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## SECTION 01 35 25 – OWNER SAFETY REQUIREMENTS

## PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.

C. For projects enrolled under the Owner Controlled Insurance Program (OCIP), this Section supplements Section 01 35 23 Project Safety Requirements, with additional Owner requirements for work within existing facilities or for work in areas controlled by the Owner.

1.02 SUMMARY

A. The control of Project Safety by the Contractor is an essential element of performing work at The University of Texas MD Anderson Cancer Center (MD Anderson). The Contractor shall, at all times, provide adequate resources, equipment, training, and documentation to assure a safe work environment at the Project site and to instill a culture for safety in the behavior of all supervisors and workers. Every worker shall understand that safety and health issues always take precedence over all other considerations, and that identifying, reporting, and correcting unsafe acts and conditions are the responsibility of everyone at the Project site.

B. MD Anderson is dedicated to providing a safe healing and work environment for all patients, visitors, staff, students, guests, and Contractors.

C. The details of this document should be considered as supplemental requirements. The Contractor shall develop, implement, maintain, and submit to the Owner a written Project Safety Program that meets or exceeds all Federal, State, and Local standards and regulations pertaining to construction activities. The Contractor and every Subcontractor shall comply with the rules and guidelines outlined in this guideline. In any circumstances where this section differs with or conflicts with any standard or statutory requirement, the more stringent requirement shall apply. Contractors may use a company-wide safety program in lieu of the Project specific safety program as long as it meets or exceeds the requirements listed in these guidelines.

D. The Owner reserves the right to have any manager, supervisor or worker employed by the Contractor or Subcontractor removed from the Project for disregard of Project Safety requirements.

E. The Owner reserves the right to deduct from the Contract any safety related expenses that the Owner incurs, as a result of the Contractor's, or any Subcontractor's, disregard for Project safety.

1.03 REFERENCE STANDARDS

A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.

B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.

1.04 DEFINITIONS

A. The term “Owner’s Designated Representative” or “MD Anderson Representative”, as used throughout the document, shall refer any of the Owner’s Project management team, insurance carrier representative(s), Owner’s designated agent, or campus representative(s).

B. The term “Contractor” as used throughout the Contract Documents shall refer to the party having a direct contractual agreement with the Owner to provide services. This term is to apply whether Contractor is known as a Prime Contractor, General Contractor, Construction Manager, or Design/Build Contractor.

C. The term “Subcontractor” as used throughout the Contract Documents shall refer to any on-site Subcontractor, regardless of tier.

1.05 EMERGENCY / IMPORTANT CONTACT INFORMATION

A. Consult with your MD Anderson Representative regarding the correct emergency contact information for the facility in which you are working. Each facility may have a different emergency call procedure.

**PART 2 - PRODUCTS**

2.01 GENERAL

A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

**PART 3 - EXECUTION**

3.01 ASBESTOS CONTAINING MATERIAL

A. Environmental Health and Safety must review <u>all</u> Job sites prior to the start of a Project to determine the presence of Asbestos Containing Material (ACM).

B. All suspect materials shall be considered asbestos-containing material until identified otherwise by an EPA approved method of analysis for identifying asbestos-containing material.

C. Any Contractor personnel needing to disturb any suspected asbestos containing building materials shall first contact their MD Anderson Representative. It is then the responsibility of the MD Anderson Representative to contact Environmental Health and Safety to determine if there is any Asbestos Containing Materials present.

D. Contract personnel coming into contact with known or suspected asbestos containing materials (ACM) will:

1. Avoid any physical contact or other actions that may damage or otherwise disturb the material.

2. Submit all requests for sampling suspected asbestos containing materials through your MD Anderson Representative. If the material has not been previously identified as containing asbestos, Environmental Health & Safety personnel will sample the materials, obtain analysis, and report results to the requester.

3.02 BLOODBORNE PATHOGENS

A. Contractors shall instruct their employees in the concept of Standard Precautions and document training in accordance with OHSA 29 CFR Section 1910.1030.

B. The Contractor must take every effort to prevent exposure to blood and/or body fluids while in the hospital.

C. Patient care and research areas are considered to have the potential for exposure and special instructions may be given by the nursing or research staff on how to avoid potential contamination. Contact your MD Anderson Representative to determine if an exposure potential exists for all areas in which you will be working.

D. Contractors shall not handle bags or containers identified as containing potentially infectious materials. Contractors may contact Environmental Health and Safety at 713-792-2888 for additional questions.

E. For Smithville / Bastrop, Contractors may contact Environmental Health and Safety with additional questions at:

1. Smithville Office Phone: 512-237-9522, 9536

2. Bastrop Office Phone: 512-332-5232

3.03 CELLULAR PHONE AND RADIO USE

A. The use of the following devices in PMA locations should be used with caution (beyond six feet of physiological monitoring systems):

1. Cellular Phones

2. Computers with wireless capabilities

3. Two-way pagers

4. Wireless handheld devices

B. Definitions:

1. Cellular Phone – Telephone that uses a frequency range of 800 - 1910 MHz to transmit voice and data to a remote cell and up to 625mW of power.

2. Close Proximity - within twenty (20) feet for two-way radios and within three (3) feet for cell phones and others of a physiological monitoring system.

3. Non PMA Area - an area of M.D. Anderson facility outside of the defined PMA Areas.

4. Physiological monitoring area (PMA)- An area of M.D. Anderson facility where patients are likely to require the use of a physiological monitoring (e.g., Electrocardiograph, electroencephoalographs, pulse oximetry, cardiac output, invasive pressure, etc) for care or treatment.

5. PMA Locations: Bone Marrow Unit (G11), Cardiac Unit (P12), Cardio-Pulmonary Clinic (R8), Diagnostic Imaging (G3, R3, B3, ACB4-ACB7), Emergency Center (R1, P1, P2), Endoscopy Clinic (R5), Intensive Care Unit (G7), Operating Rooms (G5, ACB4), Pediatric Unit (G9, R7), Post Anesthesia Care Unit (G3, G5, ACB4, P3 Pod B), Rehab and Patient Therapy (P8), and the Telemetry Unit (P7).

6. Wireless Communication Devices - Cellular telephones and two way radios are the only devices currently defined as having caused interference to medical devices.

7. Two Way Radios – “Walkie-talkies" which use a frequency range of 29 - 1000 MHz to transmit voice between two locations up to 5 watts of power.

8. Wireless Handheld Devices – Commonly known as PDA (Personal Digital Assistant). Devices that provide a range of personal information management, voice communication, data communication, and computing capabilities, that relies on wireless technology to transfer or retrieve data. May include Palm Pilot, Pocket PC, Blackberry, Smartphone, or similar devices with operating frequency of 800 to 1900 MHz.

C. If allowed to be turned on, the volume of radios and cellular telephones must be turned down to minimize disruption to patients and operations.

3.04 CONDUCT

A. The use or consumption of alcoholic beverages or controlled substances is strictly forbidden on any Institution owned or controlled property.

B. Contractor shall not permit any person to operate a motor vehicle or heavy equipment while taking prescription or non-prescription medication that may impair their ability to operate safely.

C. MD Anderson is a NO SMOKING Institution. No smoking or use of tobacco products is allowed on any Institutional property. There are no designated smoking areas. Anyone found smoking will be immediately removed from the jobsite.

D. Contractor personnel shall be courteous to all tenants, business invitees, patients, visitors, and employees.

E. Unacceptable behavior on the part of the workers anywhere on campus, including parking lots, the project site, the accessible route(s) through the site or through the campus may lead to the identifiable Contractors being removed from the project.

F. Personal grooming, personal hygiene and language by Contractors must be constructed in a professional manner at all times. Use of foul and off-color language will not be tolerated and can result in Contractor removal from jobsite.

G. Shirts must have sleeves of at least 3 inches, measured from the armpit seam. All buttoned shirts must be buttoned to at least the third button from the top. T-shirt styles may be approved if they are part of a company uniform or contain no political or offensive language or images. For additional guidance, see Section 3.26 Personal Protective Equipment.

H. Pants that are excessively loose, torn, ragged or with dragging cuffs will not be permitted. Shorts are not allowed.

I. No clothing, accessories, or hardhat stickers that display offensive, derogatory or inflammatory wording or graphics shall be worn on the worksite.

J. All clothing must be in good repair and free of any large holes or major damage. All clothing must be clean and sanitary at the start of each work shift and periodically cleaned to prevent tracking dust and debris out of the construction area.

K. Workers clothing must be clean of visible dusts and dirt when outside of the Project site.

L. No radios or music shall be allowed on the Project including headphone systems. Personnel must be able to hear alarms and warnings in the immediate area. (This does not pertain to the use of two-way hand held communication equipment or phones).

M. No tools or equipment will be loaned by Owner to Contractors to assist them in completing Projects.

N. Contractor personnel shall not tape back lock/latch mechanisms nor prop open any exterior door, security door, stairwell door, or fire / smoke door. Personnel may not disconnect any electronic security device or defeat lock systems.

3.05 CONFINED SPACES

A. MD Anderson does not provide any confined space entry support such as sampling, entry permits, rescue personnel, rescue equipment, etc., for contractor personnel.

B. Contractors are responsible for ensuring all of their employees are trained on the recognition and significance of confined space entry procedures in accordance with 29 CFR 1910.146.

C. It will be the responsibility of the Contractor performing the work inside the confined space to provide the necessary equipment to assess the hazards within the space and prepare the space for entry and to meet the precautions of the entry permit.

D. Contractor shall provide all emergency rescue equipment and personnel as required by 29 CFR 1910.146, as applicable.

E. The Contractor conducting the work inside a permit-required confined space shall follow, at a minimum, all applicable OSHA requirements.

3.06 CONSTRUCTION SAFETY SITE INSPECTIONS

A. All construction sites will be subject to periodic inspections by Environmental Health and Safety representatives. The inspector(s) will be looking for life safety, environmental, construction safety, and indoor air quality deficiencies. Once noted, the inspector will notify the MD Anderson Representative responsible for the site. The inspector may also notify the Contractor Representative on site.

B. All noted deficiencies shall be immediately corrected.

C. The inspector will be enforcing IAQ measures found in the “Maintaining Indoor Air Quality During Construction and Renovation” policy / procedures and other requirements set forth in the MD Anderson construction specifications for that Project. (See Attachment A).

D. A job or activity will be suspended if an imminent danger to patients, animals, visitors, employees, Contractor personnel or facilities is observed.

3.07 CONTRACTOR DAILY SIGN-IN AND WORK NOTIFICATION - HOUSTON

A. Contractors must follow any specific check-in procedures for the facilities in which they will be working. Your MD Anderson representative will inform you of these procedures.

B. All Contractors/vendors must wear an MD Anderson-issued ID badge at all times while on property owned or under the control of the Institution. Badge must be worn and be visible at all times. Contact your MD Anderson Representative for assistance in obtaining an ID badge.

3.08 CONTRACTOR DAILY SIGN-IN AND WORK NOTIFICATION – SMITHVILLE / BASTROP

A. Contractors/Vendors hired by the Facilities Management Division must register their activities with Facilities Management before commencing work.

B. Contractors coordinate with Project Managers for access to the campus. Contractors must submit a Construction Schedule to Physical Plant Management.

C. Physical Plant informs Facilities Management of contractors schedule as well as the badge numbers issued to that contractor. Facilities Management will issue badges to contractor for their use while on the property. Contractors are responsible for distributing the badges as needed.

D. Contractor/vendor registration is performed in the Physical Plant Building.

E. All Contractors/vendors must wear an MD Anderson-issued ID badge at all times while on property owned or under the control of the Institution.

F. Contractors/vendors who fail to register with Physical Plant Management are subject to removal from the property by the UT Police.

3.09 CONTRACTOR INJURIES AND INCIDENTS

A. Contractors shall make prior provisions for the treatment of minor injures.

B. Contractor is responsible for cleaning up all blood and body fluids and debris from accidents.

C. Contractor employees requiring immediate medical treatment should be taken to the emergency room of a local hospital. MD Anderson does not provide medical treatment to Contractors engaged in projects.

D. If an injured worker cannot be moved and assistance is needed, contact the Houston or local Fire Department (911) for an ambulance.

E. An injury requiring treatment beyond minor Job Site First Aid, shall be reported immediately to your MD Anderson Representative or Designee and Monitoring Services 713-792-2888 (All Houston Locations) and UTPD Smithville/Bastrop at 512-332-5371 or 512-237-9411

F. A copy of the incident / accident report must be provided in a timely manner to your MD Anderson Representative. A preliminary report must be made within 24 hours of the end of the next working day.

G. All incidents that result in property damage must be reported to your MD Anderson Representative.

3.10 CONTRACTOR SAFETY ORIENTATION

A. All Contractor personnel are required to complete the MD Anderson Construction Safety and Infection Control Orientation Training given by the Environmental Health and Safety Office before beginning work at the Institution. This training may be in the form of videos or an in-class presentation. Videos can be requested through the EH&S department or your MD Anderson Representative and are available in both English and Spanish.

B. Completion of orientation is required to obtain an MD Anderson hardhat sticker and emergency contact card.

C. The Contractor may be required to attend orientation again for refresher, and review any changes if deemed necessary by the Owner.

D. The Contractor's MD Anderson Representative must contact the Environmental Health and Safety Office to make arrangements for the orientation session.

E. It is the responsibility of the Contractor to ensure that the information given in the orientation session is understood by all workers (i.e., Spanish or other language translation).

3.11 ELECTRICAL SAFETY

A. Refer to Section 3.24 on Lock Out / Tag Out requirements.

B. All electrical power tools, equipment and extension cords shall be inspected daily before use. Defective items shall be immediately removed from service for repair or replacement.

C. NOTICE: RED OUTLETS are for power requirements provided by the Emergency Generator System and shall NOT be used by Contractor personnel.

D. Ground Fault Circuit Interrupters (GFI's) shall be in use between any permanent receptacle and any Contractor equipment.

E. Temporary power panels shall have GFI protected circuits built into the panel.

F. The GFI shall be tested for function before plugging in any Contractor equipment.

G. Electrical power tools shall be grounded, or double insulated, or battery powered. The cord on the tool must be free of defects.

H. Battery powered portable hand tool battery charging stations are not to be plugged into hallway or exit stairs outlets or other areas so as not to create a trip hazard.

I. Extension cord sets shall be the “heavy duty” three-wire grounded type (14 gauge or larger), and must be rated for the particular application in which it is to be used.

J. Three-wire flat type extension cords are NOT permitted.

K. Defective cord ends must be replaced with a UL rated repair end; Contractor must follow the manufacturer instructions for repair installation.

L. Damage to the cord jacket shall not be taped over and must be repaired per manufacturer’s recommendations.

M. Extension cords shall be routed overhead whenever possible or otherwise protected against damage or tripping hazard by being securely taped to the floor or secured by other acceptable means and approved by the MD Anderson Representative.

N. Running/hanging extension cords through ceiling spaces is not permitted. Special permission from Environmental Health and Safety is required for any variation from this requirement.

O. Extension cords must be used as designed by the manufacturer. Avoid using extension cords in a manner to cause damage to the electrical system or cause personal injury.

P. All electrical shutdowns and electrical “taps” must be coordinated through the Project Manager or MD Anderson Representative for that Project.

Q. Contractors are absolutely not allowed to turn on/off any electrical source breakers or switches without permission from the respective MD Anderson Facilities Management representative for that building/space. This should be accomplished through a Utility Shutdown Request submitted by the Project Manager or MD Anderson Representative.

R. Existing and new electrical equipment must be protected at all times from humidity, liquid material splashes, activities inducing to vapor formation and condensation.

S. No liquid materials shall be handled in electrical rooms, electrical equipment areas or areas adjacent to electrical equipment locations.

T. In the event that the Contractor must handle liquid materials in the vicinity of electrical equipment locations, the Contractor must inform the Owner and seek written approval, prior to bringing those liquid materials to the above-mentioned locations.

## 3.12 EXCAVATIONS

A. All excavation shall have the following prerequisites:

1. Discussion with the appropriate MD Anderson Representative or site owner/property manager of as-built locations of all underground utilities in the vicinity;

2. Where applicable, a phone call for utility “locates” shall be completed seventy-two (72) hours in advance. “Potholing” and hand excavation shall be required within three horizontal feet of “located” centerlines.

3. All excavations must follow the applicable OSHA guidelines and requirements as related to design and protection of excavations.

4. All trench excavations should be backfilled or plated at the end of each shift.

5. When an excavation cannot be backfilled or plated in the same day it is created, a highly visible hard and sturdy barricade such as a wooden fence or wooden railings shall be erected. Excavation protections in areas of traffic must comply with local, state, or federal safety standards.

6. Means of access into excavations shall be removed or physically barricaded at the end of each workday.

7. Excavations in areas of public access shall be secured with a temporary “hard” barricade such as solid fencing or wooden railings to prevent entry. These excavations and protection plans must be approved by the Environmental Health and Safety Office.

B. Where applicable, all required engineer stamped excavation plans must be readily available at all excavations for review by MD Anderson Representative(s). Certificates of soil testing shall also be made available.

3.13 FALL PROTECTION AND PREVENTION

A. Work in areas not protected by a standard guardrail system OR present a fall hazard greater than six (6) feet shall require compliance with all current applicable OSHA Fall Protection requirements and/or ANSI/WCA I-14.1 Window Cleaning Safety Standard.

B. The Contractor shall ensure that all workers exposed to fall hazards have been properly trained and equipped by their employer.

C. No worker or equipment shall be allowed to perform work directly above another worker unless adequate overhead protection is provided.

D. Covers or fencing of sufficient design shall be placed over holes, roof and floor openings or drop offs to prevent personnel or equipment from penetrating the opening.

E. Covers or fencing shall be physically secured and clearly marked with warning message, such as “Danger”, “Hole”, or “Cover! Do Not Remove”.

F. If a cover is too small for a warning message, it shall be painted bright orange or red.

G. All puncture and impalement exposures shall be covered or eliminated as soon as they are created. Exposed ends of rebar are to be covered with material that is designed to prevent impalement of a 250-pound body from a fall of four (4) feet.

3.14 FIRE PREVENTION

A. All combustible materials shall only be stored in approved areas as designated by the MD Anderson Representative.

B. MD Anderson is a NO SMOKING facility. No smoking or use of tobacco products is allowed on any Institutional property. There are no designated smoking areas. Anyone found smoking will be immediately removed from the jobsite.

C. Contractor shall coordinate the covering and uncovering of smoke/heat detectors with Owner’s Environmental Health and Safety Department (713-792-2888) prior to starting work or upon discovery of such devices as work progresses. Covering smoke detectors with tape, rubber gloves, or any other method that can agitate or damage a detector is prohibited.

D. Contractor is subject to fines by the Cities of Houston, Bastrop/Smithville Fire Marshal or Fire Department Inspector if they are found to negligently activate fire alarm devices.

E. For large or high dust generating Projects, the Contractor shall coordinate with their Project Manager or MD Anderson Representative to arrange for the replacement of smoke detectors with heat detectors. Environmental Health and Safety must approve all changes to any fire alarm or suppression systems.

F. Combustible scrap, trash, and debris shall be removed from the Project site on a daily basis, or, more frequently as required.

G. Contractor shall not tape back door lock/latch mechanisms nor prop open any exterior door, security door, stairwell door, or fire / smoke door. Lock cores shall not be removed. Coordinate changing lock cores to the designated construction core lock with your MD Anderson Representative.

H. Flammable products shall be limited to one days supply inside the building. Flammable products shall be stored outside the building or in approved UL Rated flammable storage cabinets. Flammable liquids shall be in approved safety cans or cans designed for their use.

I. No internal combustion engines or portable propane heating devices are allowed in any Institutional buildings unless approved by the Owner. Coordination of how gasoline will be transported through buildings and stairwells must be coordinated with your MD Anderson Representative.

J. Absolutely no gasoline will be allowed inside MD Anderson owned buildings. For temporary use outdoors, only approved metal safety cans will be permitted.

K. Compressed flammable gas cylinders (i.e acetylene) shall not remain inside the building overnight and must be removed from the premises at the conclusion of each workday. Oxygen cylinders must also be removed from the premises at the end of each workday. Gas bottles are not allowed to be stored in areas that are used as Contractor offices.

L. The Contractor shall also have the Material Safety Data Sheets (MSDS) for each gas used available within 15 minutes when requested. .

M. Compressed flammable gas cylinders, while on the project site, shall be secured by chain or other suitable method to prevent tipping or falling over. All safety caps shall be securely installed when tanks are not in use.

N. When working in the ceiling space or on rated fire/smoke rated walls and structures, all holes and penetrations for wires, conduits, piping, etc. shall be sleeved and sealed with a UL approved fire caulking / sealing compound at the end of each workday. Any holes that must remain overnight must be sealed with an equivalent temporary fire proofing material as approved by the MD Anderson Representative.

O. Work on fire sprinkler and detection systems shall continue until the system operation is fully restored. No impairments will be allowed to extend beyond approved periods of time or during times when the site is unattended.

P. Shutdown of any fire suppression or detection systems/devices shall be coordinated through the Owner's Designated Representative. Unauthorized shutdown or disabling of life safety systems shall be grounds for immediate removal from the jobsite.

Q. All Contractors are required to supply and maintain a minimum of one currently tagged ABC fire extinguisher, 10 pound (Class 2-A) or greater. The use of a M. D. Anderson owned fire extinguisher will not be permitted. Requirements are as follows:

   1. Indoors - Within 100 feet of any Class-A hazard, within 25 feet of any hot work and one for every 3000 square feet of floor space.

   2. Outdoors – between 25 - 50 feet of any hot work.

R. All Contractor employees shall be trained on the proper use and handing of fire extinguishers.

S. If a Project involves multiple locations on a single floor or on multiple floors, additional multi-purpose fire extinguishers are required.

T. The Owner may require additional extinguishers as dictated by the risk of each project or project area.

3.15 FIRE REPORTING AND EVACUATION PLAN

A. Contractor shall establish a designated emergency evacuation assembly area for all Projects prior to starting work. Contractor shall train all employees on assembly area locations and how to get to each area.

B. For areas that do not allow a clear view of egress route, the Contractor must post easy to understand maps, that are clearly visible to all workers and visitors, of the proper exit paths as required by OSHA and NFPA.

C. In the event of a fire alarm, all work is to stop, all sources of ignition or hazardous work shall be immediately halted and all personnel are to proceed to the door of the construction site and wait for further instructions.

D. In the event of a smoke, fire, or emergency incident the following procedures should be followed:

1. RACE – Rescue, Alarm, Confine, Evacuate/Extinguish

a. Rescue: rescue Patients, Visitors, Employees

b. Alarm: a fire alarm pull station should be activated as quickly as possible or call 911.

c. Confine: confine the fire or smoke by closing all doors to the area.

d. Evacuate/Extinguish: extinguish the fire after you have performed the above operations but only if you can do it safely.

E. When reporting a fire by phone:

1. The caller should provide their name, the location of the fire, and a brief description of the incident. The caller should not hang up until emergency services personnel instruct them to do so.

2. The caller should be prepared to guide the Fire Alarm Response Team and Emergency Responders to the fire location.

F. All Contractor personnel shall report to their designated assembly area immediately. Contractor must coordinate the Designated Assembly Area with their MD Anderson Representative prior to the beginning of the project.

3.16 GENERAL SITE CONDITIONS – LIFE SAFETY

A. Contractors will comply with all OSHA and NFPA life safety requirements as related to emergency exiting and lighting for construction areas.

B. For areas that do not allow a clear view of egress route, the Contractor must post easy to understand maps, that are clearly visible to all workers and visitors, of the proper exit paths as required by OSHA and NFPA. Contractor should coordinate the creation of these maps with their MD Anderson Representative.

C. Contractors are required to maintain any required temporary signs directing to exit routes. These signs shall be externally or internally illuminated by lighting that is either on emergency power or of the luminescent “glow-in-the dark” type.

D. All temporary lighting and bulb protective devices shall be maintained and in good working condition. Wiring for temporary lighting shall be removed at the conclusion of the Project scope.

E. All emergency exit doors must be maintained and in good working order. Paths to exits must remain clear at all times.

F. Depending on the size of the project site and number of Contractors working in the site, a Contractor may be required to maintain at least two clearly marked exits per NFPA 101 and 241 requirements.

G. All exits must be clearly marked with the words “EXIT” or “EMERGENCY EXIT”. Doors that the Contractor does not want to use for daily access may be marked with the words “EMERGENCY EXIT ONLY”.

H. Lock all entry doors/gates to the project site. Due to life safety requirements, chains and/or pad locks will not be permitted on any door. Contact your M.D. Anderson Representative for the proper lock cores and keys.

I. If a combination key pad is installed on a jobsite, the door must also be equipped with a construction core to ensure emergency personnel maintain access to the site. Key pads without a construction core will not be permitted. Contractor must also ensure that the combination to the key pad is not posted on the wall or door of the site. If this occurs, the combination must be changed immediately.

3.17 HAZARD COMMUNICATION (HAZCOM)

A. The Contractor shall provide training and maintain documentation that their personnel and Subcontractors have received proper training in Hazard Communications under the provisions of OSHA’s requirements in 29 CFR 1910.1200 and/or 1926.59.

B. A printed, legible copy of the Material Safety Data Sheet (MSDS) shall be made available within 15 minutes of a request for each chemical used on the job site.

3.18 HAZARDOUS WASTE AND WORK IN HAZARDOUS LOCATIONS

A. Owner chemical, biological or radioactive materials (hazardous substances and equipment) must be moved or secured prior to beginning work in any area. Contractor shall coordinate the removal of these items with their MD Anderson Representative.

B. The Contractor’s MD Anderson Representative will coordinate any pre-site assessments with Environmental Health and Safety, the laboratory principle investigator, clinic representative or laboratory manager to prevent disturbing experiments/animals or creating accidents.

C. All Contractors must have permission from their MD Anderson Representative and the laboratory manager or clinic representative before entering laboratory or hospital clinical work areas.

D. Disposal of all hazardous wastes generated by Contractor activities is the responsibility of the Contractor. All wastes must be removed from the premises.

E. Absolutely no chemicals, trash, paint, paint brush rinse, shop vacuum contents, excess materials, sand, dirt, etc. may be disposed of in storm sewers/drains or sanitary drains.

F. Contractor must prevent dirt from entering exterior storm drains by adding appropriate silt protection screen material to all exterior drains that may be impacted by the project.

G. Contractor must follow all requirements set forth in the Storm Water Pollution Prevention Plan (SWPPP) as indicated in the appropriate Project Specification (Section 01 57 23). Consult the Environmental Health and Safety Office (713-792-2888) for questions regarding environmental permitting and plans.

H. All hazardous waste, fuel, oils, and chemicals stored outdoors must have adequate secondary containment to prevent discharge onto the ground or in storm or sanitary sewer drains. All containers must be stored to prevent theft or unauthorized access. All containers outdoors must also be protected from weather elements and secured from public access.

I. Contractor shall ensure that adequate spill protection equipment and supplies are readily available during all equipment refueling activities.

3.19 HOT WORK PERMITS

A. A valid and signed Hot Work Permit must be obtained anytime all work being implemented involves the use of any incendiary or heating devices such as:

1. Electric Arc Welding
2. Oxygen Acetylene Welding
3. Tig/Mig Welding
4. Cutting/Soldering
5. Propane Torch
6. High Heat Producing Sources
7. Spark Producing Activities
8. Gasoline or Propane Powered Equipment used Indoors

B. All Smithville/Bastrop hot work applicants must go to Physical Plant Management and fill out a blank Hot Work Permit. Instructions on how to properly fill out the permit are available.

C. Permits to work on ANY medical gas systems must be obtained from the Facilities Department responsible for that area prior to work.

D. Hot Work Permits shall be completed by the Contractor 24 hours in advanced and once approved, posted in the vicinity of any burning or welding operations that are to be completed inside or near a building or enclosure. Permits may be issued for up to three (3) days duration only when the work operation is to be continuous in a single area and so approved by the Owner.

E. Hot work applicants must contact the designated Facilities Building Manager or your MD Anderson Representative for specific hot work permitting requirements for the facility in which they are working.

F. Responsibilities of the Contractor:

1. It is the responsibility of the contractor, vendor, and/or UTMDACC personnel to read, understand, and acknowledge sections I, II, and III of the Hot Work Permit.
2. It is the responsibility of the contractor, vendor, and/or UTMDACC personnel to acknowledge and abide by all precautions stated in section III of the Hot Work Permit.
3. It is the responsibility of the contractor, vendor, and/or UTMDACC personnel to complete and sign the appropriate sections of the Hot Work Permit 24 hours prior to the start date of the work to be performed.

4. Projects that are to begin on Saturday, Sunday, or Monday must have Hot Work Permit request form completed by the preceding Friday.

5. Contractors are responsible for ensuring all of their authorized and affected employees are trained on the significance of Welding, Cutting, and Brazing procedures in accordance with OSHA regulations 29 CFR 1910.252 - 1910.255.

6. At the end of any cutting operation or at the end of the day, all fuel gas cylinders must be removed from the facility. Fuel gas cylinders WILL NOT be allowed to remain in the facility overnight.

7. Anti-flashback arrestors shall be installed at the base of all Oxy-Acetylene cutting torches or at the pressure regulator gauges where the hoses are attached, unless the torch is equipped with a built-in arrestor. Only friction strikers shall be used to light and re-light Oxy-Acetylene torches.

8. Fire Watchers shall be posted at every operation that produces sparks, flames or sufficient heat to create an ignition. Watchers shall be trained in the use of extinguishers, shall keep other people from entering exposure areas, and shall not be assigned other duties until the rekindling ("smolder watch") possibility is over. Additional fire watch personnel shall be posted in all areas in which hot work sparks, slag, heat, etc. go beyond the sight of the primary fire watch.

9. Except in a fabrication shop or in front of a properly guarded grinding wheel, the person performing the work may not act as a watcher. When sparks, slag, or fire may fall to a different level, a separate watcher shall monitor each level directly below the work (including exterior locations).

10. Heaters for welding electrodes shall have a manufacturer's label that certifies the purpose of the unit. Job-built heaters shall be prohibited.

11. The remains of welding electrodes shall be picked up and disposed of as soon as each electrode is expended. No welding electrode shall be permitted to fall and remain in the work area.

12. All temporary fabrication areas shall be approved by the Facility Manager prior to starting work.

3.20 HURRICANE / SEVERE WEATHER PLANS FOR CONSTRUCTION SITES

A. Construction sites may be required to have a Hurricane/Severe Weather Plan special to that site. Consult with your MD Anderson Representative for applicability, as some departments may require this Plan for small projects.

B. A copy of the Hurricane/Severe Weather Plan must be submitted to your respective MD Anderson Representative prior to starting work.

C. The Texas Medical Center (TMC) Emergency Preparedness Office or Campus Director (Smithville/Bastrop) will issue warning levels in the event of possible flooding or hurricanes. Contractors are urged to learn more about the TMC warning system by contacting their MD Anderson Representatives.

3.21 IDENTIFICATION (ID) BADGES

A. It is the policy of The University of Texas MD Anderson Cancer Center to issue an identification (ID) badge to each employee and to all Temporary Agency and Contractor personnel.

B. All badge requests must be processed by the MD Anderson department (i.e., PCF, REF, CPM, AFCO, etc.) that is issuing the contract for work.

C. ID badges must be worn at all times in a highly visible manner while on property owned or under the control of the Institution.

D. Contractors are responsible for returning any badges for personnel that will no longer be providing services to the Institution within one week after termination or conclusion of Project.

E. The badge must be clearly visible to someone facing the wearer.

F. A fee may be required to replace a lost Contractor badge. Lost identification badges that have programmed electronic access must be reported to the contracting department representative (i.e. Project Manager) immediately.

G. Personnel not wearing proper identification may be subject to immediate removal from the jobsite.

3.22 INTERIM LIFE SAFETY MEASURES (ILSM) GUIDELINE

A. Interim Life Safety Measures (ILSM) – Is a series of administrative actions required to temporarily compensate for significant hazards posed by existing National Fire Protection Association 101, 2009 Life Safety Code (LSC) deficiencies or construction activities.

B. All Contractors are required to abide by any ILSM requirements that may be implemented by the Owner due to a temporary deficiency/hazardous condition and must be continuously enforced through Project completion or until the deficiency is corrected. Each Contractor shall be responsible for ensuring all personnel on site are aware of the Interim Life Safety Measures implemented.

C. Contractors may be required to keep daily logs of the condition of their jobsites.

3.23 LADDER SAFETY

A. Ladders must be inspected prior to each use. Defective ladders shall be immediately removed from service and removed from the job site.

B. Ladders shall be used only in accordance with the manufacturer's labeled instructions.

C. Stepladders shall be used only in the fully open position with spreaders locked in place. Using a folded stepladder leaned against a support is prohibited.

D. Employees shall not stand on the top platform, the step below the top platform or the back stretchers.

E. Do not sit on, or straddle the top platform.

F. Stepladders shall not be used for access to platforms or other elevated areas – an extension ladder is required.

G. Extension ladders must be properly positioned and locked in place.

H. Extension ladders used for access to elevated areas shall extend at least three feet beyond the supporting structure.

I. Extension ladders must be secured to the supporting structure or be held at the base by another employee.

J. Job built ladders shall conform to applicable ANSI Standards AND shall be limited to use in excavations or concrete form work only. These types of ladders must be inspected daily.

K. At the end of each workday, remove and store, or secure from use all portable and job-built ladders that provide ground access to any elevated platform or structure so as to prevent unauthorized access.

L. Chaining ladders to equipment or mechanical, electrical, or plumbing fixtures or piping is prohibited. Ladders must be stored in a manner to prevent blocked fire exits or escape routes. Ladders must not block access to equipment or facilities.

M. Portable stepladders and extension ladders shall be rated class I-A.

N. Ladders that have multiple sections that can be manipulated to form multiple surfaces and angles are not allowed.

O. Aluminum ladders are prohibited.

P. All exceptions to these requirements must be approved by MD Anderson Environmental Health and Safety.

3.24 LOCK OUT / TAG OUT

A. It is the policy of The University of Texas MD Anderson Cancer Center that its employees and Contractors are protected from all energy sources during maintenance and repair activities.

B. Each facility has a Lock Out/Tag Out program. Contractors whose work will involve the Lock Out/Tag Out process shall comply with the provisions of the respective Facilities Management program and procedures. If there is a difference between the Contractor's program and the Institution's program, the more stringent procedure shall prevail.

C. Lock Out/Tag Out procedures may be specific to each type of equipment or device. Consult with the Facility Maintenance Department for specific procedures.

D. Contractors are responsible for ensuring all of their authorized and affected employees are trained on the significance of Lock Out/Tag Out procedures in accordance with 29 CFR 1910.147 and must follow these requirements.

E. Only the authorized employee or Contractor who applied a device is allowed to remove his/her lock out or tag out device from each energy-isolating device so energy can be restored to the equipment. MD Anderson personnel may add locks or tags to tagged-out devices – Contractors are not allowed to remove these locks or tags.

F. Never remove another person's tag/lock. Unauthorized removal of tags/locks will be grounds for immediate and permanent removal from the jobsite.

G. If tags/locks remain on equipment, contact the appropriate personnel or department for resolution to the removal process.

3.25 MAINTAINING INDOOR AIR QUALITY (IAQ) DURING CONSTRUCTION AND RENOVATION ACTIVITIES

A. It is critical to our patient's health that proper controls are in place to ensure indoor air quality is maintained during construction and renovation activities. These activities disturb existing dust and/or create new dust, which causes the release of Aspergillus and other mold spores into the air. These spores can result in serious complications, and potentially death, for immuno-compromised individuals.

B. The guideline covers all Contractors involved in building maintenance, construction, renovation and/or repair and applies to all areas of the Institution.

C. An Indoor Air Quality (IAQ) Permit may be required for every Project, no matter the duration. The permit explains the requirements needed to maintain the best possible air quality outside the work site.

D. This permit shall be posted at the site and shall remain posted until the completion of the Project.

E. EH&S will perform periodic inspections, verify that the proper controls are in place and will periodically monitor sites with instruments used to measure applicable indoor air quality (IAQ) parameters.

F. Contractor must follow the requirements of the Indoor Air Quality Permit and the Maintaining Indoor Air Quality During Construction and Renovation Policy.

G. See Attachment A for the "Maintaining Indoor Air Quality During Construction and Renovation Policy" for the requirements that must be followed for each Project. This policy is a guide to the minimum protective measures that are to be in place prior to start of all Projects.

3.26 PERSONAL PROTECTIVE EQUIPMENT (PPE)

A. The minimum OSHA requirements for Personal Protective Equipment (PPE) shall be required of ALL persons on the Project site. Each Contractor/Subcontractor shall provide their workers with all required PPE. The Contractor is responsible to ensure that PPE is inspected and maintained in proper condition.

B. Safety Hard Hats: When required, every person in the Project shall wear a hard hat that meets the minimum OSHA requirements.

C. When required, hardhats are to be worn and maintained in accordance with the manufacturer's recommendations. "Cowboy" style hard hats shall not be allowed, including ANSI approved hats. Hard hats that display noticeable wear or damage shall be replaced or repaired per manufacturer's specifications.

D. Eye Protection: When required, every person on the Project shall wear eye protection. Additional face protection may be required when work operations create airborne particles, chips, or sparks. Eye protection and face protection shall meet the minimum OSHA requirements. .

E. Shoes: When required, every worker on the Project shall wear shoes that have soles with a resistance to punctures, leather or leather equivalent uppers that cover the entire foot and ankle and offer resistance to scrapes and cuts. Sandals, open-toed shoes, dress loafers, high-heels, fabric shoes and all athletic style shoes (including those with ANSI markings) are prohibited.

F. When required, exterior toe and metatarsal cover shall be used when activities involve impact exposures to the feet (ie; jackhammering, water blasting, concrete demolition etc), unless the shoe has this protection built into the footwear.

G. Clothing: When required, sleeve length shall cover the ball of the shoulder. Shirts shall not have noticeable holes, be long enough to be tucked into pants and be free of profanity, objectionable, or obscene messages. Pants shall be full length and without excessive holes.

H. Hearing Protection: When required, employees shall be provided with hearing protection against the effects of noise exposures from machines, equipment or surrounding operations generating sound levels that exceed OSHA hearing protection requirements. Employees required to use hearing protection shall be tested and trained in the use and limitations of such protection.

I. Hand Protection: When required, employees handling materials or equipment with potential hand injury hazards shall be provided with appropriate hand protection.

J. Harnesses, Lifelines, and Lanyards: When required, employees working in areas where there is an exposure to falls of heights greater than six (6) feet, regardless of work activities (i.e. steel erection, leading edge work, scaffold use, and brick masonry) shall be protected by measures that are equal to or better than fall restraint/arrest systems.

K. Respiratory Protection: When required, employees shall be provided with respirators when it is necessary to protect them from inhalation of toxic or harmful gases, vapors, mists, fumes, and dust.

L. When required, employees required to use respiratory protective equipment shall be medically qualified and thoroughly trained in the use and limitations of such equipment. Employer must demonstrate compliance with OSHA 29 CFR 1910.134.

M. Other PPE: When required, employees working in areas where there is a possible danger to other parts of the body not listed above shall be protected by the appropriate PPE for that body part.

3.27 ROOF WORK

A. All roof work must be approved by the Administrative Facilities Campus Operations (AFCO) - Chief Engineer at the campus you are working at prior to project start.

B. All roof access to T. Boone Pickens Tower must be approved prior to access. This area contains multiple radio transmitters and receivers that emit harmful radio and microwaves. All personnel accessing this area must have attended the required training. Contact the building owner for training requirements.

C. Contractor is responsible for ensuring that they are able to immediately contact emergency forces during an emergency event by providing cell phones, radios, or access to working phones within MD Anderson facilities. Contractor shall ensure personnel working on the jobsite know the address of the building.

D. Any roof repairs that are performed around fresh air intakes shall be scheduled with Facilities Operations Group (713-563-9977) prior to any planned work. Contractor is required to provide fume control devices when performing roof repair, replacement, or installation to prevent odors from being transmitted inside the facility.

E. Some areas of roofs may be restricted due to potentially hazardous exhaust from laboratories or processes. Contractor must obtain approval from their MD Anderson Representative before proceeding with entering any roof areas.

F. Contractors are required to comply with all applicable OSHA Fall Protection requirements.

G. Contact Facilities Operations Group Campus Operations (713-563-9977or 713-563-1143) regarding proper davit use and tie-off areas.

H. All roof work involving heated materials or open flames must have a valid hot work permit.

I. The Contractor shall have a 20 pound ABC Fire Extinguisher on the roof and immediately available for use. Institutional fire extinguishers will not be loaned. Additional extinguishers must be provided as needed.

J. All fire extinguishers must have current annual certification tags and in working order.

K. All open flames must be continuously supervised.

L. A 1-hour fire watch must be provided after any heated materials or open flames have been used during roof work. Fire watch personnel must perform a “touch test” to determine any residual hot spots. A laser thermometer is recommended. Fire watches could be up to two hours in duration.

M. All propane bottles must be removed from the premises daily. Do not store propane cylinders in mechanical or roof spaces.

N. All roofing materials shall be secured at the end of each workday to prevent disruption by wind and rain.

3.28 SANITATION AND HOUSEKEEPING

A. Contractors and Subcontractors are responsible for ensuring that Project sites are effectively cleaned.

B. "Effectively Cleaned" shall address all of the following issues:

1. Place all construction waste, trash, and debris in a designated receptacle. Glass bottles shall not be permitted in the Project site. Trash must be removed on a daily basis as to prevent accumulation and attraction for pests. Contractor must have an approved method for removing trash from the jobsite (i.e., dumpsters, trucks, etc.) before starting work.

2. Eating is not allowed on the jobsite. Limited amounts of soft drinks and water will be allowed but must be removed on a daily basis as to prevent attraction of insects or rodents.

3. Contractor may only use PUBLIC restroom facilities assigned by their MD Anderson Representative. Contractors may not use staff restrooms.

4. Any waste, trash, and/or debris created by the Contractor shall be cleaned (ie; sweeping, vacuuming, dust mopping, large debris removal etc.) at the end of the day to prevent accumulation of dirt and combustibles on the jobsite.

5. Contractors are NOT allowed to use sinks or drains to clean materials or paint brushes.

6. All holes and penetrations to the outside of the building must be sealed with an appropriate material as to prevent water, insects and rodents from entering the building.

7. All windows must remain closed unless permission is granted by Environmental Health and Safety. All windows or penetrations used for ventilation purposes shall be protected from water, insect/rodent, and dust intrusion by use of protective covers and screen wire materials.

8. Stack (or restack) all whole and scrap materials in locations that do not obstruct a clear pathway nor create a risk for toppling onto a person passing by the area.

9. Place all hoses, cords, cables, and wires in locations that prevent them from damage and do not create tripping hazards.

10. Restore all signs, barricades, fire extinguishers, guardrails, gates, etc. to proper locations and condition.

11. Properly store and secure all flammable and combustible liquids and gases in proper containment or flammable storage cabinets.

12. Collect and place all cut-off or waste pieces of rolling stock, as they are created, into waste or scrap containers. No rolling stock shall be permitted to fall and remain in the work area.

13. Used shot strips from powder-actuated tools shall be properly maintained and disposed of in accordance with manufacturer's recommendations.

14. All puncture and impalement exposures shall be covered or eliminated as soon as they are created. Exposed ends of rebar are to be covered with material that is designed to prevent impalement of a 250-pound body from a fall of four (4) feet.

15. All work surfaces shall be maintained in level and smooth condition as to prevent rolling carts from catching and possibly falling over while in transit. Appropriate temporary fill materials shall be installed as warranted.

16. All wheeled equipment shall have non-marking wheels or tape shall be used over wheels when moving through non-project areas to prevent marking and damage to floor surfaces. Tape should be removed if adequate traction is required to perform a task. Tape can be removed once in job-site area.

17. Contractors shall only use their trash dumpsters or dumpsters designated by their MD Anderson Representative.

3.29 SITE POSTINGS

A. Contractor shall securely post the required warning signs (as required by the Owner and OSHA) for the Project area(s).

B. All signs must be approved by your MD Anderson Representative. Consult your MD Anderson representative regarding facility specific informational signs.

1. Signs that warn of impending danger (i.e., CONSTRUCTION AREA – DO NOT ENTER)

2. Signs that communicate the level of personal protective equipment that is required (i.e., HARD HATS AND SAFETY GLASSES REQUIRED)

3. All necessary permits (i.e., Hot Work Permits, Indoor Air Quality Permit, ILSM and/or other State/Local Regulatory Agency Permits as required by law).

C. These postings must consist of the required color, size, and character size lettering and/or symbols as required by OSHA and/or Sate/Local regulations.

D. Signs must be made from a sturdy material that resists tearing and fading. Laminated signs are acceptable for indoor postings.

E. All exterior Projects must contain the above noted required postings in all locations that warrant these warning signs and postings.

F. A single location such as a plywood Project board is acceptable for posting required permits and project information signage. Any required permits should be protected from the elements by covering them in a laminate or waterproof material.

G. Contractor shall install and maintain any additional signs, barricades, warning devices, and traffic warnings.

3.30 SCAFFOLDING

A. All scaffold systems (any temporary elevated platform (supported or suspended) and its supporting structure (including its point of anchorage), used for supporting employees or materials or both) - shall follow the manufacturer instructions and adhere to all applicable OSHA requirements per each type of scaffolding device.

B. Contractor shall be required to receive permission from MD Anderson Facility – Administrative Facilities and Campus Operations before erecting any suspension or stationary scaffolding system on roofs or attaching lines to roof davits. Consult with the MD Anderson Representative for approval before beginning any work.

C. All ground-supported scaffolds shall bear a safety tag that indicates the safety status of the scaffold. The Contractor shall designate a universal Project system for tagging scaffolding that is to be used by any or all personnel.

D. Training and documentation shall be required for all workers on the Project who will erect, maintain, dismantle, or use the scaffolding. A designated competent person must ensure scaffold use requirements are maintained and inspected at the beginning of each work shift as per OSHA requirements. Contractor shall maintain documentation to support this requirement.

E. Contractor will ensure proper fall protection for employees is required and followed per OSHA requirements when using scaffolding and aerial lift.

F. Mudsills and surrounding areas at the base of ground-supported scaffolds shall be maintained in a well-dressed and level condition. Scaffold feet shall be installed on all legs and the maximum number of diagonal braces shall be included in every scaffold section.

G. Every work level shall be fully planked and toe board shall be included along open sides. Overhead protection shall be constructed where walk-through passages are allowed.

H. Brakes shall be secure at all times on rolling scaffolds, except when being moved. Workers shall not be allowed on the platform when the scaffold is being moved.

I. Rolling scaffolds shall not be used on uneven or unstable surfaces. Wheels shall be non-marking or temporarily covered with tape to prevent damage to floor surfaces when being moved through non-project areas.

**ATTACHMENTS**

"A" - Maintaining Indoor Air Quality During Construction and Maintenance Activities Policy

**END OF SECTION 01 35 25**

# ATTACHMENT "A"

## MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES POLICY

**Volume IV**

**Book F Environmental Health and Safety**

**Chapter 4 Construction Safety**

**Policy Number IV.F.4.02 Last Revised by EH&S: 04/18/07**

| | | |
|---|---|---|
| **PURPOSE** | The purpose of this policy is to provide guidance for maintaining indoor air quality during activities such as construction, renovation, modernization, and structural repairs - particularly, to prevent Aspergillus and other mold spores from being generated or released into the air. These spores can result in serious complications, and potentially death, for immuno-compromised individuals. | |
| | | |
| **POLICY STATEMENT** | It is the policy of The University of Texas MD Anderson Cancer Center (MD Anderson) to manage all construction, renovation, modernization, and structural repairs in a manner designed to minimize the potential for the spread of infections due to degraded air quality or environmental contamination. | |
| | | |
| **SCOPE** | This policy covers all employees and contractors involved in construction, renovation, modernization, structural repairs and/or repair. This policy applies to all areas of the Institution. | |
| | | |
| **DEFINITIONS** | **Bioaerosols:** Microscopic live particulates such as spores, pollen, bacteria, and viruses.<br><br>**Construction, Renovation, Modernization, and Structural Repair Activities:** Activities that disturb existing building features, which can cause or create the release of potentially harmful dusts or bioaerosols.<br><br>**Designee:** Person(s) appropriately trained and able to demonstrate competency in assessing and determining appropriate infection control requirements.<br><br>**HEPA Filter:** High-Efficiency Particulate Air (HEPA) filter.<br><br>**Infection Control Risk Assessment (ICRA):** Using a risk assessment tool to determine the minimum level of controls used during a project to control potentially harmful dusts and bioaerosols.<br><br>**Pre-Construction Risk Assessment (PCRA):** A comprehensive risk assessment tool that must be completed before a project starts. Major areas of review are Infection Control, Interim Life Safety Measures (ILSM), Utility Disruptions, Noise and Vibration. | |
| | | |
| **RESPONSIBILITY** | 1.1 | It is the responsibility of all MD Anderson personnel, contractors, and vendors to abide by the requirements of this policy to ensure a safe patient care, research, and work environment. Corrective actions shall be taken immediately when deficiencies are discovered. |
| | | |
| | 1.2. | The Environmental Health and Safety Department (EH&S), Infection Control, or designee may perform periodic inspections of the work site to monitor compliance with this policy. |

# ATTACHMENT "A"
## MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES POLICY

| | | |
|---|---|---|
| **EXCEPTIONS** | 2.1 | Any exception to this established policy is at the discretion of the Institutional Safety Committee. Procedural exceptions may be granted through Environmental Health and Safety or Infection Control (IC). |
| | | |
| **PERFORMANCE REQUIREMENTS** | 3.1 | Activities that disturb existing building features, possibly causing or creating the release of potentially harmful dusts or bioaerosols, must be conducted in accordance with the required precautions listed in the implementation section of this policy. |
| | | |
| | 3.2 | Prior to commencing Construction, Renovation, Modernization, and Structural Repair Activities, a Pre-Construction Risk Assessment (PCRA) must be obtained from the Environmental Health and Safety department or designee. |
| | | |
| | 3.3. | Project management shall provide personnel and equipment at all times while working on site for the purpose of containment and clean-up of dust and particulates in and around the work area. Equipment may include dust mops, wet mops, adhesive walk-off ("tacky") mats, buckets, HEPA-filtered vacuums, and clean rags for removing fine dust inside and outside the site and from equipment. |
| | | |
| **IMPLEMENTATION – (SEE MATRIX)** | 4.1 | Use the infection control risk assessment (ICRA) matrix to determine the appropriate precautions that must be used. |
| | | |
| | 4.2 | See matrix. |
| | | |

**REFERENCES:**

Joint Commission for Accreditation of Health Care Organizations, Environment of Care Standard EC.8.30

AIA, Guidelines for Design and Construction of Hospital and Health Care Facilities

Centers for Disease Control and Prevention, Guidelines for Environmental Infection Control in Health Care Facilities.

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| Approved by (Name): | Title: | Date: |
|---|---|---|
| Joseph Savala | Associate Vice President, Facilities Administration | 04/18/2007 |
| Matthew Berkheiser | Director, Environmental Health and Safety | 04/18/2007 |
| Jim Mathis | Program Director, Safety | 04/18/2007 |
| Bryan Galloy | Program Manager, Safety | 04/18/2007 |

# ATTACHMENT "A"

## MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES POLICY

## INFECTION CONTROL RISK ASSESSMENT

| Instructions on how to determine the appropriate indoor air quality measures for your project/activity | |
|---|---|
| **Step 1** | Determine the Risk Area using the Risk Areas Defined table (TABLE A) |
| **Step 2** | Determine the Activity Type on the left side of the Matrix table (ie, small, medium, large; TABLE B), then compare the project activity type to the risk area to determine the Class of Indoor Air Quality controls that are to be implemented |
| **Step 3** | Then select the appropriate Class of controls to be used on the project (LIST C) |

| TABLE -A- | | | |
|---|---|---|---|
| **Risk Areas Defined** | | | |
| **RISK AREA 1**<br><br>LOW RISK | **RISK AREA 2**<br><br>MEDIUM RISK | **RISK AREA 3**<br><br>HIGH RISK | |
| Office areas not adjacent to high risk areas | Cancer Prevention Center | Admissions areas | BMT Patient Unit |
| Dock and Service Corridors | Place of Wellness | Inpatient units | Operating rooms |
| Physical Plant spaces | Kitchen(s) | Emergency Center | Sterile Processing |
| Boiler room | | Mays Clinic – (Ambulatory Care Building) | ensive Care units CU, PACU & MICU) |
| | | Cafeteria | Pharmacy |
| | | Laboratory Medicine | Pharmacy mixing areas |
| | | Physical Therapy | Research labs |
| | | Occupational Therapy | Laboratories involved with production of products for patient infusion |
| | | All outpatient clinics | Waiting rooms |
| | | Office areas adjacent to high risk areas | Proton Therapy Center |
| | | Radiation Oncology | |
| | | Sterile animal areas | |
| | | Animal ORs | |

*Note: The current nature, adjacency to other areas, and use of a space may change the risk group determination and should be reviewed prior to start of planning and work.*

# ATTACHMENT "A"

## MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES POLICY

## INFECTION CONTROL RISK ASSESSMENT

| TABLE -B- | | | |
|---|---|---|---|
| **Matrix** | | | |
| **Project Activity Types:** | **RISK AREA I**<br>**Low Risk Areas**<br>*See risk area definition* | **RISK AREA II**<br>**Medium Risk Areas**<br>*See risk area definition* | **RISK AREA III**<br>**High/Extreme Risk Areas**<br>*See risk area definition* |
| **Small/Minor:**<br>Inspections above ceiling that create minimal to no dust, minor repair, painting, (no patching), minor electrical work, plumbing, similar work with little or no drilling, cutting, or other dust-raising activity, opening into chases and concealed spaces. Normal maintenance activity. | **Class I Precautions**<br>☐ | **Class I Precautions**<br>☐ | **Class I Precautions**<br>☐ |
| **Medium Scale Projects:**<br>Installation of electrical and computer cabling, working in chases and concealed spaces, working above ceiling, replacing finishes, carpet removal, wall covering removal, cutting plaster and drywall, sanding and other dust making activity within a room or other controlled area, opening ceiling tiles (more than 16 square feet consecutive). Usually one to three shifts. | **Class I Precautions**<br>☐ | **Class II Precautions**<br>☐ | **Class III Precautions**<br>☐ |
| **Large/Major Scale Projects:**<br>Removing floor coverings, sanding plaster walls, wall demolition and construction, duct work, major ceiling work, major demolition of areas, particularly those open to patient care areas, work on HVAC systems that release dust. Usually more than three days work. | **Class II Precautions**<br>☐ | **Class III Precautions**<br>☐ | **Class III Precautions**<br>☐ |

# ATTACHMENT "A"
## MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES POLICY

## INFECTION CONTROL RISK ASSESSMENT

| LIST -C- |
|---|
| **Recommended Infection Control Precautions, by Class** |

### Class I Precautions

| |
|---|
| Indoor air quality permit posted at jobsite entrance, when required. |
| Control of Debris: use covered container to remove debris through internal hospital paths. Cover must be dust tight and secured to container, not just laid on top. |
| Protect patient care areas from activity, or enclose work area (close doors). Replace ceiling tiles promptly. |
| Minimize dust and dirt, clean or have area cleaned when work is complete and when dust or dirt builds up. Vacuum with HEPA filter type vacuum, and/or damp mop areas when work is complete. |
| Direct questions about work to Environmental Health and Safety. |
| Other precautions as assigned. |

### Class II Precautions

| |
|---|
| Indoor air quality permit required and posted at jobsite entrance |
| Protect patient care areas from activity by closing doors, or enclosing area with approved (6 mil minimum) fire retardant polyethylene plastic or equivalent. Replace ceiling tiles prior to removal of enclosures. |
| Use water spray mist to minimize dust when applicable (ie, cutting sheetrock). |
| Close off HVAC system openings (exhaust and supply) with plastic or equivalent. If exhaust must be maintained, use a "clean air" machine (HEPA-filter equipped), or powered HEPA filters in exhaust path, or exhaust directly to outside. |
| Use dust mats or tacky mats at entrances inside site (not to be used in public access hallways because of trip hazard). Wet mops areas during and after construction to remove and control dust and dirt with suitable cleaning agents. |
| Control of Debris: use covered container to remove debris through internal hospital paths. Cover must be dust tight and secured to container, not just laid on top. |
| Temporary barriers or containment vestibule— stationary (6 mil fire retardant polyethylene or drywall) or mobile containment (control cube). |
| Direct questions about work to Environmental Health and Safety. |
| Debris and supply routing pre-determined through PCRA evaluation. |
| Other precautions as assigned. |

### Class II Precautions: At Job Completion

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| Replace all ceiling tiles, or re-close ceiling. |
| Wipe down all horizontal surfaces (except floor and ceiling). Wet mop or extract floor with hospital approved disinfectant. If appropriate, vacuum all areas with HEPA filters on vacuum. |
| Clean the HVAC system diffusers as the enclosure is being removed, and operate system for 24 hours prior to final cleaning of job site. |
| Maintain all enclosures as practical until post-job cleaning complete. Use vacuum with HEPA filters during removal of barriers, as practical. |
| Schedule final cleaning of area by MD Anderson Housekeeping. |
| Other precautions as assigned. |

# ATTACHMENT "A"
## MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES POLICY

## INFECTION CONTROL RISK ASSESSMENT

| LIST -C- |
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| **Recommended Infection Control Precautions, by Class** |

### Class III Precautions

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| Indoor air quality permit required and posted at jobsite entrance |
| Isolate the HVAC systems to minimize a route for dust movement. If exhaust is used to maintain the area negative in pressure to outside areas, the exhaust must go to the outside when possible. If existing exhaust systems are to be used, they must be non-recirculating exhausts. A pressure negative to the air in the patient care units must be maintained during construction activity, when feasible. |
| Use a "clean air" machine (HEPA-filter equipped), both to re-circulate air in the job site to reduce airborne dust, and to exhaust air from the job site, to maintain a pressure negative to the air outside the job site, so leakage will be into the job site. The same machine may be used for both purposes, if it has suitable capacity. |
| Provide construction separations that are fire resistive, and dust tight, constructed of sheet rock or limited combustion plywood. Enclose work areas prior to any demolition work or opening any walls or ceilings. If work is being done in public areas, use control unit technology (similar to units developed to remove asbestos in areas that could not be closed down) and "clean air" machines to maintain a pressure in the enclosure negative to the air outside the enclosure, with the exhaust going through a HEPA filter prior to releasing into the air in the patient care area. |
| Debris must be removed in tightly closed containers, with solid lid, or plastic taped into place. The debris removal containers should be vacuumed or wet-wiped prior to removal from the site, to remove all surface dust and dirt. |
| Create a construction ante-room where all clothing, tools, equipment, and other materials being removed are vacuumed or wet-wiped prior to being taken off site through the hospital patient care areas. The ante-room should be as clean as a patient care area. Cart wheels should also be cleaned, and run over a tacky mat, or similar method to assure no dust is tracked out via wheels. All persons must walk across the tacky mats to clean their feet. Any person who has dust, dirt, or materials on their clothing must vacuum it prior to leaving the ante-room areas. Tacky mats will be maintained to keep the surface tacky, and to replace or remove layers when they become dirty. The ante-room will be wet mopped frequently (several times a day in usual construction activity), or similar methods will be used to satisfy Environmental Health and Safety or Infection Control staff. |
| Seal all holes, penetrations, and openings in the construction barriers and walls which are part of the construction separation with appropriate materials. Sealed holes in fire rated separations must be equivalent in fire rating. Other holes must be sealed with tape and plastic, or similar materials which are strong enough to withstand the pressure differential without leakage. |
| When required, personnel working in the area must either change clothing prior to leaving the job site, or use shoe covers and cover clothing prior to leaving the area. |
| Direct questions about work to Environmental Health and Safety. |
| Debris and supply routing predetermined through the PCRA Evaluation. |
| Containment vestibule – stationary or mobile – (for work outside site). |
| Other precautions as assigned. |

## INFECTION CONTROL RISK ASSESSMENT

| LIST -C- |
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| **Recommended Infection Control Precautions, by Class** |

**Class III Precautions: At Job Completion**

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| Maintain barriers and "clean air" machines (HEPA-filter equipped), in place as much as practical until final cleaning is complete. Removal of barrier materials should be accompanied by vacuuming using a vacuum with HEPA filters. |
| Clean HVAC system diffusers as closure being removed, and operate system for 24 hours prior to final cleaning of job and removal of barriers (to the extent practical based on the system). If necessary, allow the HVAC to blow into the site with the "clean air" machine catching the output of the supply, and the machine feeding the air to the returns. |
| Site must be thoroughly cleaned by damp-wiping all horizontal surfaces with a hospital approved disinfectant. |
| Schedule final cleaning of area by MD Anderson Housekeeping. |
| Other precautions as assigned. |

**END OF ATTACHMENT "A"**