT LESS** than 4-inch intervals.
- 16.0 Fasten TPM markers securely to jumpers so as not to interfere with surrounding components.

17.0 Place TPM markers so that marker identification is possible without requiring entry into energized equipment.

18.0 Store TPM markers in secure location when not installed in plant equipment.

PERFORMANCE

1.0 TPM CONTROL SHEET PREPARATION

1.1 OT, prepare Temporary Plant Modification Control Sheet (Attachment 1) as follows:

1.1.1 Enter affected system or component description in Block 1.

1.1.2 Enter implementing Action Request number in Block 3.

1.1.3 Enter dates issued in Block 4.

1.1.4 Enter "X" or "✓" for modification type (as applicable) in Block 5.

1.1.5 Describe reason for TPM **AND** include definition of "Other" in Block 6.

1.1.6 Describe any effect of TPM on system operation in Block 7.

1.1.7 List any limitations placed on system operation or alternate protection required while TPM is in place in Block 8 **OR**, if not applicable, enter "N/A."

1.1.8 List any operating procedures requiring temporary changes to reflect installation of TPM in Block 9 **OR**, if not applicable, enter "N/A."

NOTE

Either **OR** both special training requirements listed in Block 10 of Temporary Plant Modification Control Sheet (Attachment 1) **SHALL** be applicable.

1.1.9 Enter "X" or "✓" for type of special training required in Block 10.

1.1.10 Enter printed name of person responsible for completing form and date in Block 11.

1.1.11 Enter location(s) in facility where TPM markers are required to be placed in Block 14.

2.0 TPM APPROVAL AND INSTALLATION AUTHORIZATION

2.1 AM/OT, obtain log serial number for TPM as follows:

NOTE

Serial numbers are to be entered using the X-Y-Z format with X, Y, and Z representing the following:

X - Last two digits corresponding to calendar year in which TPM was originally issued (96 corresponds to calendar year 1996).

Y - Abbreviations of Cognizant Operations section (i.e., FO - Facility Operations (Surface), UF - Facility Operations (Underground), HO - Hoisting Operations, WH - Waste Handling Operations).

Z - Next consecutive number from index. This number will reset to 001 on 1 January of succeeding calendar year.

2.1.1 Enter the following information onto TPM Index (Attachment 2):

- Next consecutive log serial number
- Date issued
- System or component affected
- Initiating Action Request (AR) number

2.1.2 Copy TPM index sheet log serial number onto Block 2 of Attachment 1, Temporary Plant Modification Control Sheet.

2.2 AM, approve Temporary Plant Modification Control Sheet (Attachment 1) for TPM installation as follows:

2.2.1 Review sheet for completeness and correctness.

NOTE

In Step 2.2.2, concurrence may be by telecon.

2.2.2 Obtain CE concurrence for TPM in Block 12.

2.2.3 Record ECO Number for TPM in Block 12.

2.2.4 Review work instructions as applicable.

2.2.5 Verify training requirements of Block 10 **AND** Operating Procedure Change requirements of Block 9 are in effect.

2.2.6 Sign and date Block 13 to authorize installation of TPM.

2.3 AM, direct OT to install TPM markers in accordance with Block 14 of TPM Control Sheet.

2.4 OT, install TPM markers as follows:

NOTE

J-series markers are to be used for electrical jumpers **AND** mechanical jumpers or bypasses only.

LL-series markers are to be used for lifted leads, pulled circuit boards, installed blank flanges, or disabled annunciators or alarms.

Set point changes do not require markers and will be tracked by TPM Control Sheet and applicable Operating Procedure changes.

2.4.1 Obtain sufficient TPM markers to accomplish marker installation.

2.4.2 Affix TPM markers in locations identified in Block 14 of TPM Control Sheet.

2.4.3 Enter marker number in Block 14 **AND** initial/date as each marker is installed.

2.4.4 Return TPM Control Sheet to AM.

2.5 AM, assign second OT to conduct independent verification of TPM marker installation.

2.6 Second OT, conduct independent verification of TPM marker installation as follows:

2.6.1 Visually sight each installed TPM marker.

2.6.2 Verify that each marker is installed correctly.

2.6.3 Initial and date Block 14 of TPM Control Sheet as each marker placement is verified.

2.6.4 Return TPM Control Sheet to AM.

2.7 AM, file completed TPM Control Sheet in Active section of TPM logbook.

3.0 TPM REMOVAL

3.1 AM, **WHEN** plant conditions allow for removal of TPM, **THEN** sign/date Block 15 of TPM Control Sheet.

3.2 AM, issue TPM Control Sheet to OT for clearance of TPM markers.

- 3.3 OT, clear TPM markers as follows:
 - 3.3.1 Visually sight each installed TPM marker.
 - 3.3.2 Carefully remove each marker.
 - 3.3.3 Initial and date Block 15 of TPM Control Sheet as each marker is removed.
 - 3.3.4 Return TPM Control Sheet **AND** all removed TPM markers to AM.
 - 3.4 AM, assign second OT to conduct independent verification of TPM marker removal.
 - 3.5 Second OT, conduct independent verification of TPM marker removal as follows:
 - 3.5.1 Verify each marker has been removed.
 - 3.5.2 Initial and date Block 15 of TPM Control Sheet as each marker removal is verified.
 - 3.5.3 Return TPM Control Sheet to AM.
 - 3.6 AM, verify that temporary procedure changes issued in Block 9 of TPM Control Sheet have been canceled.
 - 3.7 AM, sign and date Block 16.
 - 3.8 AM, when TPM is closed notify CE.
 - 3.9 CE **OR** AM (per telecon), sign Block 17.
 - 3.10 AM, **WHEN** all temporary devices are removed and configuration is restored,
THEN sign and date Block 18.
 - 3.11 AM, file closed TPM Control Sheet in Closed section of TPM logbook.
- 4.0 TPM AUDITS
- 4.1 AM, conduct TPM audits once each month **AND** during the last calendar week of the month.
 - 4.2 AM, review TPM Index to ensure all active TPMs are still required.
 - 4.3 AM, **IF** any installed TPM has been in place for longer than 6 months,
THEN notify Cognizant Operations Manager (COM).

- 4.4 COM, determine if action is required to restore system to normal condition **OR** permanently install changes accomplished by TPM.
- 4.5 AM, account for each active TPM.
- 4.6 AM, assign OT to audit active TPM Control Sheets, TPM markers in the field, and TPM markers in storage.
- 4.7 OT, review TPM Control Sheet to ensure administrative correctness.
- 4.8 OT, account for TPM markers in field as follows:
 - 4.8.1 Visually sight each TPM marker.
 - 4.8.2 Verify each TPM marker is installed in correct location.
 - 4.8.3 Verify TPM is in good condition.
- 4.9 OT, immediately notify AM if discrepancies were found.
- 4.10 AM, resolve any discrepancies found during audit in the most conservative and expeditious manner possible.
- 4.11 OT, complete Discrepancies/Corrective Action block of Record of Audits section of TPM Control Sheet by performing **ONE** of the following:
 - Enter "N/A" or "NONE" if no discrepancies were found
 - List all discrepancies found during audit
- 4.12 OT, sign and date signature block of Record of Audits section of TPM Control Sheet if no discrepancies were found.
- 4.13 OT, return TPM Control Sheets to AM.
- 4.14 AM, enter corrective actions taken, as applicable, in Discrepancies/Corrective Action block of Record of Audits section of TPM Control Sheet.
- 4.15 AM, **IF** discrepancies were found **AND** corrected, **THEN** sign and date signature block of Record of Audits section of TPM Control Sheet.
- 4.16 AM, file TPM Control Sheets.
- 4.17 AM, signify audit was completed satisfactorily by writing "TPM audit completed SAT" on next available line of TPM index.
- 4.18 AM, sign and date entry on TPM index.
- 4.19 AM, **IF** audit is being conducted at end of December, **THEN** perform the following:

- 4.19.1 Consolidate TPM index by copying remaining active TPM information onto new TPM index page.
- 4.19.2 Remove all previously used index pages from TPM logbook.
- 4.19.3 Signify consolidation of TPM index by writing the following on next available line of TPM index: "TPM index consolidated. Active TPMs recopied to new index pages."
- 4.19.4 File superseded TPM index pages.

Attachment 1 - Temporary Plant Modification Control Sheet (Front)

TEMPORARY PLANT MODIFICATION CONTROL SHEET			
System OR COMPONENT (1)		LOG SERIAL NUMBER (2)	
ACTION REQUEST NUMBER (3)		DATE ISSUED (4)	
TYPE OF MODIFICATION (5)			
	Lifted Electrical Lead		Electrical Jumper
	Pulled Circuit Board		Disabled Annunciator or Alarm
	Mechanical Jumper or Bypass		Blank Flange
	Set Point Change		Other (Specify in Block 6)
REASON FOR INSTALLATION (6)			
EFFECT ON SYSTEM OPERATION (7)			
OPERATING LIMITATIONS OR ALTERNATE PROTECTION REQUIRED (8)			
OPERATING PROCEDURES AFFECTED (9)			
SPECIAL TRAINING REQUIREMENTS (10)			
	Immediate Required Reading		Shift Instructions
Form Prepared by (11) Printed Name/Date:		TPM Installation Concurrence (12) ECO No: _____ CE Signature/Date/Time: <input type="checkbox"/> Per Telecon	
TPM Installation Approval (13) AM Signature/Date:			

