

**Guidelines for doing
Mechanical & Electrical work
At the University of New Mexico**

{Revised on 04/14/2015 @ LHC}



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The University of New Mexico's Physical Plant Department, is pleased to provide this document to assist all contractors performing work on UNM facilities and grounds and/or UNM property. These guidelines are applicable for all maintenance, new construction or remodeling, and emergency work. We hope you will find these guidelines useful for issues that may arise regarding permitting requirements, inspection and final inspection processes, plan reviews, and UNM building outages.

The University's goal is to help ensure construction compliance with National, State, and University regulations, laws, policies, procedures and specifications. In this process, UNM's Physical Plant Department (PPD) shall serve as the University's liaison with the Construction Industries Division, the State entity for licensing and permitting. If you have any comments or questions regarding Electrical or Mechanical/Plumbing or Building permitting or specifications, please direct them to the Physical Plant Department, Construction Support Office, Electrical Inspector's Office at (505) 277-7829, Mechanical Inspector's office at (505) 277-1064. All construction related contractors working for the University of New Mexico are required to meet with the Physical Plant Department's Construction Support Office prior to beginning work to ensure that all requirements are met and to ensure that their projects go as smoothly as possible.

Contractor Information – Guidelines for Contractors

All work done on UNM property must conform to the following:

- A. The National Electrical code and the Uniform Plumbing and Mechanical, and Building Code.
- B. The State of New Mexico Electrical, Plumbing and/or Mechanical and Building Code.
- C. The University of New Mexico Construction Specifications. Specifications can be found on the PPD Engineering Services website at <http://iss.unm.edu/ppd/engineer.html>.

All contractors working at UNM must have the following:

1. An appropriate contracting license, and qualified and licensed personnel performing the scope of work required
2. Appropriate insurance and bonding capacity for the value of the work, if over \$25,000.
3. Posted wage rates if the project cost is over \$60,000.
4. A printed company Safety Policy. All contractors must provide a copy of their company Safety Policy to UNM's Safety and Risk Services department prior to starting work. Contact the Manager of Administrative Operations at 1801 Tucker St., NE (Building 233) or at 277-6425
5. UNM tunnel and utility access requires 'qualified party' training and authorization from the Utilities Division, prior to access. Contact Ford Utilities at 277-2464 for information.
6. Proper Personal Protective Gear (see NFPA 70-E).
7. Applicable permit(s) and UNM authorization. All work done at UNM requires a State of New Mexico, Construction Industries Division (CID) permit. (If you feel that your work qualifies for a Permit Exemption, contact PPD's Construction Support Services office.) An Energized Electrical Work Permit is required prior to starting work to install, remove, or work on any electrical apparatus while it is energized. Energized Electrical Work permits are available from Physical Plant area managers, the Physical Plant electrical engineer, or the Physical Plant electrical inspector. Welding permits are required for any brazing, soldering, or welding. Welding permits are available from UNM's Safety and Risk Services department. Ceiling entry permits are required from the respective Area Manager for work in the ceiling.
8. Clearance to excavate from the proper authority. All contractors are required to comply with the New Mexico Excavation Law. Access to UNM buried utility maps is available through PPD's Construction Support Services. Coordinate all One-Call services with PPD's Engineering office.

Note: Final invoices submitted to UNM for payment must be accompanied by a completed and signed New Mexico Construction Industries Department (CID) "Verification of Final Inspection" form, a copy of the "Final" Inspection Tag (green tag) or a UNM Electrical or Mechanical Permit Exemption form. The form submitted must be relevant to the project for which payment is requested. Final payment will not be authorized without a Certificate of Occupancy, if required.

Contractor Requirements for a Major Building Outage at UNM

All “Large” building outages that affect students, buildings, or the UNM utility system requires a 10-day advanced notice to, and authorization from, the University of New Mexico Utilities Division. All “Small” building outages such as several circuits or several rooms within a building require a 10-day advanced notice to, and authorization from, the applicable UNM Physical Plant area manager as directed by the Office of Construction Support. Any work requiring access to special areas, (or special non-standard working hours), must be authorized by and coordinated with the applicable Physical Plant area manager or Project Manager.

Outage Requirements - Contractor will hold pre-outage procedure, safety and coordination meeting to address the following items:

- Minimum 10-day advance request to Utilities and the area manager (except in emergencies).
- Company “Safety Policy” on file with UNM Safety and Risk Services.
- Complete all required training through Utilities, when applicable, such as tunnel access, etc.
- All participating employees are Licensed and Qualified, as required.
- Consideration given to building back-up power sources (generators, UPS, inverters, emergency lighting, etc.).
- Provide power as needed to cell phone and radio towers on building.
- All UNM-required permits, e.g. Energized Electrical Work, Welding, Ceiling Entry, etc. in place.
- Have scheduled UNM area technician support, when applicable.
- Building or area users have been notified, and concerns addressed.
- All required CID permits have been acquired and posted prior to beginning work.
- Contractor has complied with all State of New Mexico Excavation laws.
- Any, non-standard working hours have been pre-approved by the appropriate project manager and PPD.
- A written “outage procedure” has been supplied to all parties.
- UNM Information Technologies/Fire and Security Services have been notified at 277-1140.
- Emergency contact numbers have been verified and are available.
- Work area has been secured from public access.
- UNM Police have been notified of outage times per the direction of the Project Manager.
- All areas losing power have been completely identified.
- Adjoining roadway and parking area access has been coordinated with UNM Parking and Transportation (PATs) at 277-1938.
- Outage will not conflict with pre-scheduled events anywhere on campus.
- Staging areas must be coordinated with the PPD Grounds manager. Contact 277-0615 for information.
- UNM’s Safety and Risk Services (SRS) must be notified of all building outages to determine appropriate fire watch procedures. Contact SRS at 277-4076 for information.

CID Permit and Plan Review Requirements

Contractors:

Any entity, company, or individual performing *Electrical or Mechanical* work on UNM property, regardless of scope, is **required** to obtain a “State” Permit prior to beginning work, and to include a CID-issued **Final Inspection Tag** or **Verification of Final Inspection** form (for their portion of the work) with their invoice for the work. In addition, based on the project scope, CID will determine, and may require, a trade specific set of Engineered Drawings, and/or CID approved Plan Reviews. Please note the following requirements:

Plan Reviews: Architect approved & stamped plans are required for any building or remodeled area that will contain, or can potentially contain, 10 or more people. The seals of both the engineer and architect are required on projects over \$400,000 in valuation and/or occupant loads of fifty (50) or more.

Engineered Drawings: Engineering, stamped drawings are required for any project that meets **any** of the following criteria:

1. Has a single-phase power requirement of 100 KVA or larger.
2. Has a three-phase power requirement of 225 KVA or larger.
3. Has a “total” project value of \$50,000.00 or greater.
4. New installation, repair and/or maintenance to gas/fuel piping or in performing new installation or replacement of a domestic and/or commercial water heaters.

A separate permit for installation, alterations, maintenance, or repair may apply when any one of the following criteria is met:

- A. The structural integrity of the building is altered
- B. Existing utility services are expanded. (E.g., new boiler, new air handler, new water service, new gas service, new sewage service, or new electrical gear or distribution of circuits.)
- C. The footprint of the building is increased.
- D. The existing building service lines are modified or relocated.
- E. The high-voltage distribution system is repaired or altered.

If there are any questions on plan reviews and/or when stamped engineered or architectural drawings are required, please contact the CID Plan Review Section at (505) 476-4869.

Note: A contractor doing only maintenance work (e.g. fixture ballast change-outs or replacing plumbing fixtures, faucets and/or HVAC components), may apply for a UNM Electrical Permit Exemption from the Physical Plant’s Electrical Inspector, or a UNM Mechanical Permit Exemption from the Physical Plant’s Mechanical Inspector, prior to beginning work and to be determined by the appropriate inspector.

UNM Permitting Guidelines for UNM Personnel

UNM trades personnel perform work at the University in one of three categories; 1) Maintenance Work, 2) New Work, or 3) Emergency Work. The definition of these three categories is as follows:

- A. **Maintenance Work:** Repair and maintenance, as used in the scope of Annual Permits per CID guidelines (14.5.2.19), is work that is necessary to maintain an established, approved mechanical and/or plumbing installation, which is required to keep the installation operating in its approved function and configuration. Repair and maintenance includes a like-for-like exchange of a portion or portions of an approved mechanical/plumbing installation. A CID permit is required for work on systems that are generally considered in the industry to be related to be life safety systems, or work that entails new construction, relocation, expansion or alteration of any electrical or mechanical/plumbing installation or any portion thereof. All UNM Electrical and Mechanical Trades staff conducting only repair and maintenance work is covered under the UNM Electrical or Mechanical annual permit. **Per CID, all Electrical or Mechanical and/or Plumbing Contractors conducting work on UNM properties will not conduct such work under the UNM Annual Permit.** A permit must be obtained from CID to work on existing systems that fall under permitting guidelines (UPC 103.1.2 / UMC 112.2) prior to beginning work. They may obtain their own annual permit to conduct repair and/or maintenance work on UNM properties, if approved by UNM. A service maintenance contract must be maintained and approved with UNM Purchasing and the Manager of Facilities per CID annual permitting guidelines.

(Examples: When removing an old receptacles, old electrical fixtures, old plumbing fixtures, and/or old HVAC components, the replacement fixtures, components would not necessarily have to be the same as the one it was replacing. However, the replacement fixture, components would need to be able to operate on the existing (un-modified) circuit, plumbing or HVAC. If the replacement fixture, components required changes to the existing circuit, plumbing or HVAC, this installation then becomes “New Work” or, it is maintenance work to replace a panel or safety switch with a new panel or safety switch, as long as the replacement is the same size and rating, and only the existing circuits are re-fed by the new device. If, however, the replacement device has a larger rating or capacity, or if new circuits are connected to it in addition to the existing circuits, this now becomes “New Work.”

- B. **New Work:** New work is as the name implies; work on systems that are generally considered in the industry to be related to life safety systems, or work that entails new construction, relocation, expansion, or alteration of any electrical or mechanical and/or plumbing installation or any portion thereof that fall under permitting guidelines (UPC 103.1.2 / UMC 112.2). All New Work conducted by Electrical or Mechanical and/or Plumbing Contractors, or UNM Electrical or Mechanical Trades staff requires a state CID permit prior to beginning work. UNM Mechanical Trades staff shall obtain CID permits through the PPD Electrical or Mechanical Inspectors office. New Work performed by UNM Electrical or Mechanical Trades staff is still subject to the CID plan review and engineered drawing requirements.

(For example, adding new piping and/or fixtures to an area where none exist. In general, anytime new materials are introduced into an existing system, except for a Like device, becomes “new work.” For instance, adding a new panel circuit to an existing panel to run new, or existing devices, is new work. Replacing an existing safety switch with a panel, would be new work.)

- C. **Emergency Work:** Where equipment replacement or repairs must be performed in an emergency situation, application for the appropriate permit must be made on the next working business day per CID (14.5.2.20).

(*) The University of New Mexico is defined as “Commercial” per CID

Commercial Annual Permit, Types & Scopes: (Per New Mexico Administrative Code)

Electrical Repair & Maintenance: The scope of this permit is; repair or maintenance performed on existing electrical systems in commercial facilities. Repair and maintenance as used in the scope of this permit type means work that is necessary to maintain an established approved function and configuration. Repair and maintenance includes a like-for-like exchange of a portion or portions of an approved electrical installation, but does not include work on systems that are generally considered in the industry to be related to Life-Safety systems, or work that entails new construction, relocation, expansion, or alteration of an electrical installation or any portion thereof. It does not include; work on Life-Safety systems which is intended to protect the occupants of the structure such as fire protection, emergency and egress lighting systems, except the replacement of light bulbs and batteries in emergency lights and exit signs; work that entails new construction, relocation, expansion, or alteration of an electrical installation or any portion thereof; work on energized electrical systems of any kind; boilers; or work product or process that is hazardous to the public, or the occupants. Repair and maintenance includes like-for-like exchange of a portion or portions of an approved electrical installation, but does not include work on systems that are generally considered in the industry to be related to Life-Safety systems, or work that entails new construction, relocation, expansion, or alteration of an electrical installation or any portion thereof.

Mechanical/Plumbing Repair & Maintenance: The scope of this permit is: repair or maintenance performed on existing plumbing or mechanical systems to allow for the exchange of like parts or components in an existing mechanical or plumbing system in commercial facilities. It does not include: work on Life-Safety systems which are intended to protect the occupants of the structure such as fire protection and smoke evacuation systems; and, all venting; work that entails new construction, relocation, expansion, or alteration of a mechanical or plumbing installation or any portion thereof; work on gas piping systems of any kind, except repair of low-pressure gas leaks down-stream of the isolation valve to the appliance, limited to supply tubes or connections to gas valves or fuel train. Repair or replacement of gas valves, regulators, or fuel train; boilers; or work product or process that is hazardous to the maintenance technician, the public, or the occupants. Repair and maintenance as used in the scope of this permit type means work that is necessary to maintain an established, approved mechanical/plumbing installation, which work is required to keep the installation operating in its approved function and configuration. Repair and maintenance includes a like-for-like exchange of a portion or portions of an approved mechanical/plumbing installation, but does not include work on systems that are generally considered in the industry to be related to Life-Safety systems, or work that entails new construction, relocation, expansion, or alteration of a mechanical/plumbing installation or any portion thereof.

(*) Upon request, the University of New Mexico Electrical and/or Mechanical/Plumbing Inspectors will inspect CID’s permitted work prior to the CID inspection.



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CONSTRUCTION INDUSTRIES & MANUFACTURED HOUSING DIVISION

2550 Cereillos Road • Santa Fe, NM 87506 • Ph (505) 476-4700 • Fax (505) 476-4685
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503 S. Main St., Suite 118 • Las Cruces, NM 88001 • Ph (575) 524-6320 • Fax (575) 524-6319
www.rld.state.nm.us/construction

Construction Industries Division Verification of Final Inspection

Contractor: _____

Contact Person: _____

License #: _____

Permit#: _____

Owner: _____

Address: _____

Project Description: _____

The above listed project has been inspected and found to comply with all applicable State and National Codes.

Inspector: _____

Phone: _____

Date: _____

Administrative Services Division
(505) 476-4844

Alcohol and Gaming Division
(505) 476-4875

Boards and Commissions Division
(505) 476-4900

Construction Industries Division
(505) 476-4700

Financial Institutions Division
(505) 476-4888

Manufactured Housing Division
(505) 476-4777

Securities Division
(505) 476-4590



*Physical Plant Department
Construction Support Services*

Electrical / Mechanical Permit Exception

The work listed below has been reviewed by the UNM Electrical and Mechanical Inspector, and has been determined to be of a maintenance nature, and does not require a State Permit. Typically, the nature of this work involves the repair or replacement of existing systems and/or equipment.

This Permit Exception is issued based on the original scope of work submitted by the Contractor to the Issuing Authority. Any changes to the original scope of work may require the Contractor to procure a valid, State of New Mexico Electrical or Mechanical Permit.

Any questions should be addressed to:

Larry H. Crum, UNM Electrical Inspector – Office: (505) 277-7829 or Cell: (505) 321-5627

Phred Pando-Dixon, UNM Mechanical Inspector – Office: (505) 277-1064 or Cell: (505) 228-4769

Date: _____

Contractor: _____

Contact Name: _____ Phone Number: _____

Location of Work: _____

Scope of Work: _____

Exemption Granted By: _____
(name and date)

(signature)

Experimental Electrical Apparatuses

Any experimental electrical apparatuses or assembly of devices experimental in nature and requiring electricity to operate may be pre-assembled, purchased, donated or assembled by students or faculty, who have a basic knowledge of electrical theory and associated safety requirements. The point of demarcation of an experimental electrical apparatus is the point at which the building power is transferred to the apparatus via a receptacle, disconnect switch, circuit breaker (stand-alone or in a panel), transformer, or other similar device. All experimental electrical apparatuses should be self-contained, i.e. sits on the floor, table top, stand, rack or within an enclosure for its specific purpose. No experimental electrical apparatuses should be affixed to floors, walls, ceilings, tables, or any surface that is a permanent fixture. All experimental electrical apparatuses shall be capable of having all electrical supply power disconnected from the apparatus with no more than three motions of the hand, all within fifteen feet proximity of each other, and with unrestricted access at all times. All devices that disconnect the apparatus should be boldly and clearly labeled as “Experimental Power Disconnects”. Appropriate warning signs relevant to all significant hazards must be posted. In addition, all electrical equipment beyond the point of demarcation in rooms that are fire protected with a sprinkler system must be labeled as a “Potential Shock Hazard”. Other than industry standard plugs (cord caps), all electrical supply circuits up to and including the point of demarcation, must be approved by the appropriate PPD Maintenance Area and installed by a Licensed N.M. Journeyman Electrician. The general safety of all experimental electrical apparatuses and equipment must be verified by the UNM Electrical Inspector prior to initial start-up.

Portable Generator Permitting Requirements

Portable generators applies to all hand-carried units, units on a wheeled frame, trailer mounted units, or units within a self-contained trailer or truck, regardless of the unit's KVA or output rating. Portable generators that utilize cord and plug connections (extension cords that plug into a receptacle on the unit) are not required to have a CID permit for use, however proper cord management to ensure the safety of operators and end users is paramount.

Portable generators that use cam-locks, lugs, or other than cord and plug connections and/or involve any type of site distribution (sub-panels or distribution boxes) are required to have a CID permit and undergo a prestart-up inspection by the UNM Electrical Inspector. Generators that require a permit must have the generator frame connected to two ground rods at least six feet apart. The ground rod size, installation, and grounding conductor shall be as specified by the National Electrical Code. Please note that the installation of ground rods requires a pre-installation utility spotting to avoid underground utilities and may take up to five days to obtain a utility clearance.