

UMN Purchasing Research Equipment Infrastructure and Listing Considerations

Scope:

This document provides guidance and tools to assist the research community in the review and validation of equipment prior to procurement.

Purpose:

To ensure procured equipment is assessed and/or tested to ensure it meets listing requirements and ensure the equipment can be supported by existing building infrastructures.

Background: The very nature of research requires specialized equipment for laboratories. Specialized research equipment fabricated on site or manufactured outside the United States is often not formally tested and validated to meet American safety standards. Additionally, procurement and installation may require infrastructure improvements including, but are not limited to electrical service, HVAC capacity and structural loading.

University officials are typically not made aware of non-rated equipment until after it has been procured, fabricated, delivered or installed. When these purchases do come to fruition, expensive evaluation and infrastructure improvements may be necessary followed by testing and repair or replacement of equipment. The University is also obligated to stop operations that pose a safety threat until safe operations can be validated.

Definitions:

Procurement – Includes purchase, fabrication, and acceptance of equipment through donations or on loan.

Equipment – An electrical or mechanical device utilized in the conduct of teaching or research in University of Minnesota facilities.

Infrastructure – infrastructure refers to building mechanical and support systems (i.e., HVAC, electrical, plumbing, waste, load bearing capacity, and general room configuration).

Infrastructure Compatibility Assessment – an assessment to assess a buildings infrastructure capacity and determine if the proposed equipment can be housed in an existing building without significant modification to building systems.

Nationally Recognized Testing Laboratories (NRTL) – Federal OSHA created the NRTL program to ensure that certain types of equipment be tested and certified for safe use in the workplace. There are approximately 20 testing laboratories currently participating in the NRTL program, the most well-known being Underwriters Laboratories (UL). The full list of NRTLs can be found on OSHAs [NRTL website](#).

Third Party Equipment Certification – an independent evaluation by a qualified engineer to validate a piece of equipment as meeting safety criteria equivalent to listing by a nationally recognized testing laboratory.

Responsibilities

Researchers (Equipment Purchasers)

- Ensure equipment procurement is done in a manner which maintains compliance with equipment listing requirements.
- Ensure equipment procurement is done in a manner that can (whenever possible) be supported within existing facility infrastructure.
- Submit requests to FM for infrastructure compatibility assessments in conjunction with DFRs.
- Submit requests to Research Safety to identify third party engineers to provide.

Department Facility Representatives/Department Administrators/Division Administrators

- Review and understand requirements related to equipment certification and infrastructure review.
- Assist in review of proposed equipment purchases, determine if additional review is necessary.
- Facilitate communication between purchasers (e.g., PI or lab director) and FM Project Coordinators as necessary.

University Health and Safety (Research Safety)

- Validate requests for third party evaluation with the Building Codes Office
- Facilitate the identification of appropriate third party engineers to conduct equipment listing equivalency certifications.
- Record and maintain records of testing and recommendations.

FM Project Coordinators

- Review requests for infrastructure compatibility assessments and triage to the appropriate department to conduct the assessments.

Building Codes Department

- Provide verification that 3rd party equipment certification is necessary, as requested by Research Safety.
- Accept or reject with written supporting information when 3rd party certifications are presented.

Purchasing/Sponsored Projects/Energy Management/FM Team Leads/RBMS

- Review and understand requirements related to equipment certification and infrastructure review.
- Provide guidance on purchasing requirements and these procedures to potential equipment purchasers before purchasing decisions are made.

U Construction/CPPM/District Planning/Energy Management

- Conduct infrastructure compatibility assessments and provide purchasers with the following information as appropriate:

- Verification that proposed purchases can be supported by existing infrastructure,
- If proposed purchases cannot be supported, describe what the current building infrastructure can support,
- Provide information regarding what additional analysis may be require to determine the cost and extent of changes necessary to support the equipment

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