NIH POLICY MANUAL

1361 - Corridor Utilization
Issuing Office: ORS/DFM- Telephone: 301-496-0487
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1. Explanation of Material Transmitted: This manual establishes the NIH policy for the safe use of corridors in buildings located on the NIH Bethesda reservation and at the NIH Animal Center (NIHAC) in Poolesville, Maryland. The chapter is revised to comply with the NIH Manual 5-year update policy **and** to reflect an organizational change in oversight responsibility from the Division of Occupational Health and Safety to the Division of the Fire Marshal.

2. Filing Instructions:

Remove: NIH Manual 1361 dated 4/29/98
Insert: NIH Manual 1361 dated 4/16/07

*** Note:** Section A was revised 3/4/08 to remove the italicized text below and add the bolded text below.

Previous Section A:

Established under this chapter is the NIH policy for the safe use of corridors in buildings located on the NIH Bethesda reservation, the Rocky Mountain Laboratory (RML) in Hamilton, MT and at the NIH Animal Center (NIHAC) in Poolesville, MD. This policy is not intended to apply to main building entrances/lobbies *that are not integral to the building's egress corridors* or atriums of any building *as other fire protection and life safety criteria provide the requirements for the furnishings and finishes of these spaces.*

Revised Section A:

Established under this chapter is the NIH policy for the safe use of corridors, **as well as alcoves and elevator lobbies that are open to egress corridor systems,** in buildings located on the NIH Bethesda reservation, the Rocky Mountain Laboratory (RML) in Hamilton, MT and at the NIH Animal Center (NIHAC) in Poolesville, MD. This policy is not intended to apply to main building entrances/lobbies or atriums of any building.

PLEASE NOTE: For information on:

- Content of this chapter, contact the issuing office listed above.
- On-line information, enter this URL:

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A. Purpose:

Established under this chapter is the NIH policy for the safe use of corridors, as well as alcoves and elevator lobbies that are open to egress corridor systems, in buildings located on the NIH Bethesda reservation, the Rocky Mountain Laboratory (RML) in Hamilton, MT and at the NIH Animal Center (NIHAC) in Poolesville, MD. This policy is not intended to apply to main building entrances/lobbies or atriums of any building.

B. Background:

The NIH Corridor Utilization Policy applies only to buildings located on the NIH Bethesda reservation, the RML, and the NIHAC in Poolesville and is based on the judgment that certain uses for the corridor, in addition to the safe movement of people, can be accommodated without compromising the safe and adequate means of egress.

C. Policy:

It is the policy of the NIH that all corridors of buildings located on the Bethesda reservation, the RML and at the NIHAC provide for: (1) a readily apparent, safe and adequate means by which building occupants may exit a building in the event of a fire or other serious emergency; (2) adequate access and use by emergency personnel; (3) the safe movement of people during normal daily use of the building; and (4) the safe transportation of goods and materials. The NIH *Corridor Utilization Policy* (Appendix 1) details specific allowances, restrictions and requirements for corridor use.

Buildings constructed or renovated after 1991 shall be designed with clear and unobstructed corridors. Corridor storage shall not be permitted in these buildings. Limited storage of items in the corridors of existing buildings shall be allowed only as defined by the NIH *Corridor Utilization Policy* (Appendix 1).

All corridors and safe areas designated for patient care and treatment in Building 10 shall meet the standards as outlined by the Joint Commission on Accreditation of Health Care Organizations. Health care standards for fire safety are more restrictive than those for public areas and laboratories because corridors and exits must accommodate patients, many of whom are incapable of self-preservation in the event of an emergency.

In buildings permitted to have corridor storage, elevator lobbies shall be subject to the requirements and restrictions of Appendix 1, however these areas will also have to be evaluated by the Division of the Fire Marshal, Office of Research Services (DFM/ORS) to consider reasonable allowances to evacuate personnel with physical disabilities at passenger elevator lobbies and the movement of materials from freight elevator lobbies.

Buildings occupied by NIH employees, which are located outside the Bethesda, NIHAC and RML sites, shall conform to the requirements of the local authority having jurisdiction.

D. Additional Information:

For further information, contact the NIH, Division of the Fire Marshal, Office of Research Services (DFM/ORS) at (301) 496-0487.

E. Records Retention and Disposal:

All records (e-mail and non-e-mail) pertaining to this chapter must be retained and disposed of under the authority of NIH Manual 1743, "Keeping and Destroying Records, Appendix 1, *NIH Records Control Schedule*," Item 1300, Station Management.

NIH e-mail messages. NIH e-mail messages (messages, including attachments, that are created on NIH computer systems or transmitted over NIH networks) that are evidence of the activities of the agency or have informational value are considered Federal records. These records must be maintained in accordance with current NIH Records Management guidelines. If necessary, back-up file capability should be created for this purpose. Contact your IC Records Officer for additional information.

All e-mail messages are considered Government property, and, if requested for a legitimate Government purpose, must be provided to the requester. Employees' supervisors, NIH staff conducting official reviews or investigations, and the Office of Inspector General may request access to or copies of the e-mail messages. E-mail messages must also be provided to Congressional oversight committees if requested and are subject to Freedom of Information Act requests. Since most e-mail systems have back-up files that are retained for significant periods of time, e-mail messages and attachments are likely to be retrievable from a back-up file after they have been deleted from an individual's computer. The back-up files are subject to the same requests as the original messages.

F. Management Controls:

The purpose of this manual issuance is to provide guidance to NIH personnel for the safe use of corridors in buildings located on the NIH Bethesda reservation,

the RML in Hamilton, MT and at the NIHAC in Poolesville, MD.

1. **Office Responsible for Reviewing Management Controls Relative to this Chapter** (Issuing Office): Through this manual issuance, the Division of the Fire Marshal (DFM) is accountable for the method used to ensure that management controls are implemented and working.

2. **Frequency of Review** (in years): The NIH Corridor Utilization Policy is reviewed annually and updated as needed by the DFM.

3. **Method of Review**:
Other Review (describe): Compliance with this policy will be assessed through annual fire protection and life safety surveys of all worksites, including corridors, of buildings located on the Bethesda reservation, the RML and at the NIHAC. Compliance surveys will be conducted by the DFM and areas of non compliance will typically first be forwarded to the Office of Research Facilities Development and Operations (ORFDO) facility manager and the Lead Administrative Officer (AO) for the responsible Institute/Center (IC) requiring corrective action within 30 days. After 30 days the DFM will reevaluate the area and if the condition persists a notification will be made to the Executive Officer (EO) and/or Scientific Director (SD) (in the case that the building is a laboratory building) requiring corrective action within 15 days.

4. **Review Reports** are sent to: the Deputy Director for Management and the Deputy Director for Intramural Research. Reports should indicate that controls are in place and working well or indicate any management control issues that should be brought to the attention of the report recipient (s).

Foreword:

This policy represents the combined effort of the NIH Fire Marshal, NIH management, the Division of Occupational Health and Safety and the occupants of various NIH buildings. Requirements for providing safe and adequate means of egress have been balanced with routine building use needs and the continuing shortage of space. The degree to which this policy successfully achieves such a balance may be seen differently by various groups; in all probability it will not be seen as totally satisfying to any group. However, adherence to these provisions will provide for an acceptable level of safety to building occupants and emergency and service personnel, while still accommodating utilization of the corridors for specific purposes.

Introduction:

Fire codes and building regulations establish requirements for safe and adequate means of egress from buildings during emergencies. A fundamental principle of these codes and regulations is to maintain exit paths (i.e., corridors) which are

free of obstructions and hazards. The NIH policy is based on the judgment that certain uses for the corridor, in addition to the safe movement of people, can be accommodated without compromising the safe and adequate means of egress.

In order to assist building occupants and those responsible for the implementation of this policy, explanatory comments are provided in the right hand column, adjacent to the policy. The policy is printed in the left hand column in bold type.

Appendix 1 - NIH Corridor Utilization Policy

Purpose:

This issuance establishes the NIH policy for the safe use of corridors in buildings occupied by NIH employees. The intent of this policy is to ensure that corridors provide for: (1) a readily apparent, safe and adequate means by which building occupants may exit a building in the event of a fire or other emergency; (2) adequate access and use by emergency personnel; (3) the safe movement of people during normal daily use of the building; and (4) the safe transportation of goods and materials.

Responsibility:

A. Each NIH Institute/Center (IC) is responsible for ensuring compliance with this policy in building areas that it occupies.

In research buildings it is anticipated that such direction will be provided by individual Scientific Directors who may choose to utilize their internal safety committees to monitor compliance, inform new staff members and/or provide advice to IC management. In administrative buildings the IC Executive Officers will work with the administrative staff to achieve compliance with this policy.

B. NIH personnel are responsible for understanding both the need for maintaining a readily apparent and adequate means by which personnel may safely exit a building in the event of an emergency and the needs related to the daily use of the corridor. Staff members are expected to become familiar with this policy and to adhere to its provisions.

C. The Division of the Fire Marshal/ORS is responsible for providing additional guidance or interpretation of the provisions of this policy; conducting periodic inspections of NIH corridors for the purpose of advising each IC of conditions requiring corrective action and taking immediate action by notifying the appropriate IC Lead Administrative Officer with copies to the Scientific Director and Executive Officer to bring about the removal of items that would prevent safe egress of building occupants.

Although every attempt has been made to identify and explain the various requirements associated with the safe utilization of NIH building corridors, some unique situations may not appear to have been adequately addressed. The Division of the Fire Marshal will provide advice and interpretation of such situations as needed. The DFM may be contacted on (301) 496-0487 for advice and guidance.

Policy:

1. Minimum Corridor Width.

The minimum corridor width prescribed below shall be maintained:

A. Corridors required for emergency evacuation in patient care areas of Building 10 and the Clinical Center (CC) shall be at least eight feet in clear and unobstructed width. Patient-use corridors in the ACRF shall be clear and unobstructed the full constructed width.

This requirement for corridors in patient care areas is specifically stated in both the National Fire Protection Association's Life Safety Code (NFPA 101) and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) Standards. It is based on the need to provide for the transport of patients in beds, litters or similar equipment. The restriction is not intended to prohibit the temporary parking of small wheeled carts or similar mobile equipment required for patient care which would not impede evacuation. Corridor widths in the ACRF are subject to a different section of the applicable codes and meet the necessary minimum widths as constructed. The NIH Fire Marshal must approve all temporary exceptions to these provisions and measures to compensate for diminished life safety.

B.Other corridors of the Building 10 Complex shall be at least five feet (60 inches) in clear and unobstructed width. In buildings where constructed corridors are five feet in width, occupants shall maintain the entire width free of any material or equipment.

As in 1.A above, this requirement is not intended to prohibit the temporary parking of an occasional laboratory cart which may be quickly moved by the occupants in order to provide full access. Locations for such equipment shall be provided on the side of the corridor authorized for equipment or storage (see Section 3.D).

Bulletin or chalkboards or similar items may extend into the clear space; however, displays which extend into the clear space by more than 4 inches are not permitted.

Storage is not permitted in the 200 Corridor of the ACRF.

The corridor on the south side of the laboratory portion of the ACRF (rooms C121 – C129) presents a unique situation because the 200 corridor on each floor is generally the main access through the ACRF to the CRC the use of this corridor for storage has been problematic.

This Policy prohibits the use of the clear width for temporary storage of construction material, equipment scheduled for installation, supplies pending movement into labs or offices, surplus materials or similar items which would jeopardize area occupants.

C. A minimum 54 inch width of clear and unobstructed egress must be maintained in all corridors of other buildings. No exceptions to reduce the corridor width from the stated dimensions shall be permitted.

D. Corridors of buildings located outside the Bethesda/RML/NIHAC sites shall conform to the requirements of the local Authority Having Jurisdiction.

From a practical standpoint, this prohibits the use of the corridor for any storage and/or operation of equipment. For example, Montgomery County Fire Codes require that corridors be kept clear from wall-to-wall regardless of width. NIH is not in a position to grant exceptions to this requirement.

2. Stairwells, Horizontal Exits and Designated Marshalling or "Safe" Areas.

Materials and equipment not required for emergency response shall not be located or used in stairwells, horizontal exits or designated Marshalling Areas.

This restriction is specifically stated in the Life Safety Code. While everyone may recognize that stairwells require absolutely clear access, few understand that certain corridors, known as "horizontal exits," have similar requirements because they are designed to provide increased protection to occupants under emergency conditions. Typically, horizontal exits are provided instead of additional stairwells which would be required to meet the travel distance requirements of the codes. Horizontal exits are separated from the balance of the building by a 2-hour-rated fire wall. Thus, persons reaching a horizontal exit are provided similar protection as in a stairwell. Consequently, use restrictions for horizontal exits are identical to those imposed on stairwells. It should be understood that the concept of horizontal exits anticipates that occupants will move from an area of immediate danger through an area protected by fire walls to a low-risk area. Generally, once reaching a horizontal exit, the urgency for

exiting the building via the stairwell is diminished.

"Marshalling Areas" are intended to serve as locations for controlled evacuation of personnel. At NIH they are provided in Buildings 10, ACRF and Lister Hill. In patient care area marshalling or “Safe” areas designated for staging patients during an evacuation include the atrium and elevator lobbies on the east and west end of each patient care unit, respectively, in the Building 10 Complex. In addition, the East, West and Center elevator lobbies are considered as marshalling areas for the evacuation of the non-patient care areas of Building 10.

In addition to providing a level of fire protection similar to stairwells or horizontal exits, such areas are also equipped with automatic mechanical means to prevent smoke from entering the area. The NIH Fire Marshal must approve all temporary exceptions to the provisions for patient safe areas in Building 10 and measures to compensate for diminished level of life safety.

3. Allowances, Restrictions and Requirements for Corridor Use.

Per Section C above the use of corridors for storage is prohibited in buildings constructed or those that have undergone major renovations after 1993.

Materials or equipment may be located in a corridor whose width is greater than the minimums prescribed in Requirements 1.A, 1.B, and 1.C above provided that:

See comments under Requirements 1.A and 1.B above.

A. The minimum prescribed width is maintained clear and unobstructed.

B. Such use is restricted to one side of the corridor. The same side should be utilized on all floors throughout the building.

This practice is generally intended to permit storage and/or operation of certain equipment on the side of the corridor opposite the stairwell door to ensure that, under emergency conditions, there will be no impediments to reaching the stairwell. However, in some corridors, utility modifications have resulted in enclosed chases projecting from the side of the corridor normally preferred as the "clear" side. Where this condition exists, utilization is limited to the side with the projecting utility chases.

In buildings where access to a stairwell or horizontal exit is in the end wall of the corridor, the primary or lead Institute/Center shall establish which side will be used for materials or equipment. The selected side shall be uniform throughout the building to enable the occupants to become familiar with a clear path pattern regardless of the floor they occupy at the time of an emergency.

This uniformity will also allow the Division of Emergency Preparedness and Coordination (DEPC), to plan emergency response patterns.

C. Such use does not involve the storage or use of:

Nothing in Section 3.C prohibits the incidental use of the corridor for delivery of restricted materials, the movement of such items from room to room or similar activities. Manipulative procedures involving the restricted items listed below (weighing, processing, etc.) are prohibited.

o Flammable or combustible liquids (except as noted).

The restriction on the storage or use of flammable and combustible liquids in corridors is intended to eliminate fuel sources which, if ignited, could involve a large area and would be difficult to contain. With the presence of liquid materials, there also is the potential for the accumulation of flammable vapors since ventilation rates in corridors are substantially lower than those in laboratories. This restriction does not prohibit the use of properly located scintillation counters in corridors in which scintillates containing a flammable solvent is confined in sealed vials. However, the storage of bulk flammable containing scintillates is prohibited. It is recommended that consideration be given to using non-flammable scintillates and locating the counter in the laboratory.

o Hazardous chemicals.

The manipulation or storage of the following types of chemicals in the corridor is prohibited: (1) chemicals that are reactive (e.g., sodium or potassium) or may become reactive (e.g., picric acid); (2) explosive compounds (e.g., tetranitromethane); (3) compounds that are capable of creating a single, acute toxic exposure if released (e.g., phosgene or nitrogen mustard); (4) highly corrosive or strong oxidizers that may react violently with other materials; (5) known chemical carcinogens that could easily contaminate an area or unnecessarily expose personnel; (6) temperature sensitive compounds which may become autoreactive (e.g., acrolein); and (7) waste chemicals of any nature due not only to the type of hazards noted above but also to the impossibility of identifying unknown compounds or obtaining information once such material leaves the laboratory.

o Compressed gas cylinders - all sizes.

Cylinders containing compressed gases present a particular hazard because of their high pressure. A single cylinder can reach a speed of 35 mph in 1/10th of a second if the valve mechanism breaks. In addition, some cylinders are not provided with a means of venting the contents if the internal pressure exceeds the design limits of the cylinder. While the same hazards exist within a

laboratory, their consequences are more likely to be confined. Provisions for acceptable storage of compressed gases in authorized locations outside individual laboratories or work areas are set forth in Section 4.

o Liquified gases (except as noted).

Although liquefied gases (e.g., cryogenic liquids) often present equal or greater hazards than compressed gases, the typical equipment using liquid nitrogen as a freezer supply or serving as a refrigerator backup is considered to represent minimal risk and would be permitted if properly located in the corridor.

o Radioactive materials (except as noted).

The use or storage of radioactive materials in corridors is specifically prohibited, except for the amount of radioactive material in actual use within a scintillation counter or film cassettes in a locked freezer. Radioactive wastes are not to be placed in corridors in preparation for pick up by disposal personnel. Nothing in this section would preclude the transportation of sources or radioactive specimens through the corridors; however, such activities are to be conducted in a manner which minimizes the chances of contamination through spillage or breakage and maintains radiation levels within acceptable limits.

Failure to adhere to these provisions may compromise the NIH license to use radionuclides issued by the U. S. Nuclear Regulatory Commission. Users found in violation of these provisions are subject to temporary or permanent loss of their authority to use radionuclides. Further information is available in the *NIH Radiation Safety Guide* and from the Division of Radiation Safety (DRS), (301) 496-5774.

o Biological agents at or above Biosafety Level 2 or those requiring BSL2 or higher physical containment.

o Equipment which, by design or use, would present significant hazards under routine or emergency conditions.

Some classes of equipment may be safely operated in the corridor. The intent of this policy is to restrict equipment which, by design, operation or use, may present undue risk. For example, centrifuges normally are designed to safely contain the physical hazard associated with a disintegrating rotor. However, they are not normally designed to contain chemical or biological agents. Centrifuges used for procedures with non-hazardous materials are permitted.

Refrigerators or freezers containing only non-restricted material do not present any unique hazards and are permitted. However, the user should consider the potential risk associated with the material stored, the frequency of access (regular and frequent access increases the probability of accidental breakage)

and the consequences of electrical or equipment failure (e.g., internal temperature rise resulting in vapor overpressure, exothermic reaction, etc.).

Equipment designed to operate under either positive or negative pressure shall be located in the laboratory. There is a clear risk of pressure-related explosions or implosions in addition to the risks that may be associated with the agents or compounds used in such equipment. At NIH, there have been several instances where the cover of a lyophilizer has fractured under normal operations and a lyophilizer was the source of a serious fire loss.

Incubators, used in compliance with this Section, are permitted in corridors since their normal operating temperatures do not pose undue risks. However, drying ovens, which operate at far higher temperatures, are not permitted in the corridor. Other types of equipment not permitted in corridors are those utilizing high voltage (e.g., some equipment used for electrophoresis) or those posing mechanical hazards such as unguarded belts, pulleys or gears. Normally, duplicating or copy machines which do not utilize flammable liquids are permitted, provided that excess paper stock is not stored in the open corridor.

o **Electrically powered coffee pots are prohibited in corridors.**

Coffee Pots produce heat and are often sources of ignition of fires. To protect the means of egress these appliances should be located in a break room or similar area which is separated from the corridor by walls and a door.

o Live Animals.

o **Construction Materials.**

Construction materials may be stored *temporarily* in the corridor during the workday, as long as the minimum prescribed clear corridor width is maintained. Construction materials shall not remain in the corridor overnight. Equipment and supplies shall not, under any circumstances, be stored in stairwells.

o Surplus Property.

Equipment and supplies cannot be abandoned in corridors, horizontal exits, designated safe areas or stairwells. Dispose of unneeded property by contacting the appropriate IC Property Custodial Officer. Refer to the *NIH Personal Property Management Guide* (NIH Manual 26101-25-2) for additional information.

o Waste Containers.

Containers for the storage/disposal of waste materials shall not be left in the corridor. The *NIH Waste Disposal Guide* describes specific disposal procedures

for the following types of waste: general, medical pathological, chemical, radioactive and mixed.

D.Location of material or equipment does not prevent emergency access to exit doorways, emergency equipment or utility panels, and an adequate clear space is provided on one or both sides of all doorways serving occupied space.

All emergency equipment; including safety showers, eyewashes, sprinklers and fire extinguishers, must be maintained with full and unobstructed access at all times. Storage or equipment placement shall not block fire alarm system equipment (fire alarm pull stations, fire alarm panels, etc.), utility panels or closets. A **36 inch** clear space must be provided on each side of each electrical panel or device. All exit doors, including stairwell doors, shall be clear of storage to a distance of **five feet** on either side of the door.

E. All material storage shall be contained within suitable metal cabinets with metal doors. Material storage outside of metal cabinets or on open shelves is prohibited.

All furniture shall be constructed of noncombustible or factory-applied fire retardant treated materials.

This requirement also permits storage in standard file cabinets and similar metal furnishings. Storage on top of cabinets is not allowed in order to eliminate potential injury from material or equipment that may become accidentally dislodged. Combustible materials (e.g., paper, wood, plastic or similar materials) are to be stored within the cabinets, since they constitute a fuel source which would serve to spread fire through the corridor. Combustible furniture and cabinets can also serve as a fuel source and shall not be stored or used in the corridor.

Glass-fronted refrigerators having impact resistant tempered glass doors shall be permitted.

The requirement for metal doors is intended to eliminate the risk of personal injury should someone fall against a glass door. Refrigerators having glass doors are permitted to be located in a corridor provided that the manufacturer certifies in writing that the glass tempered.

F. Electrical service to authorized equipment shall be provided by permanent installation of an easily accessible protected outlet located adjacent to the equipment. Extension cords shall not be used.

The use of extension cords or equipment power cords passing through doorways or walls is prohibited. Modifying a fire rated building component (wall, door or

door frame) so that an electrical cord will pass through, negates the fire rating of the component. The user should request that the ORFDO, Division of Property Management, Construction Management Branch, determine the availability of additional power and whether the additional heat load generated by the equipment can be accommodated. Since the cooling capacity for corridors is limited, elevated ambient temperatures may adversely affect equipment operation.

4. Compressed and Liquified Gas Cylinder Storage Locations

Authorized locations for full and empty cylinders have been identified for all buildings. All stored cylinders shall conform to the restrictions posted at each location, shall be chained in the racks, shall not exceed the capacity of these chain racks, shall have protective caps in place, and shall identify the responsible investigator.

Posted restrictions prohibit the storage of flammable and oxidizing gases adjacent to one another and restrict toxic or corrosive gases to individual laboratories or work areas. Other restrictions may be posted in specific buildings due to the nature of the occupancy.

The Joint Commission on Accreditation of Health Care Organizations restricts the type and quantity of compressed gas that may be stored in health care areas. Clinical Center policies stipulate the requirements for use and storage of gas cylinders in the hospital.

5. Local Policies and Restrictions

An IC that occupies an entire building or the lead IC in a multi-IC building may establish additional policies and restrictions for corridor use in buildings under its control, providing such policies and restrictions do not conflict with this NIH policy. A draft copy of local policies and restrictions must be forwarded to the Division of the Fire Marshal for review and approval.

An IC may establish additional requirements for the space it occupies in a building as provided in this Section.