

WP 04-ED2341

Revision 4

Remote Operation of Underground Circuit Breakers

Technical Procedure

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APPROVED FOR USE

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INTRODUCTION

The purpose of this procedure is to provide instructions for performing remote operation of Circuit Breakers (CBs) at Switch Station #1 (SS-1), Switch Station #2, (SS-2) and Switch Station #5 (SS-5). Operation is performed, only after a known power outage, when there are no personnel underground (U/G) at the Waste Isolation Pilot Plant (WIPP).

REFERENCES

BASELINE DOCUMENTS

- Drawing 25-J-020-W1, WIPP Site Primary Power Distribution - One Line Reference Sheet
- Drawing 25-J-020-W2, WIPP Site Primary Power Distribution - One Line Diagram
- Drawing 25-J-020-W3, WIPP Site Primary Power Distribution - One Line Diagram Normal Interrupters Lineup.
- 53-J-009-W, Underground Power Routing & Equipment Location
- 53-J-510-W1 Underground Utilities Substation 1 (53P-SBD04/5)
- 53-J-511-W, Underground Utilities 480V Dist. Panels 53P-DP04/10, 53P-DP04/8, 53P-DP04/10 Single Line Diagram
- Panel Schedule 2, Underground Panel Schedules

PRECAUTIONS AND LIMITATIONS

- The remote operation of the CBs at SSs-1 and 2 allows for the circuit breaker to be closed under a potential fault condition.
- During the remote operation of the CBs at SSs-1 and 2, the status of the Protective Relays are not known. The Protective Relays 50/51 do not have a lockout device upon a Trip. Re-energizing the CBs may cause equipment damage. The CBs should be re-energized only when a known surface power outage has occurred.
- Remote operation of SS-5 can only be performed by U/G services engineer using the Plant Metering System (PMS).

PREREQUISITE ACTIONS

- 1.0 Verify there are no personnel in the underground.
- 2.0 Verify cause of loss of underground feeders is a known surface power outage.

PERFORMANCE

NOTE

Switch Station 1 remote operation is performed from a surface control panel located at the Waste Shaft Collar area.

- 1.0 REMOTE CLOSING OF SS-1, CB-1
 - 1.1 Verify Salt Handling Shaft Feeder is energized.
 - 1.2 Obtain key from Facility Operations key cabinet to access Control Panel 41P-CP03/24 at Waste Hoist Collar.
 - 1.3 Verify SS-1, CB-1 OPEN indicating green light is illuminated.

CAUTION

The operator **MUST NOT** attempt to close CB more than once to avoid damage to equipment.

- 1.4 Rotate CB-1 at SS-1 or switch to CLOSED and release.
- 1.5 Verify CLOSED indicating red light illuminates.
- 1.6 Return control panel key to Facility Operations key cabinet.

NOTE

Switch Station 2 remote operation is performed from a surface control panel located at the Waste Shaft Collar area. CB-1 at SS-4 **MUST BE CLOSED** before Remote Operation can be performed for SS-2 .

- 2.0 REMOTE CLOSING OF SS-2, CB-1, AND CB-5
 - 2.1 Verify SS-4, CB-1 is closed.
 - 2.2 Obtain key from Facility Operations key cabinet to access Control Panel 41P-CP03/24 at Waste Hoist Collar.
 - 2.3 Verify SS-2, CB-1 OPEN indicating green light is illuminated.

CAUTION

The operator **MUST NOT** attempt to close CB more than once to avoid damage to equipment.

- 2.4 Rotate SS-2, CB-1 switch to CLOSED and release.
- 2.5 Verify CLOSED indicating red light illuminates.
- 2.6 Verify SS-2, CB-5 OPEN indicating green light is illuminated.

CAUTION

The operator **MUST NOT** attempt to close CB more than once to avoid damage to equipment.

- 2.7 Rotate SS-2, CB-5 switch to CLOSED and release.
- 2.8 Verify CLOSED indicating red light illuminates.

NOTE

Switch Station 5 remote operation is performed from an underground workstation via the Plant Metering System. CB-1 at SS-5 **MUST BE** CLOSED before Remote Operation can be performed.

3.0 REMOTE CLOSING OF SS-5 CIRCUIT BREAKERS**CAUTION**

In order to avoid damage to equipment, Circuit Breakers **MUST BE** in Remote Position. Verification must be made that CBs have power via Feeder Protective Relay (FPR), that there are not faults on FPR, and that #86 relay has not tripped.

- 3.1 At workstation using PMS, go to SS-5.
- 3.2 Select breaker to be operated.
- 3.3 Close breaker, verify change on PMS.