

324 Building Temporary Electrical Power Plan CPCC-01522 R0

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract 89303320DEM000030



**P.O. Box 1464
Richland, Washington 99352**

324 Building Temporary Electrical Power Plan CPCC-01522 R0

Project No: 300-296 Waste Site Document Type: PLAN Program/Project: D4 End States 300

R. J. Adams
Central Plateau Cleanup Company LLC (CPCCo)

Date Published
December 2025

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract 89303320DEM000030

 **CPCCo**
Central Plateau
Cleanup Company
P.O. Box 1464
Richland, Washington 99352

APPROVED
By Janis Aardal at 8:58 am, Dec 15, 2025



Release Approval

Date

Release Stamp

TRADEMARK DISCLAIMER

Reference herein to any specific commercial product, process, or service by tradename, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors.

This report has been reproduced from the best available copy.

Printed in the United States of America

Total pages: 11

**324 Building Temporary Electrical
Power Plan CPCC-01522 R0**

12/04/2025

Author: Ryler Adams

Approval: D4 Closure 300 Area Engineering Manager, Vincent King

King, Opris

Signature

Digitally signed by King, Opris

Date: 2025.12.04 14:08:52 -08'00'

Date

Approval: D4 Closure 300 Area End States Manager, Randy Hermann

Hermann, Randy M

Signature

Digitally signed by Hermann, Randy M

Date: 2025.12.04 15:40:58 -08'00'

Date

Table of Contents

Acronyms	ii
1. Introduction	1
2. Summary of Temporary Power Design	1
3. Electrical System Description.....	1
3.1.EXISTING ELECTRICAL SYSTEM.....	1
3.2.PROPOSED MODIFICATION TO ELECTRICAL SYSTEM	1
4. Required Systems List	3
5. Implementation	3
6. Schedule and Procurement	3
7. Plan Development.....	4
Reference Drawings.....	4
Configuration Drawings (Redlined).....	4
Table 1:800A Service	2
Table 2:400A Service	2
Table 3: Required Systems List (Preliminary).....	3

Acronyms

D4	deactivation, decommission, decontamination, and demolition
TEPP	Temporary Electrical Power Plan
EER	Electrical Equipment Rack
PDC	Power Distribution Center
MPC	Mini-Power Center
TPL	Temporary Power and Lighting
MCC	Motor Control Center
RUWD	Repetitive Use Work Document

1. Introduction

This report describes the Temporary Electrical Power Plan (TEPP) that identifies the requirements and schedule for converting the 324 facility over to temporary power. Required electrical loads are identified based on decommissioning needs as well as existing equipment that will require power. Provisions are included to supply temporary power for other needs that may become necessary during D4 activities. Safety Basis constraints will be addressed via the USQ program and Nuclear Safety Review.

The TEPP will define an electrical system that minimizes costs by using existing materials where practical. Where new material and equipment is required, the plan is to use standard, readily available industrial hardware. The primary goals are to make the modifications easy and safe to install, minimize costs, and maintain operational requirements.

2. Summary of Temporary Power Design

The TEPP is to describe a safe and economical method for transitioning to temporary power. This design provides the maximum available power for all necessary surveillance, maintenance, and operational requirements during the step-out process and provides support during D4 activities in the building.

The TEPP design utilizes the Temporary Power and Lighting (TPL) trailer and the existing 1000kVA (13.8kV / 480V) transformer that provides power to the 324 facility. The TPL will continue to feed current loads. The 1000 kVA transformer will be repurposed to provide an 800A and 400A service. The 800A service will feed a motor control center for the building's main exhaust fans (see Table 1). The 400A service will feed two 200A Power Distribution Centers (PDC). The first PDC will handle the remaining power requirements throughout the building. The second PDC will provide power to 324D Building to allow for stack monitoring as needed. (see Table 2).

In summary, the TEPP design provides an economical, reliable, and technically integrated electrical system that fully meets the objectives of the 324 D4 activities. The system will be cost-effective and relatively simple to operate and maintain since it will consist of commercially available, off-the-shelf, industrial-grade components.

3. Electrical System Description

3.1. EXISTING ELECTRICAL SYSTEM

The electrical supply to the 324 Building is from the City of Richland via the 1000kVA transformer located near MO985 and Temporary Power and Lighting (TPL) trailer located near MO2327. Currently, all building permanent power and systems receive power from the 1000 kVA transformer. The TPL trailer provides temporary power to the cold side of the building for temporary lighting and other various power requirements via mini power centers and spider boxes.

3.2. PROPOSED MODIFICATION TO ELECTRICAL SYSTEM

The existing system was downsized to support facility minimum safety requirements

324 Building Temporary Electric Power Plan
CPC-01522 R0

and to support soil removal and stabilization. This included utilization of the building structure, associated building equipment and systems.

To provide the necessary surveillance, maintenance, and operations required for the step-out process and to provide support during D4 activities in the building, a temporary electrical system will be required. To prepare the building for demolition activities, the building will be electrically isolated, and temporary power will be provided.

The normal power transformer rated at 1000kVA (13.8kV / 480V) will feed one 800A service and one 400A service. The 800A service will feed a motor control center that will power the equipment listed in Table 1. These exhaust fans will provide the required building ventilation. The 400A service will feed two 480V 200A PDC that will power equipment listed in Table 2. The Mini Power Centers (MPC) will provide convenience power to the backside of 324 Building. Power to 324D Building is to allow for stack monitoring when needed.

Table 1:800A Service

Description	Power	Protection Rating
Exhaust Fan #971 Motor#20	50HP	100 A
Exhaust Fan #972 Motor#21	50HP	100A
Exhaust Fan #973 Motor#22	75HP	125 A
Exhaust Fan #974 Motor#23	75HP	125A
Exhaust Fan #975 Motor#24	75HP	125 A
SPARE	NA	150A
SPARE	NA	150A
SPARE	NA	60A

Table 2:400A Service

Description	Power	Protection Rating
PDC One		
120/240V 200A MPC (Room 147)	25kVA	60 A
110/208 V 200A three-phase MPC (Room 147)	75kVA	100 A
PDC Two		
324D Building for stack monitoring as needed.	67kVA	100A

4. Required Systems List

Table 3 is a preliminary list of systems that are to remain in operation during D4 activities.

Table 3: Required Systems List (Preliminary)

Description	Power	Protection Rating
324 Building Exhaust Fans and associated ducting.	See Table 1	See Table 1
324D Stack Monitoring System. (Local indication only)	See Table 2	See Table 2

5. Implementation

The 800A and 400A services will be installed on an electrical equipment rack located near MO985. The Motor Control Center will be located near the 324 Building exhaust fans. The PDCs will be located near the NE corner of 324 Building. Lines between the 1000 kVA transformer and the service disconnecting means will be run through 3"-4" SCH 80 PVC conduit. Type "G-GC" or "W" cable will be used to connect points of service to motor controller and distribution cabinets (see TPP-SKETCH-01 and TPP-SKETCH-02). Enclosures will be rated NEMA 3R.

Power will be fed through the east/northeast corner of the 324 Building. Connections will be made via elevated cables to reduce tripping hazards. Door and wall penetrations will comply with any safety and/or isolation requirements.

Load centers will be placed in work areas as required to support work activities and power safety lighting. Some preliminary work has already started. This includes the installation of temporary lighting in some areas of the 324 Building. Load center locations have also begun to be identified.

6. Schedule and Procurement

Utilizing previously procured equipment will reduce the impact of long-lead time items and cost. These items include the motor control center, 800A fused disconnect switch, 400A fused disconnect switch, two 200A fused disconnect switches, and construction materials such as conduit, Uni-strut, and cable. Required quantities for construction materials have yet to be finalized and may require additional procurement.

Previously procured hardware does require maintenance and is being sent to the electrician's shop for service. Because the plan calls for standard, readily available industrial hardware, replacement part lead times should have little impact on the overall schedule of the project.

Field routing and staging equipment can be performed using current Electrical Repetitive Use Work Document (RUWD). Tie-in and energizing of the temporary power equipment will be performed under a specific-use work document and will be performed in conjunction with cold and dark scheduled activities.

7. Plan Development

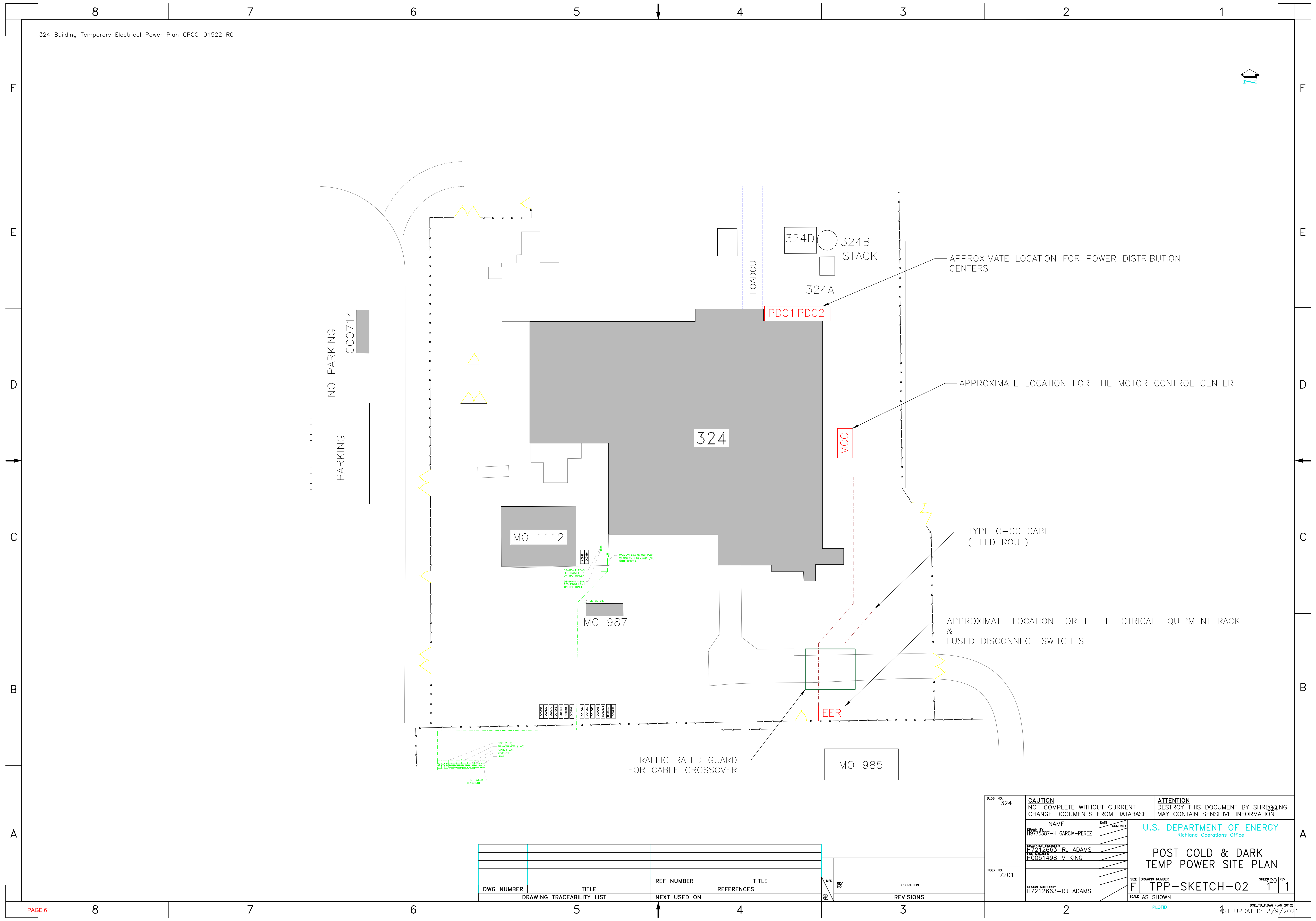
The current plan reflects ideas and statements brought forward during meetings on January 6 and January 13, 2009, and revised based on meeting held on August 26th, 2025. The plan will be revised, as necessary, as requirements come to light over the course of the project.

Reference Drawings

TPP-SKETCH-01
TPP-SKETCH-02

Configuration Drawings (Redlined)

H-3-301323 (sheets 1-8, 10, 12-14, 16)
H-3-29269 (sheets 1, 3-6, 8, 11, 12)
H-3-315495 (sheet 1)
H-3-315496 (sheet 1)
H-3-315390 (sheet 1)



DWG NUMBER	TITLE	REF NUMBER	TITLE	REV	DESCRIPTION

DWG NUMBER	TITLE	REF NUMBER	TITLE	REV	DESCRIPTION

BLDG. NO. 324	CAUTION NOT COMPLETE WITHOUT CURRENT CHANGE DOCUMENTS FROM DATABASE	ATTENTION DESTROY THIS DOCUMENT BY SHREDDING MAY CONTAIN SENSITIVE INFORMATION
	U.S. DEPARTMENT OF ENERGY Richland Operations Office	
INDEX NO. 7201	NAME H9775387-H GARCIA-PEREZ DISCIPLINE ENGINEER H7212663-RJ ADAMS DATE SHOWN H0051498-V KING DESIGN AUTHORITY H7212663-RJ ADAMS	F TTPP-SKETCH-02 SCALE AS SHOWN
		SHEET 20 REV 1 1 1ST UPDATED: 3/9/2021