Technical News Bulletin
The National Institutes of Health | Division of Technical Resources | Office of Research Facilities
Issue 156
January
2026

Mechanical and Electrical Requirements for Temporary Buildings

Introduction

HHS Facility Program Manual (HHS Policy) Chapter 3.3.2.3 defines a temporary or short-term building as a building intended for removal or demolition within five (maximum 10) years from the turnover and start-up. Additionally, planning, design, construction, and activation time of a temporary building may not exceed 18 months from the identification of the short-term needs. As a note, NIH is the authority having jurisdiction (AHJ) and abides by the HHS policy, which differs from the International Building Code (IBC) Section 3103.1 definition of temporary facilities that limits their existence to no more than 180 days.

For laboratory research and critical temporary buildings, when it comes to *Design Requirements Manual* (*DRM*) mechanical, control and electrical requirements, there should be no distinction between a temporary or permanent building, as temporary buildings are required to operate with minimum downtime and must meet the program's functional requirements. This especially applies to equipment redundancy, reliability, and maintainability.

N+1 Redundancy

For source equipment such as air handling units (AHUs), heat exchangers, boilers, pumps, fans, and humidifiers, temporary laboratory research and critical buildings are not exempt from the *DRM* N+1 redundancy requirements per Sections 6.1.8.1B and 6.1.8.2C or 6.3.3B. Mechanical rooms shall be provided with adequate space to accommodate redundant equipment. Redundancy is a critical requirement as the source mechanical HVAC systems operate 24/7 and are often required to be down for service and maintenance. Any prolonged disruption may not be tolerated.

Mechanical Equipment Location and Access

Per *DRM* Section 6.1.19, which requires clear, safe access and proper location for components requiring frequent service and maintenance, equipment access shall not be compromised. Long-term durability is a crucial consideration; written approval from the Division of Technical Resources (DTR) and the Division of Facilities, Operations, and Maintenance (DFOM) is required to select equipment with a shorter service life expectancy.

20% Future Capacity

Temporary laboratory research and critical buildings may be exempted from the *DRM*'s 20% future capacity requirements for AHU capacity (see Section 6.2.1A) or pumps and heat exchangers (see Sections 6.3.3B or 6.3.5D) with written approval from DTR and DFOM.

BAS Controls

Per *DRM* Chapter 7, instrumentation devices and alarms shall not be compromised for controls, monitoring, safety and failure conditions.

Steam Utilities

Temporary laboratory research and critical buildings may be exempt from tying into plant steam generation and piping distribution system where natural gas is available in close proximity. High-pressure plant steam distribution piping and conversion can be cost-prohibitive for small temporary buildings.

Chilled Water Utilities

Temporary laboratory research and critical buildings shall not be exempted from tying into plant chilled water generation and piping distribution as a cooling source. Provide secondary-tertiary chilled water bridge piping with tertiary pumps as required by *DRM* Section 6.3.6. Local air-cooled chillers can be cost-prohibitive and require higher maintenance.

Piping Material, Fittings, and Joints

Piping for temporary laboratory research and critical buildings may be exempted from the guidance in *DRM* Exhibit 6.3 on a case-by-case basis with written approval from DTR and DFOM.

Electrical Systems

Temporary laboratory research and critical buildings shall not be exempt from applicable electrical requirements under the *DRM* and governing codes. Electrical systems shall be provided with the same level of reliability, redundancy, maintainability, and life-safety protection as permanent facilities, in recognition of the fact that these buildings often operate continuously and far beyond their original intended duration. Emergency and essential power systems, including normal and standby distribution, shall fully comply with *DRM* requirements.

Conclusion

For laboratory research and critical buildings, the *DRM* mechanical, control, and electrical requirements for equipment redundancy, reliability, accessibility for maintenance, and life-safety protections must be the same level as for permanent buildings. All exceptions or variances to the *DRM* requirements for temporary buildings must be carefully evaluated and approved in the early design phase with written approval from the end-user, DTR, and DFOM.