CONSTRUCTION AGREEMENT
(Stipulated Sum)

BY AND BETWEEN

NYU HOSPITALS CENTER

- OWNER -

AND

[ ]

- CONTRACTOR -

PROJECT

Super Storm Sandy – Grease Interceptor Replacement
Tisch Hospital
562 First Avenue, Cellar Level
New York, New York 10016

PIM NAME AND NUMBER

"Sandy Tisch Kitchen" and 11187

DATED AS OF

[ ]

CONSTRUCTION AGREEMENT
(Stipulated Sum)

AGREEMENT dated as of [ ], by and between **NYU Hospitals Center,** a New York not-for-profit corporation with offices located at 550 First Avenue, New York, New York 10016 (the "Owner"), and [ ], a [ ] with offices located at [ ] (the "Contractor").

The Project and Project Site: Super Storm Sandy – Grease Interceptor Replacement
Tisch Hospital
562 First Avenue, Cellar Level
New York, New York 10016

The Architect: Francis Cauffman (NY), LLP
40 Worth Street, Suite 300
New York, New York 10013

The Owner and the Contractor agree as follows:

ARTICLE 1

(The Contract Documents)

The Contract Documents consist of this Agreement, the Conditions of the Contract (General, Supplementary and other Conditions), the documents enumerated in Article 7 and all Addenda issued prior to and all Modifications issued after execution of this Agreement. These form the Contract, and all are as fully a part of the Contract as if attached to this Agreement or repeated herein.

ARTICLE 2

(The Work)

The Contractor shall perform all the Work required by the Contract Documents in order to replace the grease interceptor at the Project Site.

ARTICLE 3

(Time of Commencement and Substantial Completion)

The Work to be performed under this Contract shall be commenced on the date set forth in the Owner's notice to proceed and, subject to authorized adjustments, Substantial Completion shall be achieved within fourteen (14) consecutive calendar days after said date. While performing the Work, the Contractor shall comply with the Owner's Debris Removal Requirements (Exhibit B) and the Owner's Rated Wall/Slab Penetrations Permit (Exhibit C), respectively, and may only utilize those Subcontractors appearing in the Owner's List of Approved Subcontractors (Exhibit D).

ARTICLE 4

(Contract Sum)

4.1 The Owner shall pay the Contractor in current funds for the performance of the Work, subject to additions and deductions by Change Order as provided in the Contract Documents, the Contract Sum of [ ]. A Division of Work and General Conditions Breakdown reflecting the Contract Sum appears in Exhibit E.

4.2 Change Order mark-ups shall not exceed the following: (a) for Contractor work, ten percent (10%) for the Contractor's general conditions, insurance and overhead and five

percent (5%) for the Contractor's profit; (b) for Subcontractor work, ten percent (10%) for all Subcontractor general conditions, insurance and overhead and five percent (5%) for all Subcontractor profit; and (c) for Contractor work that is performed by a Subcontractor, five (5%) for the Contractor's general conditions, insurance, overhead and profit. If directed by the Owner, the Contractor shall perform Change Order work utilizing the hourly labor rates set forth in the Contractor's and Subcontractors' Labor Rate Schedules attached hereto as Exhibit F.

4.3 The Owner reserves the right to add Alternate No. 1 (all work on overtime) in the amount of [ ] to the Work at any time during the course of the Project which, if selected, shall cover the performance of the all Work on an overtime basis.

ARTICLE 5

(Progress Payments)

5.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum as provided in the Contract Documents for the period ending on the last day of the month as follows: Not later than ninety days following the end of the period covered by the Application for Payment, or as otherwise provided by law, Ninety percent (90%) of the portion of the Contract Sum properly allocable to labor, materials and equipment incorporated in the Work and Ninety percent (90%) of the portion of the Contract Sum properly allocable to materials and equipment suitably stored at the site or at some other location agreed upon in writing, for the period covered by the Application for Payment, less the aggregate of previous payments made by the Owner; and upon Substantial Completion of the entire Work, a sum sufficient to increase the total payments to Ninety-Five percent (95%) of the

Contract Sum, less such amounts as the Architect shall determine for all incomplete Work and unsettled claims as provided in the Contract Documents. The Contractor shall invoice monthly by sending invoices to redf.ps@nyumc.org and including reference to the Owner's project information management ("PIM") name and number as they appear on the cover page of this Agreement in all invoices.

5.2 Use AIA Forms G701-Change Order, G702-Application and Certificate for Payment, G703-Continuation Sheet, G706-Payment Affidavit and G714-2007 Construction Change Directive. Request for the first payment must be accompanied by all required permits, filings, notifications, etc. All payment applications must also be accompanied by partial release and lien waivers for payments throughout the Project and a final release and lien waiver for the final payment.

ARTICLE 6

(Final Payment)

Final payment, constituting the entire balance of the Contract Sum, shall be paid by the Owner to the Contractor when the Work has been completed, the Contract has been fully performed and a final Certificate for Payment has been issued by the Architect. Invoice for final payment must be accompanied by a listing of the legal name, address and telephone numbers of all Subcontractors with their associated trades, and an original notarized AIA G-706A form; and must also be accompanied by all required sign-offs, inspections, acceptances and other approvals.

ARTICLE 7

(Miscellaneous Provisions)

7.1 Terms. Terms used in this Agreement which are defined in the Conditions of the Contract shall have the meanings designated in those Conditions.

7.2 FEMA. As certain funding for the work may be provided by the Federal Emergency Management Agency ("FEMA"), the Contractor agrees as follows with respect to the provisions of the above-referenced On-Call Agreement between the parties:

(a) The Contractor agrees to comply with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations 41 CFR chapter 60.

(b) The Contractor agrees that any federal agency providing funding for the Contractor's Work, including FEMA funding, and the Comptroller General of the United States shall have access to the Contractor's books and records.

(c) The Contractor agrees that the federal, state and local laws with which it must comply include the Contract Work Hours and Safety Standards Act Sections 103 and 107 (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR part 5); Section 306 of the Clean Air Act (42 U.S.C. 1857(h); Section 508 of the Clean Water Act (33 U.S.C. 1368); Executive Order 11738; and Environmental Protection Agency regulations (40 CFR part 15).

(d) The Contractor agrees to comply with all applicable provisions of the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR part 3).

7.3 No Exclusion. The Contractor and each person signing on behalf of the Contractor represents and warrants that the Contractor and each parent and/or affiliate of the Contractor has not been suspended, disqualified, debarred or otherwise excluded from or declared ineligible to bid or perform work for any governmental agency or otherwise prohibited from participation in any federal or state program, including Medicare or Medicaid (collectively, "Program"), and to the best of its knowledge, there are no pending civil anti-trust or criminal

investigations or pending or threatened debarments or exclusions of the Contractor from any Program. The Contractor covenants to notify Owner in writing as soon as practicable if the Contractor is the subject of any civil anti-trust or criminal investigation, or is excluded, barred or suspended from participation in any Program and to refrain from employing or contracting for purposes of providing any work or services to Owner with any individual or entity known by the Contractor to be sanctioned, suspended or excluded from participation in any Program. The Contractor shall include the provisions of this "No Exclusion" Section in each subcontract agreement (of any tier) that the Contractor enters into under this Agreement and shall cause such Subcontractors and their subcontractors of any tier to so include such provisions. Each of the representations and warranties made in this "No Exclusion" Section is a material representation of fact by the Contractor upon which Owner has relied as an essential inducement to enter into this Agreement. In addition to any other remedies available to the Owner, the Owner may terminate this Agreement for cause in the event that any representation or warranty made in this Section is untrue at the time.

7.4 Labor Harmony. The Contractor shall be responsible for avoiding jurisdictional and other Project Site-specific labor disputes involving the labor employed at the Project Site by the Contractor, Subcontractors and sub-contractors of any tier. The Contractor shall not be responsible for industry-wide labor disputes.

7.5 Use of Names, Logos or Marks. The Contractor shall not use the names, logos or marks of any NYU Langone Medical Center related entity, unit, division, or part thereof ("NYULMC") in any form of publicity without the prior approval of NYU Langone Medical Center's Department of Real Estate Development and Facilities and the Office of

Communications and Marketing; provided, however, that the Contractor may include NYULMC on its client list without prior written approval.

7.6 Certificates of Insurance. The Contractor shall provide copies of all certificates of insurance required under this Agreement to the Owner via email by sending them to insurance.vendor.cert@nyu.edu.

7.7 Contract Documents. The Contract Documents, which constitute the entire agreement between the Owner and the Contractor, are listed in Article 1, and except for Modifications issued after execution of this Agreement, are enumerated as follows:

General Conditions and Work Requirements (attached)

List of Drawings dated November 9, 2015 (Exhibit A)

Owner's Debris Removal Requirements (Exhibit B)

Owner's Rated Wall/Slab Penetrations Permit (Exhibit C)

Owner's List of Approved Subcontractors (Exhibit D)

Division of Work and General Conditions Breakdown (Exhibit E)

Contractor's and Subcontractors' Labor Rate Schedules (Exhibit F)

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first written above.

OWNER: NYU HOSPITALS CENTER

By:_____

Name:_____

Title:_____

CONTRACTOR: [ ]

By:_____

Name:_____

Title:_____

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)
Named in the Agreement

THE OWNER:
(Name and address)
NYU Hospitals Center
550 First Avenue
New York, New York 10016

THE ARCHITECT:
(Name and address)
Named in the Agreement

THE CONTRACTOR:
Named in the Agreement

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Work Rules, Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order or (3) a Construction Change Directive. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

(Paragraphs deleted)

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION
Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION
In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS
§ 1.5.1 Except to the extent otherwise provided in a written Agreement between the Owner and the Architect, title to all Drawings, Specifications and other documents, including those in electronic form, prepared by the Architect and the Architect's consultants shall vest in the Owner, and the Architect shall be deemed the author thereof and shall retain the copyright and any other intellectual property rights therein subject to a perpetual, non-terminable royalty-free license granted to the Owner. The Contractor may retain one record set of such documents. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents prepared by the Architect or the Architect's consultants. All copies of such documents, except the Contractor's record set, shall be returned or suitably accounted for to the Owner, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Drawings, Specifications and other documents provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on such documents. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use such documents on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM
If the parties intend to transmit information or documentation in digital form, they shall establish appropriate protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER
§ 2.1 GENERAL
§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. The Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen (15) days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER
§ 2.2.1 Any instructions which the Owner shall forward to the Contractor must be in writing with a copy provided to the Architect..

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.8.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site, if required. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHTS IN THE EVENT OF CONTRACTOR DEFAULT

§ 2.4.1 Any one or more of the following shall constitute a "default" or an "event of default" by the Contractor:

.1 The Contractor shall fail or refuse to perform or comply, in whole or part, with any term, condition or provision of any of the Contract Documents;

.2 The Contractor shall fail or refuse to pay any of its Subcontractors, suppliers or workers for any materials, labor or other things incorporated into, or used in connection with, the Work when such payments are due in the Owner's judgment;

.3 The Contractor shall abandon the Work, reduce its labor force to a number insufficient, or fail to increase its labor force to a number sufficient, in the Owner's judgment, to maintain the progress of the Work or complete the Work in accordance with the construction schedule; or

.4 The Contractor shall disregard any applicable law, statute, ordinance, code, rule, regulation or lawful order of a public authority.

§ 2.4.2 If an event of default described in Section 2.4.1 occurs, then the Owner at any time may:

.1 Order the Contractor to comply immediately with any term, condition or provision of any of the Contract Documents;

.2 Order the Contractor, within a specified time, to remove any defective work or materials and to replace such work or materials with satisfactory work or materials;

.3 Accept any defective work or materials and reduce the Contract Sum accordingly;

.4 Arrange to have performed by others any of the Contractor's obligations under the Contract Documents; and/or

.5 Arrange to satisfy the Contractor's obligations relating to the Work for labor, materials, equipment, insurance or other items.

§ 2.4.3 If an event of default described in Section 2.4.1 occurs, then the Owner at any time may also:

.1 Refuse to release any payments to the Contractor for Work performed until the event of default is cured to the satisfaction of the Owner; and/or

.2 Upon three (3) days' written notice to the Contractor, terminate this Contract, accept assignment of Subcontracts pursuant to Section 5.4, take possession of all materials, tools, equipment and appliances of the Contractor with respect to the Project and finish the Work by whatever means, method or agency which the Owner, in its sole discretion may choose. In addition, the Owner may take any other steps the Owner, in its sole discretion, may choose to secure any labor, materials, equipment and services. In such event, the Owner shall have a lien on and may take over all of the Contractor's equipment, tools, appliances and materials related to the Work (whether on or off-site) and complete the Work. However, if the default involves any breach of safety laws, regulations or requirements, only one (1) day's notice (whether oral or written) shall be required. If this Contract is terminated as aforesaid, there shall be no obligation to pay the Contractor for any Work performed after such termination, and no obligation to make any further payments to the Contractor for Work performed before such termination until the Project has been completed and accepted by the Owner, and the Owner determines to its complete satisfaction that potential expenses, charges, and claims relating to the performance of the Work have been satisfied or satisfactorily bonded. Such payments to the Contractor shall in any event be reduced by amounts due to the Owner under the terms of the Contract Documents.

§ 2.4.4 The Owner's choice of any remedy shall not operate to waive any other rights or remedies provided under the Contract Documents, or by law, against the Contractor or its surety. The Owner, at its option, may choose more than one remedy or choose one or more particular remedies at different times.

§ 2.4.5 The Contractor shall pay, immediately upon demand, all costs, losses, damages and expenses including without limitation all administrative, management, overhead and other expenses and economic loss, and reasonable attorney's fees (all herein sometimes collectively called "Costs"), incurred by the Owner in connection with any default by the Contractor or exercise of any right or remedy upon the Contractor's default. If the Contractor does not pay the Costs immediately, the Owner may deduct all Costs from any unpaid portion of the Contract Sum.

§ 2.4.6 If payments due to the Contractor for completed portions of the Work are not sufficient to cover the Costs, the Contractor immediately shall pay to the Owner the full amount of any such excess with interest thereon until paid in full at the maximum contractual interest rate permitted by law.

§ 2.4.7 The liability of the Contractor pursuant to Section 2.4.5 shall extend to include, without limitation, the full amount of Costs incurred and obligations assumed in good faith under the reasonable belief that such Costs or obligations were necessary or required. An itemized statement of such obligations and payments shall be **prima facie** evidence of the Contractor's liability.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor represents that it is an expert in the performance of work similar to the Work. Further, the Contractor is cognizant of, and agrees to, the requirement for premium quality consistent with first class medical facility construction in accordance with the highest standards of the trade.

§ 3.1.2.1 The Contractor shall undertake and complete the Work in accordance with the Contract Documents and to the entire satisfaction of the Owner and the Architect. The Contractor shall faithfully and diligently perform and complete the Work and its obligations under the Contract Documents in strict compliance with and subject to each of the provisions of the Contract Documents to the fullest extent that each such provision is applicable to the Work. Any work performed by the Contractor outside the scope of the Work as described in the Contract Documents will be at the sole risk and expense of the Contractor, unless such work has been approved in writing by the Owner.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 By executing the Contract, the Contractor confirms that it has carefully examined the site of the Work, as well as its adjacent area, and has referred to other usual sources of information with respect thereto, and the Contractor will be conclusively presumed to have full knowledge of any and all conditions on, about or above the site relating to or affecting in any way the performance of the Work that would have been indicated to a reasonably prudent contractor. Under no circumstances shall any extra compensation be allowed the Contractor because of its failure to inform itself fully and to include in its bid all items of labor and material required or necessary to be furnished hereunder.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. The Contractor also shall check for any errors, omissions or discrepancies that may appear in any of the Contract Documents. The Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 If the Owner hires a commissioning agent for the Project, the Contractor shall coordinate the Work with the services of the commissioning agent.

§ 3.4 SCAFFOLDING

§ 3.4.1 The Contractor shall provide exterior and interior scaffolding as needed for the construction of the Project.

§ 3.4.2 The Contractor shall arrange to allow other contractors and subcontractors to use such scaffolds provided by the Contractor as shall from time to time be required by the Work.

§ 3.4.3 All scaffolds shall be built in accordance with the requirements of all state and local laws and regulations.

(Paragraphs deleted)

§ 3.5 LABOR AND MATERIALS

§ 3.5.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.5.2 The Contractor may make substitutions only as provided in Section 3.13.11, with the written consent of the Owner and subject to any stated conditions to such consent. The Contractor's submittal for any proposed substitution shall identify any required changes to the Work or related work of others and the Contractor shall take responsibility for all such changes and any associated services. The Owner may withhold or condition its consent to any substitution in its sole and absolute discretion.

§ 3.5.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

3.5.4 When directed to do so by the Owner in writing, the Contractor and each of its Subcontractors and Sub-subcontractors shall promptly remove from the Work any of their respective workers engaged in the Work if such worker's performance is unsatisfactory in the Owner's sole opinion, and such worker shall not again be assigned to the site of the Work without the prior written consent of the Owner. Neither the Contractor nor any of its Subcontractors or Sub-subcontractors shall be entitled to any extra compensation on account of any such removal.

§ 3.5.5.1 The Contractors and all Subcontractors and Sub-subcontractors employed upon the Work shall and will be required to conform to the Labor Laws of the United States of America and the State of New York and the various Acts amendatory and supplementary thereto; and to all other laws, ordinances and legal requirements applicable to performance of the Work. When required by law or funding source, the Contractor and all Subcontractors shall pay prevailing wages for labor employed in the Work and shall submit to the Owner certified payroll reports documenting the payment of prevailing wages.

§ 3.5.5.2. All labor shall be performed in the best and most workmanlike manner by mechanics skilled in their respective trades. The standards of the Work required throughout shall be of such grade as will achieve first class results.

§ 3.5.5.3 Non-Discrimination Clause:

(a) In connection with the performance of the Work the Contractor agrees not to discriminate against any employee or applicant for employment because of race, religion, color, national origin, sex, age or sexual orientation. The aforesaid provision shall include without limitation: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

(b) The Contractor agrees to post hereafter in conspicuous places, and have available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

(c) The Contract may be cancelled or terminated by the Owner at any time upon seven (7) days' prior written notice, and all moneys due or to become due hereunder shall thereupon be forfeited, for violation of the terms or conditions of the foregoing provisions of the Contract.

(d) The Contractor further agrees to insert the foregoing provisions in all Subcontracts hereunder in order that each Subcontractor, supplier or materialman engaged in the Work shall be obliged to comply with the foregoing requirements.

§ 3.5.6 Labor Harmony. The Contractor shall be responsible for avoiding jurisdictional and other Project Site-specific labor disputes involving the labor employed at the Project Site by the Contractor, Subcontractors and sub-contractors of any tier. The Contractor shall not be responsible for industry-wide labor disputes.

§ 3.6 WARRANTY

§ 3.6.1 The Contractor warrants that all materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Owner or the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6.2 The Contractor shall submit guarantees and warrantees on all equipment and workmanship required by the Contract Documents and shall furnish four (4) sets of maintenance and operating manuals to the Owner before final acceptance.

§ 3.6.3 No operation of equipment by the Owner shall constitute an acceptance of the Work and no final acceptance will be deemed to have occurred until the Contractor has operated the equipment and demonstrated that it fulfills the requirements of the Contract Documents and has furnished all customary certificates of information.

§ 3.7 TAXES

§ 3.7.1 The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

(Paragraphs deleted)

§ 3.7.2.1 The Owner is generally exempt from payment of taxes and is specifically exempt from the payment of sales and compensating use taxes of the State of New York, and of its cities and counties, on all materials and supplies sold to the Owner. The amount of any such taxes is not included in the Contract Sum.

§ 3.7.2.2 The Contractor hereby agrees to sell and the Owner agrees to purchase all the supplies and materials required, necessary or proper for or incidental to the Work covered by the Contract.

§ 3.7.2.3 The Contract Sum shall be deemed to be in full consideration for the performance by the Contractor of all the Contractor's duties and obligations in connection with the foregoing sale and furnishing the use of construction equipment not owned by the Contractor or its Subcontractors but rented from others.

§ 3.7.2.4 The Contractor agrees to perform the Work and to furnish all the supplies and materials required, necessary or proper for or incidental thereto, except that the supplies and materials sold to the Owner under Section 3.7.2.2 above shall be furnished by the Owner to the Contractor for use in the performance of such Work and except that the use of construction equipment not owned by the Contractor or its Subcontractors but rented from others shall be deemed to be in full consideration for the performance by the Contractor of all duties and obligations under this Contract in connection therewith.

§ 3.7.2.5 The purchase by the Contractor of the supplies and materials sold hereunder will be a purchase or procurement for resale and therefore not subject to the New York State sales or compensating use taxes or any such taxes of cities or counties. The sale of such supplies and materials by the Contractor to the Owner will not be subject to the aforesaid sales or compensating use taxes. With respect to such supplies and materials sold hereunder, the Contractor, at the request of the Owner, shall furnish to the Owner, properly executed, acknowledged and delivered, such bills of sale and other instruments as may be required by it, assuring it that title to such supplies and materials shall have passed to the Owner free of encumbrances, and the Contractor shall mark or otherwise identify all such supplies and materials as the property of the Owner.

§ 3.7.2.6 The purchase by Subcontractors of supplies and materials to be sold hereunder will also be a purchase or procurement for resale to the Contractor (either directly or through other Subcontractors) and therefore not subject to the aforesaid sales or compensating use taxes, provided that the Subcontracts between the Contractor and its Subcontractors shall provide for the resale of such supplies and materials prior to and separate and apart from the incorporation of such supplies and materials into the permanent construction and that such subcontract agreements are in a form similar to this Contract with respect to the separation of the sale of supplies and materials from the work and labor to be performed.

§ 3.7.2.7 If as a result of such sale of supplies and materials, payment for which was made by the Contractor after the date of this Contract, (i) any claim is made against the Contractor by the State of New York or any city or county thereof for sales or compensating use taxes on the aforementioned supplies and materials or (ii) any claim is made against the Contractor by a Subcontractor or materialman on account of a claim against such Subcontractor or materialman by the State of New York or any city or county thereof for sales or compensating use taxes on the aforementioned supplies and materials, then, if the Contractor and Subcontractors have complied with the provisions of this Contract relating thereto, the Owner will reimburse the Contractor for an amount equal to the amount of such tax required to be paid in accordance with the requirements of law, provided that:

(a) (i) The Subcontracts in connection with this Contract provide for the resale of such supplies and materials prior to and separate and apart from the incorporation of such supplies and materials into the permanent construction;

(ii) Such Subcontracts are in the form of this Contract with respect to the separation of the sale of supplies and materials from the other work and labor to be provided; and

(iii) Such separation is actually followed in practice, including, without being limited to, the separation of payments for supplies and materials from the payments for other work and labor; and

(b) The Contractor and the Subcontractors and materialmen shall have obtained any and all necessary resale exemption certificates from the appropriate government agency or agencies, and shall have furnished a resale certificate to all persons, firms or corporations from which they have purchased supplies and materials for the performance of the Work covered by this Contract; and

(c) The Owner shall have been afforded the opportunity, before any payment of tax is made, to contest such claim in the manner and to the extent that the Owner may choose and to settle or satisfy such claim, and such attorney as the Owner may designate shall have been provided with the opportunity to act for the purpose of contesting, settling and satisfying such claim, and the Contractor and the Subcontractor shall have given immediate notice to the Owner of any such claim, cooperating with the Owner and its designated attorney in contesting such claim and furnished promptly to the Owner and said attorney all information and documents necessary or convenient for contesting such claim, such information and documents to have been preserved for six years after the date of final payment for the sale or until the resolution of such claim if such a claim is pending or threatened at the end of such six years. If the Owner elects to contest any such claim, it will bear the expense of such contest.

§ 3.7.2.8 Nothing in this Section 3.7.2 is intended to relieve or shall be construed as relieving the Contractor from the Contractor's obligations under this Contract and the Contractor shall have the full continuing responsibility to install and protect the materials and supplies purchased in accordance with the provisions of the Contract, to maintain them in proper conditions and forthwith to repair, replace and make good any loss thereof or damage thereto without cost to the Owner until such time as the work covered by the Contract is fully accepted by the Owner.

§ 3.8 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

(Paragraphs deleted)

§ 3.8.1.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.8.1.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.8.1.3(a) In the event of the failure of the Contractor promptly to secure any building permit or any certificate of occupancy and to pay for any such permit or certificate or to secure and pay for any licenses, inspections and certificates necessary for the proper execution and completion of the Work, then, following two (2) days' written notice to the Contractor of its intent to do so, the Owner may proceed to secure such permits, licenses, inspections or certificates at the expense of the Contractor.

§ 3.8.1.3(b) In the event the securing of any such permit, license, inspection or certificate requires the cooperation or signature of the Contractor, the Contractor shall immediately upon request of the Owner supply and execute all documents necessary to obtain each such document and shall indemnify the Owner from and against any expense, delay or damage to the Owner resulting from any failure by the Contractor strictly to observe and perform its obligations hereunder.

§ 3.8.2 It is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations. However, if the Contractor observes that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Architect and Owner in writing, and necessary changes shall be accomplished by appropriate Modification.

§ 3.8.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.8.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner before conditions are disturbed and in no event later than ten (10) days after first observance of the conditions. Failure of the Contractor to give such notice and to permit the Owner to investigate such conditions, before they are disturbed, shall constitute a waiver by the Contractor of any and all Claims arising therefrom. The Owner and the Architect will promptly investigate such conditions and, if the Owner determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, there will be an equitable adjustment in the Contract Sum or Contract Time, or both. If the Owner determines that the conditions at the site are not materially different, there will be no change in the terms of the Contract. If the Contractor disputes the Owner's determination, the Contractor may proceed as provided in Article 15.

§ 3.9 ALLOWANCES

§ 3.9.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.9.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.9.2.1 and (2) changes in Contractor's costs under Section 3.9.2.2.

§ 3.9.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.10 STAFFING

§ 3.10.1 The Contractor and each of its Subcontractors shall furnish a competent and adequate staff and labor as necessary for the proper administration, coordination, supervision and superintendence of the Work and clean-up of the Site; organize the procurement of all materials and equipment so that they will be available at the time they are needed for the Work; and keep an adequate force of skilled workers on the job to maintain the progress of the Project and complete the Work in strict accordance with all requirements of the Contract Documents. The Contractor shall keep on the job throughout its duration a full-time competent superintendent and any necessary assistants, all of whom must be satisfactory to Owner. Any limitations or reductions in the Contractor's staffing shall be set forth as exclusions in the Contractor's bid for a Project and in the Agreement.

§ 3.10.2 Prior to assigning a superintendent or project manager to the Work, the Contractor shall furnish to the Owner in writing, with a copy to the Architect, the name and resume of prior work experience of the proposed superintendent or project manager and shall obtain the written approval of the Owner for such assignment. If during the progress of the Work the Owner in its sole discretion objects to the superintendent, project manager or any other key member of the Contractor's staff, the Owner may demand in writing that the superintendent, project manager or other key staff member be replaced. Upon such demand the Contractor shall appoint a replacement superintendent, project manager or other key staff member after having first obtained the Owner's approval of such replacement. The Contractor shall not be entitled to any extra compensation on account of any such replacement. No superintendent, project manager or other key member of the Contractor's staff shall be fired, transferred or otherwise removed from the Work by the Contractor without the prior written consent of the Owner.

(Paragraphs deleted)

§ 3.11 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.11.1 The Contractor, within ten (10) days after being awarded the Contract, shall prepare and submit for the Owner's approval a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. The schedule shall show (a) the sequence and interrelationship of the items of the Work of each trade and their relationship to the Work of the other trades; (b) the time required for fabrication or delivery, or both, of all materials and equipment required for the Work; and (c) the time required for the preparation and submission of all shop drawings, coordination drawings, product data and samples, coordinated with the submittal schedule required under Section 3.11.2. In addition, the Contractor shall prepare and submit to the Owner every two (2) weeks throughout performance of the Work a two-week look-ahead schedule showing the Work the Contractor plans to perform in the next two (2) weeks. Failure to submit a proposed schedule, revision or two-week look-ahead schedule as required shall constitute a material breach of this Contract, which may not be waived except in writing signed by the Owner.

§ 3.11.2 The Contractor shall prepare a submittal schedule, within ten (10) days after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.11.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.12 DOCUMENTS AND SAMPLES AT THE SITE

§ 3.12.1 The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12.2 The Contractor shall submit to the Owner each day detailed written daily reports of the Work performed the previous day by its employees and the employees of its Subcontractors.

§ 3.12.3 Each such daily report shall be prepared and signed on behalf of the Contractor. Each report shall include the following information for that day concerning the Contractor and each Subcontractor: materials and equipment being installed, number of workers working, the hours worked, the type and location of the Work being performed by each trade and each item of major equipment being used. The report shall also include other significant events occurring on the job site with regard to the Work. The Contractor's failure to submit such reports shall constitute a material breach of this Contract, which may not be waived except in writing signed by the Owner.

(Paragraphs deleted)

§ 3.13

(Paragraphs deleted)

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.13.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.13.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.13.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.13.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Sections 3.13.10 and 4.2.8. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.13.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. No extensions of time will be granted to the Contractor for delays attributable to the Contractor's failure to submit submittals in an orderly and timely manner. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action. Any submittal which, in the Architect's opinion, is incomplete, contains numerous errors, has not been checked or has been checked only superficially by the Architect will be returned unchecked by the Architect for resubmission by the Contractor.

§ 3.13.6 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.13.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.13.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.13.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.13.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.13.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13.11 No fixtures or equipment other than that shown and specified in the Contract Documents may be submitted by the Contractor for approval more than four (4) weeks after the date of the Contract. If any such submission shall be made the Contractor must at such time specifically agree in writing that it shall be responsible for all structural, mechanical, electrical or other changes which shall be required in connection therewith at no additional cost to the Owner. The Contractor will be required to furnish all necessary services relating to any substituted fixtures or equipment approved by the Owner which shall be necessary to provide proper operation thereof.

§ 3.14 USE OF SITE

§ 3.14.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14.2 The Contractor shall arrange with the Owner for access to the site or, if an alteration is involved, the premises, and for use of elevators, toilet facilities, etc., if appropriate. All Work shall be performed during regular, lawful working hours unless otherwise directed by the Owner with the permission (if required) of appropriate governmental agencies.

§ 3.14.3 The Contractor and all Subcontractors shall at all times coordinate their respective Work with all adjacent work and shall coordinate with all other trades so as to facilitate the general progress of the Work.

§ 3.15 CUTTING AND PATCHING

§ 3.15.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.15.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

(Paragraphs deleted)

§ 3.16 CLEANING UP

§ 3.16.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.16.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.17 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.18 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

(Paragraphs deleted)

§ 3.19 INDEMNIFICATION

§ 3.19.1 To the fullest extent permitted by law, the Contractor shall assume entire responsibility and liability for any and all damage or injury of any kind or nature whatever (including death resulting therefrom) to all persons, whether employees of the Contractor or otherwise, and to all property, including, without being limited to, property of the Owner, New York University, NYU Langone Health System, New York University Medical Center Condominium or the Architect, or loss of use thereof, actually or claimed to be caused by, resulting from, arising out of, or occurring in connection with, the execution of the Work or caused or contributed to by any negligent act, error, or omission on the part of the Contractor, or any Subcontractor, Sub-subcontractor or supplier or any of their respective agents, servants or employees, including, without limitation, any alleged breach of any statutory duty or obligation on the part of any of the Indemnitees (as hereafter defined) or any of their affiliates, subsidiaries, agents, consultants, trustees, servants, employees, directors, officers or volunteers, except as hereinafter provided; and if any claim shall be made for any damage or injury (including death resulting therefrom) as hereinabove described (unless and only to the extent that such injury or damage is caused by or results from the sole negligence of an Indemnitee or any of their respective affiliates, subsidiaries, agents, consultants, trustees, servants, employees, directors, officers or volunteers), the Contractor agrees to indemnify and hold harmless the Owner, NYU Langone Health System, New York University, New York University Medical Center Condominium and the Architect (each an "Indemnitee" and collectively the "Indemnitees"), and each of their respective affiliates, subsidiaries, agents, consultants, trustees, servants, employees, directors, officers and volunteers from and against any and all loss, expense, damage or injury that may be sustained as the result of any such claim, and the Contractor agrees to assume, on behalf of each of the Indemnitees and/or any of their respective affiliates, subsidiaries, agents, consultants, trustees, servants, employees, directors, officers or volunteers, the defense of any action at law or equity which may be brought against any of them upon such claim and to pay all costs and expenses of whatever nature resulting therefrom or in connection therewith, and to pay on behalf of the Indemnitees and/or any of their respective affiliates, subsidiaries, agents, consultants, trustees, servants, employees, directors, officers or volunteers upon demand, the amount of any judgment that may be entered against any of them in any such action. This indemnification agreement shall continue in effect in each instance notwithstanding the fact that the Owner has accepted and paid for the Work, in whole or in part, and has occupied the Project.

§ 3.19.2 In claims against any person or entity indemnified under this Section 3.19 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.19.1 shall not be limited by a limitation on amount or type of

damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

§ 3.20 TEMPORARY HEAT

§ 3.20.1 The Contractor shall, at its own expense, provide such temporary heating as shall be required for the proper protection, facilitation and drying of all Work.

§3.21 TEMPORARY LIGHT AND POWER

§ 3.21.1 The Contractor shall, at its own expense, furnish all temporary light and power, complete with wiring, lamps and similar equipment, as shall be required for the completion of the Work. At such time as the temporary light and power shall no longer be required, all such wiring, lamps, and equipment comprising temporary light and power shall be removed by the Contractor at its own expense.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 Unless otherwise provided in the Contract Documents, the Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended except by written direction of the Owner.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Owner and Architect will provide administration of the Contract as described in the Contract Documents. The Architect will be an Owner's representative during construction until the date the Architect issues the final Certificate For Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents. The Architect will not have authority to increase the Contract Sum or extend the Contract Time. The Owner may carry out any or all of the administrative functions of the Architect set forth in the General Conditions.

§ 4.2.2 The Architect, as a representative of the Owner, will visit the site at intervals appropriate to the stage of the Contractor's operations to become familiar with and to keep the Owner informed about the progress and quality of the Work completed, and to determine in general if the Work is being performed in accordance with the Contract Documents and all applicable laws. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1. Neither the observations of the Architect, nor observations, inspections, tests or approvals by persons other then the Contractor, shall relieve the Contractor from the Contractor's obligations to perform the Work in accordance with the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review for conformance with the information given and the design concept expressed in the Contract Documents, and take appropriate and timely action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, based upon the requirements of and as necessitated by the Contract Documents. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.8 and the other provisions of the Contract Documents. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Construction Change Directives. The Architect will investigate concealed and unknown conditions as provided in Section 3.8.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will determine the quality, acceptability and fitness of all parts of the Work and will interpret and decide matters concerning performance under and requirements of, the Drawings, Specifications and other Contract Documents issued by the Architect on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If no agreement is made concerning the time within which interpretations required of the Architect shall be furnished in compliance with this Section 4.2, then delay (if any) will not be recognized on account of failure by the Architect to furnish such interpretations until fifteen (15) days after written request is made for them.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 The Contractor shall use only Subcontractors on the Owner's approved list of subcontractors; provided, however, that the Contractor may propose in its bid for a Project, as an alternate, a Subcontractor not on the Owner's approved list and the proposed price reduction (if any) if the Owner agrees to such use of the proposed alternate Subcontractor. The Agreement will include a list of the Subcontractors for the Project, including any agreed alternate Subcontractors. Within thirty (30) days of the award of the Contract, the Contractor shall furnish in writing to the Owner the names of any Subcontractors for the Project not listed in the Agreement and of suppliers proposed for each principal portion of the Work.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Owner shall not require the Contractor to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 The Contractor shall require that each Subcontractor or supplier examine, analyze and expressly agree in writing to be bound by all provisions of the Contract and the Contract Documents.

§ 5.2.4 The Contractor shall not substitute a Subcontractor or supplier previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than thirty (30) days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor that executes the Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Owner apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for direct costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner and/or separate contractors.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.15.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order or Construction Change Directive, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents. The Contractor shall submit a written proposal for adjustment of the Contract Sum and/or the Contract Time on account of a proposed change within ten (10) days after the Contractor's receipt of notice of the change or proposed change and thereafter shall meet with the Owner as and when requested by the Owner to negotiate any such adjustment

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Contractor and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Methods used in determining adjustments to the Contract Sum may include those listed in Sections 7.3.3 and 7.3.7.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order signed by the Owner directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly. A Construction Change Directive may take the form of an authorization letter signed by the Owner.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation based upon estimated amounts calculated in accordance with Section 7.3.7;
.2 Unit prices stated in the Contract Documents or subsequently agreed upon;
.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
.4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Construction Change Directive does not state in the method for adjustment of the Contract Sum, or if the Contractor does not respond promptly or disagrees with the stated method for adjustment, the Architect or Owner shall determine the method and the adjustment on the basis of reasonable direct expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, percentage allowances for general conditions, insurance, overhead and profit as set forth in the Agreement. The Contractor shall be entitled to only one level of allowance for general conditions, insurance, overhead and profit, whether the Work is performed by a Subcontractor or is self-performed by the Contractor. In cases covered by this Section 7.3.7, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect or Owner may prescribe, an itemized accounting together with appropriate supporting data. If any Work attributable to the change is performed by a Subcontractor, the Contractor shall require the Subcontractor to keep and present such itemized accounting and supporting data, which the Contractor shall submit to the Owner. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

.1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;

.2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed; and

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others.

(Paragraph deleted)
Costs shall exclude costs for general conditions (including, without limitation, all clean-up and other support labor and all supervisory and project management labor), insurance and overhead, all of which are covered by the allowances for general conditions, insurance and overhead as set forth in the Agreement.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for general conditions, insurance, overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be documented by a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

(Paragraph deleted)

§ 7.4 PERFORMING CHANGED OR DISPUTED WORK

§ 7.4.1 If the Contractor or any Subcontractor is performing changes in the Work under Article 7 hereof (unless payment therefor is to be made by a lump sum or at unit prices previously agreed upon), or is performing disputed work or complying with a determination or order under protest in accordance with Section 15.1.4.2 hereof, the Contractor shall furnish each of the Architect and the Owner daily with an original and one copy of a written statement signed by the Contractor's representative at the site showing:

.1 The number of workers engaged in performing such work or engaged in complying with such determination or order, the number of hours each such worker is devoting thereto and a description of the specific work each is doing; and

.2 The nature and quantity of all materials and equipment furnished or used in connection with the performance of such work or compliance with such determination or order and from whom

purchased or rented.

§ 7.4.2 A copy of each such statement shall be counter-signed by the Architect or the Owner's representative, noting thereon any items questioned, and will be returned to the Contractor promptly after submission for answers to each of the questions raised.

§ 7.4.3 Notwithstanding any other provision of the Contract or any applicable law, since the purpose of the foregoing requirements is to provide the Owner with the opportunity to ascertain immediately the validity of any costs or damages claimed, failure by the Contractor to comply strictly with the requirements set forth in Section 7.4.1 above shall constitute a waiver and release by the Contractor of any and all Claims for costs or damages arising therefrom.

§ 7.4.4 The Contractor, and each Subcontractor, when required by the Owner or Architect, must also produce for inspection all books, vouchers, records, daily job diaries, reports and cancelled checks, showing the nature and quantity of the labor, materials, plant and equipment actually used in the performance of such work or in complying with such determination or order, and the amounts expended therefor, including, without limitation records and data stored in electronic form such as computer hard drives, tape backups and any other storage devices, computer software and other electronic files.

§ 7.5 REQUIREMENT FOR WRITTEN ORDER

§ 7.5.1 Except in the case of emergencies, all changes in the Work must be authorized by a written directive and the Contractor shall not proceed with a change without such a directive. Failure to comply strictly with this requirement for a written directive shall constitute a waiver by the Contractor of any and all Claims relating to such work.

§ 7.6 CONTINUING PERFORMANCE

§ 7.6.1 The existence of any disputes regarding changes in the Work shall not relieve the Contractor of its obligations to proceed diligently with its performance of the Contract as provided in Section 15.1.3.

§ 7.7 RECORD DRAWINGS

§ 7.7.1 The Contractor shall continuously maintain a complete set of black and white prints of all Contract Drawings on which it shall contemporaneously record all changes in the Contractor's Work made during construction so as to provide an "as-built" record of the Work (the "Record Drawings").

§ 7.7.2 Each Subcontractor shall also timely prepare and provide record shop drawings (the "Record Shop Drawings") in accordance with good construction practice and shall continuously update the Record Shop Drawings to include all comments made by the Architect, engineers and consultants and all changes in the Subcontractor's Work. The Record Shop Drawings shall be sealed and signed by the Subcontractor's licensed professional engineer(s) whenever required by the Specifications and other Contract Documents. A complete set of Record Shop Drawings shall be provided by each Subcontractor to the Contractor at such time as each Subcontractor has substantially completed its Work and prior to such Subcontractor receiving final payment from the Contractor. The failure of any Subcontractor to so provide its Record Shop Drawings shall constitute grounds for withholding final payment until full compliance herewith has been made.

§ 7.7.3 Prior to final acceptance of the Work the Contractor shall provide to the Owner an indexed and complete set of "as-built" Record Drawings and Record Shop Drawings for the Project. The Contractor shall also provide to the Owner one set of all of the Contract drawings and sketches issued for the Work.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement or the Owner's notice to proceed.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner; or by other causes that the Owner determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Owner may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15. The Contractor shall give written notice of any such Claim as provided in Section 15.1.2.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

§ 8.3.4 Within three (3) days after the discovery or commencement of any condition which is causing or may cause delay or disruption in the Work the Contractor must notify the Architect and the Owner in writing, duly executed by the Contractor, of the effect, if any, of such condition upon the progress of the Work, must state in such notice in what respect, if any, the condition is causing or may cause delay or disruption and must set forth therein suggestions for avoiding such delay or disruption. Such notice shall be followed by notice of any Claim on account of any such condition as provided in Section 15.1.2.

§ 8.3.5 If the Contractor shall at any time claim or intend to claim compensation for any damage sustained by reason of any such delay or disruption the Contractor shall (in addition to providing notice under Sections 8.3.4 and 15.1.2), on or before the fifteenth (15th) day of the month following that in which any such damage shall have been sustained, provide both the Architect and the Owner with an itemized written statement duly executed by the Contractor, setting forth in detail the nature, extent and amount of such damage and having attached thereto copies of all documentation then in the possession of the Contractor supporting such claim.

§ 8.3.6 Notwithstanding any other provision of this Contract or any applicable law, since the purpose of each of the foregoing requirements is to provide the Owner with the opportunity to avoid or minimize the effect of any such condition and to immediately ascertain the validity of any damages claimed, the failure by the Contractor to comply strictly with each of the requirements set forth in Sections 8.3.4, 8.3.5 and 15.1.2 shall constitute a waiver and release by the Contractor of any and all claims for damages for delay or disruption arising from any such condition, no right to recover upon any such Claim shall exist thereafter and under no circumstances shall Contractor assert any such Claim.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

The Contractor shall submit to the Owner for the Owner's approval a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule, with any revisions required by the Owner, shall be used only as a basis for reviewing the Contractor's Applications for Payment and for no other purpose and may not be offered in evidence in any action or proceeding against the Owner for the purpose of establishing the value of the Work or any portion thereof as performed by the Contractor.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 Before the first Application for Payment for the Work, the Contractor shall submit to the Owner for the Owner's approval a written cash flow schedule of projected payments to the Contractor for the duration of the Work.

(Paragraphs deleted)

§ 9.3.2 Each month during performance of the Work, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents. Following certification by the Architect, the Contractor shall submit the Application for Payment to the Owner.

(Paragraph deleted)

§ 9.3.2.1 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.2.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.3.2.4 Before the Contractor shall become entitled to any intermediate or final payment under the terms of this Contract, the Contractor must first submit signed, notarized and original partial or final lien waivers from the Contractor and Subcontractors and such other evidence in such form as the Owner may designate that everything in connection with the then completed Work, whether or not furnished at the job site or elsewhere, has been fully paid for to the date of the Application for Payment (including, without limitation, materials furnished, labor performed, services rendered and equipment supplied by all persons engaged in the prosecution of the Work, whether or not such persons be agents, servants or employees of the Contractor and regardless of any contractual relationship between the Contractor and such persons) and the Contractor shall certify under penalties of perjury, at any time required by the Owner, that all such payments or claims therefor have been fully made or satisfied. In the event there shall be any lien or other claim for moneys due or to become due by any of the foregoing, the Contractor shall immediately satisfy such claim and bond such lien. The Owner shall have the right to retain out of any payment then due, or thereafter to become due, an amount sufficient to completely indemnify it against such lien or other claim, including any premiums charged for a bond and any attorneys' fees and disbursements. The Contractor agrees to pay the above costs incurred by the Owner and the Owner is authorized to retain such sums from any amounts due the Contractor. The Contractor hereby appoints any duly authorized agent or officer of the Owner as its agent to execute a release or satisfaction of any such lien in the name of the Contractor. Should the Owner give the Contractor written notice of any unpaid claim for obligations incurred by the Contractor, the Contractor shall be

stopped from disputing the liability for any such claim unless within three (3) days after receipt of such notice the Contractor shall notify the Owner in writing that an amount different from that demanded is actually owing or that there is no amount owing. Should there be any claim outstanding after all payments have been made, the Contractor shall refund to the Owner all moneys that the Owner may pay in connection with discharging and defending such claim. Any such lien or other claim, until satisfied or withdrawn, shall preclude any and all claims or demand for any payment by the Contractor under or by virtue of this Contract.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will either execute a Certificate for Payment, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- **.1** defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- **.4** reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- **.5** damage to the Owner or a separate contractor;
- **.6** reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- **.7** repeated failure to carry out the Work in accordance with the Contract Documents.
- **.8** failure to comply with the construction schedule;
- **.9** failure to respond in a timely manner to a Change Order requests;
- **.10** erroneous estimates by the Contractor of the value of Work performed; or
- **.11** the existence of an event of default under the Contract Documents.

In addition, the Owner may withhold the Owner's approval of the Application, or after approval the Owner may withhold payment, in whole or in part for any of the foregoing reasons and shall notify the Contractor of any such withholding.

§ 9.5.2 When the above reasons for withholding certification, approval or payment are removed, certification or payment will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification or the Owner withholds payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents unless the Owner withholds payment under Section 9.5.1.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven (7) days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven (7) days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within fourteen (14) days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within fourteen (14) days after the date established in the Contract Documents the amount certified by the Architect (except to the extent of withholding by the Owner under Section 9.5.1) or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Owner a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon submission of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner and (6) data establishing that all permits, inspections, signoffs and acceptances have been received from all regulatory agencies having jurisdiction over the Work, and that all open work applications have been closed at the issuing agency. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

(Paragraphs deleted)

§ 9.10.4 No payment made by the Owner hereunder, including the final payment, shall be evidence of the performance of the Contract either in whole or in part, against any Claim of the Owner, and no payment shall be construed to be an acceptance of any defective Work or as a waiver of any of the provisions of the Contract, including the provisions for guarantees, warranties and indemnification, each of which shall survive any such payment and any waiver of any of the terms hereof by the Owner shall be without prejudice and such waiver shall not be deemed to be continuing or in any way affect the other terms, provisions or covenants of the Contract.

§ 9.10.5 The acceptance of final payment by the Contractor shall constitute a waiver of all Claims by the Contractor, except for those made in writing duly executed by the Contractor and submitted with the final Application for Payment. Such writing shall specify that the writing contains a Claim by the Contractor, shall set forth all alleged Claims of the Contractor against the Owner in any way connected with or arising out of the Contract, either in contract or in tort, and with respect to each item of such claim the total amount thereof, the labor and various materials included therein and the alleged value thereof. If any such Claim be one for delay or disruption, the Contractor shall set forth the alleged cause of each delay or disruption, the period or periods of time involved (including the dates when the Contractor claims the performance of the Work, or a particular part thereof, was delayed or disrupted) and an itemized statement and breakdown of the amount claimed for each such delay or disruption. The Contractor shall also certify that the Contractor has complied with provisions of Sections 8.3 and 15.1.2 of the Contract with respect to any Claim for delay or disruption, with the provisions of Sections 15.1.4 and 7.5 with respect to any Claim for extra or disputed Work and with the provisions of Section 15.1.4 with respect to any Claim for other additional cost.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

§ 10.1 Safety and Fire Precautions and Programs: The Contractor shall be responsible for initiating, maintaining and supervising all safety and fire precautions and programs in connection with the Work. Within ten (10) days after execution of the Contract, the Contractor shall submit to the Owner a detailed, site-specific safety plan for the Project.

§ 10.2 Safety of Persons and Property: The Contractor shall take all necessary precautions for the safety of, and shall assume responsibility for and provide all necessary protection to prevent damage, injury or loss to:

.1 All employees on the Work and all other persons who may be affected thereby;

.2 All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site; and

.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and

.4 The public.

(Paragraphs deleted)

§ 10.3 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority that has jurisdiction over the site where the Work is being performed, and also shall comply with the Owner's work rules (including the work rules attached as part of the Contract Documents and reasonable revisions and additions) and any applicable rules and regulations of any landlord or managing agent. The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all necessary safeguards for safety, protection and fire prevention, including posting danger signs and other devices against hazards, and shall be responsible for promulgating safety regulations and notifying owners and users of adjacent property and utilities.

§ 10.4 When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of qualified personnel.

§ 10.5 All damage or loss to any property referred to in Section 10.2 above which shall be caused in whole or in part by the Contractor, any Subcontractor or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, shall be remedied by the Contractor at its expense, except damage or loss attributed solely to faulty drawings and specifications or solely to the acts or omissions of the Owner or Architect or anyone employed by either of them.

§ 10.6 The Contractor shall designate a responsible individual at the site whose duty shall be the prevention of accidents and fire protection. This individual shall be the Contractor's Project Superintendent unless otherwise specified in writing by the Contractor to the Owner and the Architect.

§ 10.7 The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.

§ 10.8 Emergencies: In any emergency affecting the safety of persons or property, the Contractor shall act, in its discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided for in Article 7 (Changes in the Work).

§ 10.9 Protection in General:

.1 The Contractor shall protect all shrubs, trees, lawns and all landscape work from damage by providing such guards and covering or other protection as may be necessary. Any damage to such items shall be repaired or replaced at the Contractor's expense.

.2 The Contractor shall protect all streets and sidewalks and shall make all necessary repairs at the Contractor's own expense.

.3 The Contractor shall protect all private roads and walks, shall maintain them during the course of the Work and shall repair all damage thereto at its own expense.

.4 The Contractor shall comply with the requirements of the specification entitled "Protection & Safety Work" of the Committee on Accident Prevention, Building Trades Employers' Association of the City of New York, insofar as the provision of any article or articles thereof are applicable to the Work, the same as if such provisions were set forth herein in full, and with all local and state laws.

§ 10.10 Water Protection: The Contractor shall at all times protect the excavation, the trenches and the building from damage from rain water, backing up of drains or sewers and all other sources of water and shall provide all pumps, equipment and enclosures to provide this protection.

§ 10.11 Temporary Drainage: The Contractor shall construct and maintain all necessary temporary drainage and so all pumping necessary to keep all excavations, basements and cellars free of water.

§ 10.12 Snow and Ice: The Contractor shall remove all snow and ice as may be required for the proper protection and prosecution of the Work.

§ 10.13 Bracing, Shoring & Sheeting: The Contractor shall provide all bracing, shoring and sheeting as required for safety and for the proper execution of the Work and shall have such items removed when the Work is completed.

§ 10.14 Guard Lights: The Contractor shall provide and maintain guard lights at all barricades, railings, obstructions in the streets, roads or sidewalks, and at all trenches or pits adjacent to public walks or roads.

§ 10.15 Weather Protection: The Contractor shall at all times protect against rain, wind, storms, frost or heat so as to maintain all work, materials, apparatus and fixtures free from injury or damage. At the end of each day's work all new Work which might be damaged shall be protected.

§ 10.16 Protection to Previously Completed Work: The Contractor shall provide the proper protection for all previously completed Work, and all furnishings and fixtures which may be damaged. Whenever any exterior openings shall be made in previously completed Work they shall be covered with watertight protection at the end of each day.

§ 10.17 Cold Weather: During cold weather the Contractor shall protect all Work from damage. If at any time low temperatures shall make it impossible to continue operations safely in spite of cold weather precautions, the Contractor shall cease work at that time and shall notify the Architect.

§ 10.18 Damage: Any Work damaged by a failure to provide the protection required above shall be removed and replaced at the Contractor's expense.

§ 10.19 Fire:

.1 Smoking shall be prohibited on the premises and signs to this effect shall be posted conspicuously.

.2 Fires shall not be built on the premises.

.3 The Contractor shall provide and maintain in working order a minimum of two per floor (or such greater number as shall be required by law) Standard Underwriter's labeled 2-1/2 gallon fire extinguishers.

§ 10.20 The Contractor shall notify the Owner of any incident, accident, injury or fatality within fifteen (15) minutes after occurrence, and of any avoided incident, accident, injury or fatality once each day.

§ 10.21 HAZARDOUS MATERIALS

§ 10.21.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.21.2 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.21.3 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S AND SUBCONTRACTORS' INSURANCE

(Paragraphs deleted)

§ 11.1.1 Work shall not commence under this Contract until the Contractor has obtained, at its own cost and expense, with a company or companies satisfactory to the Owner's Director of Insurance, all the insurance hereinafter set forth. The Contractor also shall require each of its Subcontractors to obtain the same insurance as is required of the Contractor in the amounts stated below. The Contractor shall not allow Work to be commenced by any of its Subcontractors until the insurance required of the Subcontractor has been obtained and approved by the Owner's Director of Insurance.

§ 11.1.2 The Contractor and each Subcontractor shall procure and maintain such insurance from commencement of Work until completion of the Work or its final acceptance, whichever is later (and for at least three years thereafter for CGL/Completed Operations and Professional Liability) and the Contractor and each Subcontractor shall deliver certificates of insurance evidencing the procurement of the required insurance to the Owner's Director of Insurance at least five (5) business days prior to the commencement of any Work under the Contract. These certificates shall show the type, amount and class of operations covered, as well as the effective dates and expiration dates of the various insurance policies and will name the Owner as a certificate holder. Such certificates shall contain in substance the following language:

> NYU HOSPITALS CENTER, NYU LANGONE HEALTH SYSTEM, NEW YORK UNIVERSITY MEDICAL CENTER CONDOMINIUM, THE PROJECT ARCHITECT AND THEIR RESPECTIVE AFFILIATES AND SUBSIDIARIES, AGENTS, CONSULTANTS, TRUSTEES, SERVANTS, EMPLOYEES, DIRECTORS, OFFICERS AND VOLUNTEERS, ARE NAMED AS ADDITIONAL INSUREDS FOR GENERAL LIABILITY COVERAGE.
>
> The Insurance described by this certificate will not be canceled nor materially altered during the term of this Contract except after thirty (30) days prior written notice to the Director of Insurance of New York University, Contractor and each Subcontractor shall, upon demand by New York University, deliver to the Director of Insurance of New York University certified copies of the insurance policies required herein.

The receipt by the Owner of any certificate not containing the foregoing language shall under no circumstances constitute a waiver of the foregoing requirement. No insurance policy procured or maintained by the Contractor or any Subcontractor shall have any "professional services" exclusion which excludes coverage for engineering services rendered by the Contractor in connection with its Work.

§ 11.1.3 If during the period of time referred to in Section 11.1.2 above any of the insurance required of the Contractor or any Subcontractor shall expire or be altered in any material respect, the Contractor shall immediately advise the Owner's Director of Insurance, in writing, of such expiration or alteration, such policy shall be immediately renewed, with the same limits and conditions, and such policy shall be maintained in effect for the duration of such period. See Section 11.8 below.

§ 11.1.4 The Owner shall not be responsible for payment of any of the premiums of the required insurance. By carrying the required insurance, neither the Contractor nor any Subcontractor shall be relieved of any responsibility whatever and each may, at its own expense, carry such additional insurance as it deems necessary.

§ 11.2 Compensation Insurance: The Contractor and each Subcontractor shall procure and maintain, during the period of time referred to in Section 11.1.2 above, Workers' Compensation Insurance, as required by the New York State Workers' Compensation law, and any other applicable law, with respect to each of its employees to be engaged in the performance of Work under the Contract.

§ 11.3 Employers' Liability Insurance: The Contractor and each Subcontractor shall procure and maintain, during the period of time referred to in Section 11.1.2 above, Employers' Liability Instance in an amount not less than $1,000,000 for each occurrence for all employees engaged in Work under the Contract. Should any class of employees engaged in Work under the Contract not be protected under the Workers' Compensation Statute, the Contractor and each Subcontractor shall procure adequate Employers' Liability Insurance for the protection of all such employees who are not otherwise protected. The Contractor and each Subcontractor shall procure and maintain appropriate Disability and Unemployment insurance for all of their employees engaged in the performance of Work under the Contract.

(Paragraphs deleted)
§ 11.4 Commercial General Liability and Excess Liability Insurance: The Contractor and each Subcontractor shall procure and maintain during the period of time referred to in Section 11.1.2 above (and for at least three years thereafter in the case of Completed Operations) Commercial General Liability and Follow Form Excess Liability Insurance, in an amount established in conjunction with the New York University Insurance & Risk Management Department, for the various trades, for personal injury, bodily injuries or death resulting therefrom, and Property Damage (Broad Form) for each occurrence and in the annual aggregate. The policies providing such insurance shall include Contractual Liability Insurance against the liability assumed under the hold harmless and indemnification clauses contained in Section 3.19 of these General Conditions. In addition such policies shall provide the following coverages:

a. Premises - operations liability;

b. Occurrence bodily injury and property damage liability;

c. Independent contractors' liability;

d. Completed operations and products liability;

e. Blanket contractual liability;

f. Personal injury liability insurance hazards A, B, C, with employee exclusion (c) deleted;

g. Broad form property damage liability (including completed operations);

h. Blanket X, C and U coverage;

i. Host liquor liability; and

j. Incidental medical malpractice liability insurance.

CGL and Excess Insurance

Type of Work	Requirements
General Contractor	$10,000,000
Demolition	$10,000,000
Asbestos Abatement	$10,000,000 (plus $25,000,000 pollution liability insurance)
Concrete	$10,000,000
Masonry & Stone	$10,000,000
Steel/Metal Fabrications	$10,000,000
Rough Carpentry	$10,000,000
Architectural Woodwork/Millwork	$10,000,000
Fireproofing/Firestop	$10,000,000
Doors, Frames And Hardware	$10,000,000
Windows	$10,000,000
Glazing	$10,000,000
Drywall	$10,000,000
Controlled Inspection/Testing Labs	$2,000,000
Ceramic Tile	$10,000,000
Acoustical Ceilings	$10,000,000
Flooring	$10,000,000
Paint & Wallcovering	$10,000,000
Toilet Partitions & Accessories	$10,000,000
Specialties and Equipment	$5,000,000
Furnishings	$5,000,000
Art Installation	$2,000,000
Signage	$10,000,000
Cubicle Curtains	$5,000,000
Laboratory Casework	$5,000,000
Window Treatments	$2,000,000
Fire Suppression Systems	$10,000,000
Sprinkler	$10,000,000
Plumbing	$10,000,000
HVAC	$10,000,000
Electrical	$10,000,000
Roofing	$15,000,000
Scaffolding/Building Protection	$15,000,000
Local Law 11/98 Work	$15,000,000
All others:	As directed by the Owner

(Paragraphs deleted)

§ 11.5 Automobile Liability Insurance: The Contractor and each Subcontractor shall procure and maintain during the period of time referred to in Section 11.1.2 above Automobile Liability Insurance in an amount not less than $1,000,000 for bodily injuries, or death resulting therefrom, and property damage in an amount not less than $1,000,000 for each occurrence. This insurance shall apply to all owned, non-owned, leased or hired vehicles used by the Contractor and each Subcontractor in furtherance of the Work. This coverage shall also cover loading and unloading hazards. If automobiles are provided to any employees of the Contractor in connection with the Project, then insurance on these automobiles shall be the responsibility of the Contractor or the employee. The Owner and the Architect shall be named as additional insureds for all Automobile Liability coverage.

§ 11.6 Design Professional Liability Insurance: Each design professional engaged by the Contractor, if any, and each of its Subcontractors or consultants, shall procure and maintain during the period of time referred to in Section 11.1.2 above and for at least three years thereafter, Professional Errors and Omissions Insurance in an amount not less than $1,000,000 for each wrongful act.

§ 11.7 Each insurance policy cited above (except workers' compensation, unemployment insurance or as otherwise indicated) shall be endorsed as follows:

.1 With respect to Commercial General Liability, to provide the additional insureds with coverage no less comprehensive than that being provided to the Contractor, and which provides coverage in all instances other than the additional insureds' sole negligence, which specifies that no additional insured shall be responsible for the payment of the premium for the additional insured status, and which is otherwise acceptable to the Owner's Director of Insurance;

.2 To state that bodily injury to any person, including employees of the Contractor and each of the Subcontractors, occurring at any work site in connection with the Work to be performed under this Contract, shall be deemed to be bodily injury arising out of or occurring in connection with the Work;

.3 To provide that any notice of any occurrence, claim or suit in connection with the Work shall also be considered notice by the Owner and the Architect; and

.4 To provide that the coverage provided by such insurance policy shall be considered primary to any other similar insurance coverage carried by or for the benefit of the Owner or the Architect.

§ 11.8 If the Contractor or any Subcontractor is fulfilling the Commercial General and Excess Liability, Design Professionals Liability or Employer's Liability insurance requirements of this Contract by use of Claims Made Policies, each of the Contractors and such Subcontractor warrant and agree that each such Claims Made Policy will remain in effect for at least three years following the completion of the work performed under this Contract or its Final Acceptance, whichever is later. Furthermore, if any such Claims Made Policy is canceled during the aforesaid period of time, each shall purchase equivalent coverage for the remainder of the aforesaid period.

§ 11.9.1 Property Damage Insurance: The Owner shall provide and maintain, at its cost and expense, property insurance for the Project, and shall include the interests of the Contractor as its respective interest may appear. The Contractor shall be given thirty (30) days' notice of cancellation or non-renewal.

§ 11.9.2 The Owner, the Contractor and each Subcontractor hereby waives, and shall hereafter waive, all rights against each other, with respect to damages (whether or not due to the negligence of any such party) caused by fire or other perils covered by insurance provided pursuant to Section 11.9.1. The Contractor agrees to obtain appropriate endorsements to its insurance policies with respect to the foregoing waiver.

§ 11.10 The procuring of the insurance required under the Contract shall not relieve the Contractor of any obligation or liability assumed hereunder including specifically the Contractor's indemnification obligations.

§ 11.11 The Contractor and each Subcontractor shall assist and cooperate in every manner possible in connection with the adjustment of all claims arising out of the Work and shall cooperate with the insurance carrier in all claims and demands which the insurance carrier or carriers are called upon to adjust or resist.

§ 11.12 The Contractor and each Subcontractor shall secure, pay for and maintain whatever fire or extended coverage or other property insurance it may deem necessary for protection against loss of or damage to owned or rented capital equipment, tools, other equipment, scaffolding, staging, towers and forms, hoists or other items to be used by the Contractor or its Subcontractors in the performance of the Work; provided, however, that whether or not any such insurance is obtained it is agreed that the Owner shall have absolutely no liability whatsoever with respect to loss of, theft of or damage to any such equipment, tools or other items. Failure of the Contractor or any Subcontractor to secure such insurance or to maintain adequate levels of coverage shall not in any way obligate the Owner or its employees, agents or representatives for any loss of or damage to any of the aforesaid owned or rented equipment, tools or other items. If the Contractor or any Subcontractor secures such insurance, the insurance policy shall include a waiver of subrogation substantially as follows:

It is agreed that in no event shall this insurance company have any right of recovery against NYU Hospitals Center, NYU Langone Health System, New York University, New York University Medical Center Condominium or the Architect.

§ 11.12.1 The Contractor and each Subcontractor shall secure, pay for and maintain whatever fire or extended coverage or other property insurance it may deem necessary for protection against loss of or damage to owned or rented capital equipment, tools, other equipment, scaffolding, staging, towers and forms, hoists or other items to be used by the Contractor or its Subcontractors in the performance of the Work; provided, however, that whether or not any such insurance is obtained it is agreed that the Owner shall have absolutely no liability whatsoever with respect to loss of, theft of or damage to any such equipment, tools or other items. Failure of the Contractor or any Subcontractor to secure such insurance or to maintain adequate levels of coverage shall not in any way obligate the Owner or its employees, agents or representatives for any loss of or damage to any of the aforesaid owned or rented equipment, tools or other items. If the Contractor or any Subcontractor secures such insurance, the insurance policy shall include a waiver of subrogation substantially as follows:

§ 11.13 PERFORMANCE BOND AND PAYMENT BOND

§ 11.13.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract. The Contractor shall provide such bonds to the Owner, if required, within ten (10) days after executing this Contract and before the Contractor performs any Work at the site. Such bonds shall be with a corporate surety acceptable to the Owner, in the full amount of the Contract Sum, and shall name the Owner as obligee thereunder and such other persons as the Owner may designate as additional obligees thereunder. Such bonds shall include provisions guaranteeing the performance and payment of all obligations of the Contractor under the Contract Documents and, in any event, shall be in form and substance satisfactory to the Owner.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's or Owner's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect or Owner, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect or Owner has not specifically requested to examine prior to its being covered, the Architect or Owner may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or Owner or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.6, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the

Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract and the rights of the parties hereunder shall be governed by the law of the State of New York.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 This Contract is binding upon each of the parties hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract nor sublet it as a whole without the prior written consent of the Owner, nor shall the Contractor assign any moneys due or to become due to the Contractor hereunder without prior written consent of the Owner. Any purported assignment without the prior written consent of the Owner shall be void and the assignee in such case shall acquire no rights in the Contract or any moneys due thereunder. Any such consent by Owner, if given, shall not relieve Contractor of any of its obligations under the Contract or the Contract Documents or change any of the terms thereof.

(Paragraph deleted)

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail, return receipt requested, or by courier service providing proof of delivery to, the party's address for delivery of notices set forth in the Agreement. Whenever the Contract Documents require written notice to be given to the Owner or to the Architect such notice shall be given in duplicate directly to each of them.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.4.3 Neither the Owner nor the Architect, nor any employee, officer, agent or other representative of either the Owner or the Architect, shall, by reason of any oral statement or any course of conduct, be deemed to have waived, or be estopped from asserting and enforcing, any of the provisions of the Contract or the Contract Documents as herein or elsewhere set forth, and all claims by the Contractor which may rely, in whole or in part, upon a theory of waiver and/or estoppel arising from any such statement or conduct are hereby waived and released by the Contractor.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

§ 13.7.1 As between the Owner and Contractor:

.1 Before Substantial Completion. As to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion;

.2 Between Substantial Completion and Final Certificate for Payment. As to acts or failures to act occurring subsequent to the relevant date of Substantial Completion and prior to issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged

cause of action shall be deemed to have accrued in any and all events not later than the date of issuance of the final Certificate for Payment; and

.3 After Final Certificate for Payment. As to acts or failures to act occurring after the relevant date of issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of any act or failure to act by the Contractor pursuant to any Warranty provided under Section 3.6, the date of any correction of the Work or failure to correct the Work by the Contractor under Section 12.2, or the date of actual commission of any other act or failure to perform any duty or obligation by the Contractor or Owner, whichever occurs last.

§ 13.8 CONSTRUCTION

§ 13.8.1 The captions to the provisions of this Contract are for convenience and are not a part of this Contract.

§ 13.8.2 If any provision of the Contract Documents or the application thereof to any person or situation is to any extent held invalid or unenforceable, the remainder of the Contract Documents, and the application of such provision to persons or situations other than those to which it was held invalid or unenforceable, shall not be affected thereby, but shall continue valid and enforceable to the fullest extent permitted by law.

§ 13.9 BINDING EFFECT

§ 13.9.1 If the Contractor, with the actual consent of the Owner or Architect, begins to perform Work without signing this Contract, the Contractor shall be deemed to be performing such Work under and pursuant to each of the terms and conditions of this Contract and no contention to the contrary shall be asserted by the Contractor.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of forty-five (45) consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped; or

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven (7) days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of sixty (60) consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

The Owner may terminate the Contract for cause as provided in Section 2.4.3.

(Paragraphs deleted)

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 immediately take actions necessary, or that the Owner may direct, for the protection and preservation of the Work and in the interests of public safety;

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and

.4 assign to the Owner all right, title and interest in and to the materials that have been specifically fabricated for the performance of the Contract that are not capable of use except in the performance of the Work.

§ 14.4.3 The Owner shall assume and be liable for all the obligations and commitments that the Contractor may have in good faith undertaken or incurred in connection with the Work which cannot be cancelled as aforesaid.

§ 14.4.4 The Owner's sole liability in such event shall be to pay the Contractor for the fair and reasonable value, or the cost, of the aforesaid Work and materials, whichever shall be the lesser amount, prior to sending the aforesaid notice of termination, and for all such materials that have been specifically fabricated for the performance of this Contract and that are not capable of use except in the performance of the Work.

§ 14.4.5 In addition to such payment, the Owner shall also pay to the Contractor a profit on the portion of the Work completed as of the date of termination. The amount of the profit to be paid will be calculated by multiplying the profit which the Contractor would have made had the Project been completed times the percentage of completion at the date of termination.

§ 14.5 CONTINUATION OF OBLIGATIONS

§ 14.5.1 All provisions of the Contract Documents which require performance after termination of this Contract shall survive any such termination.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, extension of the Contract Time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Any Claim by the Contractor must be initiated by written notice to the Owner and to the Architect. Claims by the Contractor must be initiated within ten (10) days after occurrence of the event giving rise to such Claim or within ten (10) days after the Contractor first recognizes the condition giving rise to the Claim, whichever is later. Notwithstanding any other provision of this Contract or any applicable law, since the purpose of such notice is to

provide the Owner and Architect with the opportunity to avoid or minimize the effect of any event or direction giving rise to a Claim and to immediately ascertain the validity of any time extension or damages claimed, the failure by the Contractor to comply strictly with this requirement shall constitute a waiver and release by the Contractor of any and all Claims arising from any such event or direction, and no right to recover upon any such Claim shall exist thereafter and under no circumstances shall the Contractor assert any such Claims. Notice under this Section 15.1.2 of any Claim based on a determination and direction of the Owner pursuant to Sections 15.1.4.1 and 15.1.4.2 shall be given within ten (10) days after the Contractor receives notice of the determination or direction.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

(Paragraphs deleted)

§ 15.1.4 CLAIMS BASED ON DETERMINATIONS AND ORDERS

§ 15.1.4.1 If the Contractor is of the opinion (1) that any work ordered to be done as Contract Work by the Owner or the Architect is extra work and not Contract Work or (2) that any determination or order of the Owner or Architect violates the terms and provisions of this Contract, the Contractor must promptly notify the Owner and the Architect in writing of the reasons for the Contractor's opinion with respect thereto and request a final determination thereon. Such determination shall be rendered by the Owner within a reasonable time.

§ 15.1.4.2 If the Owner shall determine that the work in question is Contract Work and not extra work, or that the determination or order complained of is proper, the Owner will direct the Contractor to proceed and the Contractor must promptly comply. In order to preserve the Contractor's right (if any) to claim compensation for such work or damages resulting from such compliance, the Contractor must, within ten (10) days after receiving notice of the determination and direction, notify the Owner and the Architect in writing that the work is being performed, or that the determination and direction is being complied with, under protest.

§15.1.4.3 If the Contractor fails to request the Owner for a determination as provided in Section 15.1.4.1, the Contractor shall be deemed to have waived any claim for extra compensation or damage resulting from such order or determination.

§ 15.1.4.4 If the Contractor shall at any time claim to have sustained any increased cost or damage by reason of any determination, order, act or omission of the Owner or the Architect, the Contractor shall, not later than the fifteenth (15th) day of the month following that month during which any such damage increased cost or shall have been sustained, provide to both the Owner and the Architect an itemized written statement, duly certified by the Contractor, setting forth in detail the damages sustained, together with copies of all documentary evidence of such increased cost or damage then available. If the Contractor shall fail to comply strictly with this requirement, any such Claim shall be deemed to have been waived, no right to recover upon any such Claim shall exist thereafter and under no circumstances shall the Contractor assert any such Claim.

§ 15.1.4.5 In addition to the above-mentioned detailed statement of damages the Contractor and each Subcontractor shall, upon written notice from the Architect or the Owner, promptly produce for examination by representatives of the Owner, all books of account, bills, invoices, payrolls, subcontracts, time books, daily reports, check books, cancelled checks and similar documents showing all of the acts and transactions of the Contractor or such Subcontractor in connection with or relating to or arising by reason of the Contract or the Work, including, without limitation, records and data stored in electronic form such as computer hard drives, tape backups and other storage devices, computer software and other electronic files.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided in Sections 8.3 and 15.1.2 shall be given. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

(Paragraphs deleted)

§ 15.2 DISPUTE RESOLUTION

§ 15.2.1 Arbitration is not an available remedy under this Contract.

§ 15.2.2 The Contractor agrees that it will commence any action, whether in law or in equity, against the Owner arising out of this Contract or the Work in any court located in the County of New York, State of New York.

§ 15.2.3 The Contractor agrees that service of process may be made upon it by registered mail, return receipt requested, directed to the Contractor at the address set forth in the Contract.

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(Paragraphs deleted)

NYULMC Safety Policies

Title	Policy No.	Revision Date
Asbestos Management Program	159	May 29, 2012
Cellular and Mobile Phones, Personal Computers and Laptops, Use of	212 (includes Appendix A)	April 23, 2012
Chemical Waste Minimization and Disposal program	108	December 2013
Confined Space Entry Program	138 (includes Appendices A, B and C)	April 24, 2012 (policy) April 23, 2012 (Appendices A, B and C)
Construction Contractor Safety Requirements	120 (includes Appendix A)	October 2013
Electrical Safety	157	September 23, 2013
Fall Prevention and Protection Program	160	May 1, 2012
Fire Incident Protocol	111	April 16, 2012
Fire Prevention	122	September 20, 2013
Fire Safety Requirements for Interior Finish Materials	126	April 2012
Fire Sprinkler/Standpipe System Impairment	131	January 2014
Hazard Communication Program	121	November 2013
Hazardous Waste From Contractors (Construction and Building Maintenance)	108a	December 2013
Hot Work Program	143 (includes Appendices A and B)	April 20, 2012
Installation and Testing of New Medical Gas Outlets/Piping	133	September 2006
Interim Life Safety Program	145 (includes Appendix A and B)	September 30, 2013
Ladders, Scaffolds and Aerial Lifts	163	August 2013
Lead Management Program	144 (includes Appendix A)	May 23, 2012
Penetrations in Fire/Smoke Barriers	147 (includes Appendices A and B)	December 2009
Powered Industrial Truck Program	149 (includes Appendices A, B and C)	April 13, 2012
Tobacco Free Facilities	104	October 2013

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

- To establish a Program for managing asbestos containing materials (ACM) in a way that minimizes or eliminates the potential hazard to patients, employees, vendors, and visitors.
- To comply with federal, state, and local regulations for ACM.

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1.0 Policy

Purchase or installation of ACM (greater than 0.1% asbestos) is prohibited.

If it is necessary to disturb existing suspect ACM, the work shall be done only by licensed asbestos vendors, approved by Environmental Health and Safety, under controlled conditions, in accordance with all applicable regulations.

2.0 Scope and application

This program applies to:

- All NYULMC facilities and all activity within those facilities.
  - ACM has been found in a variety of building materials and installed equipment throughout NYULMC facilities. A list of common suspect materials is included as Appendix A. Though more prevalent in buildings constructed prior to 1980, ACM can be present in some new materials.
- All employees of NYU Hospitals Center and NYU School of Medicine.
- All other personnel, including contractors, who could disturb suspect ACM during the course of their work.

The primary departments and divisions impacted by the program are:

- Building Services (housekeeping group) and HJD Environmental Services
- Environmental Services (main campus, buildings and grounds group)
- Facilities Operations
- Information Technology (cable management group)
- Real Estate
- RED+F Design and Construction

3.0 Program availability

Copies of this document are available upon request to all employees of New York University (NYU) School of Medicine, NYU Hospitals Center, and their designated representatives.

4.0 Background

Asbestos is a naturally occurring mineral that exhibits the following characteristics: good insulating properties, heat resistance, chemical resistance, flexibility, and durability. As such, asbestos was incorporated into many building materials and installed during new construction. However, scientific studies have shown associations between exposure to airborne asbestos and pulmonary diseases such as lung cancer, asbestosis, and mesothelioma. The occurrence of these diseases is influenced by the type of asbestos mineral fiber, the size of the mineral fiber, as well as the concentration and duration of airborne asbestos exposure. Asbestos-related disease does not develop immediately after inhalation of asbestos fibers; it may take 20 or more years for symptoms of disease to appear. As a result of the many studies conducted, asbestos is classified as a human carcinogen. Several federal, state and local agencies have promulgated regulations to protect workers and the general public.

The mere presence of asbestos in a building does not mean that the building occupants are endangered. Intact and undisturbed ACM does not pose a health risk. This policy describes the program NYULMC has implemented to prevent potential exposure and comply with regulatory requirements.

5.0 Regulatory Summary

In New York City (NYC), multiple regulatory agencies have jurisdiction over ACM in buildings. They include the NYC Department of Environmental Protection, (DEP), New York State (NYS) Department of Labor (DOL), the U.S. Occupational Safety and Health Administration (OSHA), and the U.S. Environmental Protection Agency (EPA). Each agency has promulgated regulations that address various aspects of maintenance and handling of ACM in order to protect building occupants from asbestos exposure and to protect the ambient air. In general, where regulations overlap, the more stringent apply.

5.1 **NYC DEP:** NYC's asbestos abatement law was originally established in 1985 by Local Law 76. The rules and regulations which guide the implementation of this law are found in Title 15 Chapter 1. These regulations address the proper

identification, handling, abatement, and disposal of ACM in public and commercial buildings, and the certification of asbestos professionals.

5.2 The **NYS DOL** adopted Industrial Code Rule 56 (ICR-56) to address the proper identification, handling, abatement, and disposal of ACM in public and commercial buildings. In NYC, when regulations overlap, the DEP regulations apply.

5.3 **OSHA** regulations address both in-house and contractor worker protection and notification. The *OSHA Final Rule on Occupational Exposure to Asbestos*, OSHA standards 29 CFR 1910.1001 and 29 CFR 1926.1101, address management of in-place asbestos, as well as requirements for control of asbestos that will be disturbed during the course of construction, renovation or repair activities.

5.4 The **EPA** has promulgated regulations under the Toxic Substances Control Act (TSCA) Asbestos Hazard Emergency Response Act (AHERA), 40 CFR Part763 Subpart E. Additionally, asbestos is regulated under the National Emissions Standards for Hazardous Air Pollutant regulations (NESHAPS) 40 CFR Part 61 Subpart M. The AHERA regulations address specific training requirements for asbestos-related activities, as well as defining requirements for certain asbestos investigations, sampling and analyses. AHERA was originally designed to address asbestos exposure in school buildings, but Congress extended the training requirements to all buildings. Investigation and analytical techniques described in AHERA comprise much of the industry standard used in asbestos-related work. EPA NESHAPS regulations prohibit "visible emissions" of asbestos and specify off-site disposal procedures to be used.

6.0 Definitions

Abatement means all procedures physically taken to control fiber release from ACM. This includes removal, encapsulation, enclosure, cleanup and repair.

ACM refers to asbestos-containing material and means asbestos or any material containing more than 1% percent asbestos.

Asbestos means any hydrated mineral silicate separable into commercially usable fibers, including but not limited to chrysotile (serpentine), amosite (cumingtonite-grunerite), crocidolite (riebeckite), tremolite, anthophyllite and actinolite.

Asbestos Project Notification refers to submission of Form ACP-7 to the DEP. *Note:* for any project involving more than 160 linear feet or 260 square feet of friable ACM, the DOL must also be notified 10 calendar days and the EPA 10 working days in advance of project start.

Asbestos survey means a complete assessment of an area and all potentially impacted suspect ACM within the designated area, by a licensed asbestos investigator, following procedures specified by the DEP and the EPA. It may require destructive sampling.

Asbestos vendor means a consultant, contractor, or waste hauler that is licensed to work with asbestos and approved for work at NYULMC.

Clearance air monitoring refers to air monitoring performed after the completion of abatement, to determine if the space can be reoccupied.

Decontamination enclosure system means a series of connected rooms, separated from the work area and from each other by air locks, for the decontamination of workers, materials, waste containers, and equipment.

Demolition means the dismantling, razing, or removal of all of a building or structure, or removal of structural members, floors, interior bearing walls, and/or exterior walls or portions thereof, including all operations incident thereto.

DEP refers to the NYC Department of Environmental Protection.

DOB refers to the NYC Department of Buildings.

DOL refers to the NYC Department of Labor.

Enclosure means the construction of airtight walls and ceilings between ACM and the facility environment, or around surfaces coated with ACM, or any other appropriate procedure which prevents the release of asbestos fibers.

Encapsulant refers to a liquid material which can be applied to ACM which controls the possible release of asbestos fibers from the material or surface.

EPA refers to the United States Environmental Protection Agency.

Glovebag refers to a method for removing ACM material from heating, ventilation and air conditioning (HVAC) ducts, short piping runs, valves, joints, elbows, and other non-

planar surfaces. The glovebag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains all asbestos fibers released during the removal process.

HEPA filter refers to a high efficiency particulate air filter, capable of trapping and retaining 99.97 percent of particles with a diameter of 0.3 microns.

HEPA filtered vacuum refers to a vacuum specifically designed for asbestos abatement and equipped with a HEPA filter.

OSHA refers to the United States Occupational Safety and Health Administration.

Plasticize means to cover floors, walls, ceilings, equipment, and objects with fire retardant plastic sheeting.

Removal means the stripping of any ACM from surfaces or components of a facility or taking out structural components in accordance with 40 CFR 61 Subparts A and M.

Surface barriers means the plasticizing of walls, floors, and fixed objects within the work area to prevent contamination from subsequent work.

Visible emissions mean any emissions containing particulate material that are visually detectable without the aid of instruments.

Waste manifest means waste shipment records that accompany all asbestos waste from the site of origin (NYULMC) to the final destination landfill, and all transfer points in between. The waste shipment record must be signed by each party handling the material, and the final destination facility must sign the manifest and return a copy to NYULMC within 35 days.

Work area means designated rooms, spaces, or areas of the building or structure where asbestos abatement activities take place. For glovebag procedures, the work area also includes the areas contiguous to where the procedure takes place

7.0 Responsibilities

This section summarizes the responsibilities of key personnel involved in developing, implementing, and evaluating the Asbestos Management Program (the Program).

Asbestos has one of the highest public profiles of any environmental contaminant and is subject to intense federal, state, and local regulation. Due to the serious potential adverse health effects of exposure and liability if the regulations are not followed, NYULMC's Corporate Officers have overall responsibility for the Program

7.1 The **Corporate Officers** are responsible for:

- Allocating the resources necessary to implement the Program and to comply with the pertinent regulations discussed therein; and
- Ensuring that Vice Presidents and Directors meet their responsibilities for implementing and maintaining the Program.

The key to successful management of asbestos in buildings is strong oversight by knowledgeable professionals whose primary mission is to minimize health consequences and to maximize regulatory compliance. In recognition of this, the Corporate Officers have assigned the responsibility for managing the Program and asbestos vendors to Environmental Health and Safety. This enables NYULMC to respond knowledgeably and credibly to concerns about asbestos from members of the medical center community, regulators, and the general public.

7.2 **Environmental Health and Safety (EH&S)** is responsible for:

- Developing the Program and collaborating with others to implement and maintain it.
- Providing the Corporate Officers and Vice Presidents with information needed to support decisions about ACM.
- Serving as a liaison to the regulatory community.
- Managing asbestos vendors.
  - Evaluating qualifications.
  - Working with legal counsel to develop and maintain Master Agreements. Reviewing contract language.
  - Serving as a liaison between RED+F Project Managers (PMs) and asbestos vendors.

- Evaluating the technical nature of the work being done by asbestos vendors and ensuring that safety and compliance are primary in the conduct of the work.
- Coordinating asbestos surveys, abatement projects, and third-party monitoring with asbestos vendors.
- Ensuring asbestos filings are prepared and submitted in accordance with regulatory requirements.

Note: In order to facilitate coordination among contractors, on a case-by-case basis EH&S evaluates whether the asbestos abatement contractor should work for a General Contractor, a Construction Manager, or another (e.g, masonry) contractor.

- Posting Notices of Asbestos Abatement, in accordance with DEP requirements.
- Coordinating posting of asbestos signs and labels, in accordance with OSHA requirements.
- Providing annual asbestos awareness training to employees whose work activities could disturb suspect ACM. This includes employees in:
  - Building Services (housekeeping group) and HJD Environmental Services
  - Environmental Services (main campus, buildings and grounds group)
  - Facilities Operations
  - Information Technology (cable management group)
  - Real Estate
  - RED+F Design and Construction
- Responding promptly to questions (e.g., from PMs) and concerns (e.g., from staff and students) about suspect ACM.
- Managing the response to emergencies involving suspect ACM.

- Preparing the annual FIN47 report. This report presents an estimate of the quantity of ACM in owned facilities and the cost to abate that ACM. Providing copies to PMs for use in preparing project budgets.
- Preparing and distributing a monthly Asbestos Project Status Report summarizing the status of open projects for Project Managers.
- Maintaining documentation for asbestos surveys and assessments, abatement projects, air monitoring, waste disposal, regulatory filings and correspondence, and exposure assessments for NYULMC personnel.

7.3 The **Vice Presidents** and **Directors of Building Services, Environmental Services, Facilities Operations, Information Technology, Real Estate, and RED+F Design and Construction** are responsible for compliance within their departments and divisions. Their responsibilities include, but are not limited to:

- Ensuring all their employees, contractors, and other vendors whose work activities could disturb suspect ACM:
  - Are familiar with this policy.
  - Receive information about suspect ACM at NYULMC.
  - Attend annual asbestos awareness training.
  - Understand that they must request an asbestos survey prior to conducting any work that could impact suspect ACM.
  - Avoid contact with and disturbance of suspect ACM.
  - Avoid storing materials against potentially friable suspect ACM.
  - Avoid damaging suspect ACM while moving objects.

7.4 The **RED+F Program Directors** and **Project Executives** are responsible for compliance on their projects.

7.5 **Managers and Project Managers (PMs) (e.g., design, construction, renovation, operations, maintenance, and cable management)** are responsible for implementing and maintaining the Program on their projects. The Managers' and PMs' responsibilities include, but are not limited to:

- Attending annual asbestos awareness training.
- Ensuring all personnel (e.g., employees, contractors, and other vendors) who are working on the project and whose work activities could disturb suspect ACM:
  - Are familiar with this policy.
  - Receive information about suspect ACM at NYULMC.
  - Understand that they must request an asbestos survey prior to conducting any work that could impact suspect ACM.
  - Avoid contact with and disturbance of suspect ACM.
  - Avoid storing materials against potentially friable suspect ACM.
  - Avoid damaging suspect ACM while moving objects.
- Contacting EH&S in writing and requesting an asbestos survey prior to conducting work that may impact suspect ACM. (In an actual emergency, EH&S may waive some of the following requirements).
  - Defining the scope of the project, including all impacted areas. Providing complete drawings. Ensuring paths of all utility connections (e.g., plumbing, IT, electrical and HVAC) are clearly identified.
  - Coordinating a pre-survey walkthrough with EH&S and the asbestos consultant; including the architect and engineer for major projects.
  - Reviewing the consultant's report.
  - Notifying EH&S if changes have been made to the plans since the survey, which may necessitate additional investigation.
- Managing the project.

- Coordinating with EH&S all work that requires asbestos vendors.
- Preparing and managing the asbestos budget. Preparing Purchase Requisitions and Change Order Requests. Approving invoices.
- Preparing the project schedule. Confirming with EH&S that there is sufficient time for asbestos-related activity.
- For leased facilities, coordinating with Real Estate and/or the building owner.
- Notifying and coordinating with occupants.
- Arranging access for the asbestos vendors to the project site.
- Confirming that the written scope of abatement is accurate and meets the needs of the project.
- Providing all drawings needed to finalize the abatement plan.
- Coordinating the schedule with other contractors (e.g., demolition).
- Preparing the space for abatement.
- Coordinating utility requirements (e.g., HVAC shutdowns, electrical connections, plumbing requirements, notification of IT).
- For locations that are not part of the superblock, arranging a secure location for the asbestos waste dumpster.
- Working with EH&S to ensure proper interim life safety measures (e.g., emergency egress and fire watches) are implemented.
- Participating in a pre-abatement walkthrough.
- Obtaining any DOB permit needed for pre-abatement work.
- Finalizing abatement schedule and phasing.

7.6 **Real Estate** is responsible for:

- Coordinating all activities that might impact suspect ACM with the building owner and/or building management company.

7.7 **Environmental Services** (main campus) is responsible for:

- Verifying that the cleaning contractor follows OSHA requirements when cleaning suspect ACM floor tile.

7.8 **Building Services and HJD Environmental Services** are responsible for:

- Instructing their staff on OSHA requirements for cleaning suspect ACM floor tile, documenting the training, and verifying that staff follow the procedures.

7.9 **Employees who reasonably have the potential to disturb suspect ACM** are responsible for:

- Attending annual asbestos awareness training.
- Avoiding contact with and disturbance of suspect ACM.
- Requesting an asbestos survey prior to conducting any work that could impact suspect ACM.
- Avoiding storing materials against potentially friable suspect ACM.
- Avoiding damaging suspect ACM while moving objects.
- Notifying their supervisors of any observations related to damaged suspect ACM.
- Notifying their supervisors of potential exposures and of any pertinent problems.

8.0 **Master Contracts and Work Orders for asbestos vendors**

8.1 EH&S maintains Master Contracts for approved asbestos consultants and abatement contractors. A Work Order is used to initiate work under these contracts.

8.2 An asbestos consultant or abatement contractor may not begin work until they have

a fully-executed project-specific Contract or Work Order.

- The Director of EH&S is authorized to sign Work Orders for work that will be charged to Blanket Orders for asbestos emergencies.
- The Senior VP for Facilities Management must sign Contracts and Work Orders for all other projects.

9.0 Asbestos Control Program

9.1 Identification of suspect ACM

- To the extent feasible, warning signs are posted in areas where suspect ACM is known to be present (e.g., mechanical rooms; MSB cellar corridor).
- PMs provide contractors with information on suspect ACM and instruct them that they may not disturb suspect ACM.

9.2 Annual asbestos awareness training

- Each department/division must ensure that personnel who may work near ACM, or may be responsible for projects that may impact ACM and receive annual asbestos awareness training.
- EH&S offers training to the following departments/divisions:
  - Building Services (housekeeping group) and HJD Environmental Services
  - Environmental Services (main campus, buildings and grounds group)
  - Facilities Operations
  - Information Technology (cable management group)
  - Real Estate
  - RED+F Design and Construction

- **Content**
  - Health effects of asbestos.
  - Relation between smoking and asbestos exposure.
  - Locations and types of ACM in the facility.
  - Recognition of damage and deterioration.
  - Prohibition on dusting, vacuuming, or sweeping dust, debris, or waste in areas containing suspect ACM.
  - Procedures for reporting asbestos problems and concerns.
  - Response to accidental disturbance of ACM.
  - The following additional requirements are addressed with personnel who clean suspect ACM floors:
    - Sanding of suspect ACM floors is prohibited.
    - Stripping of finishes shall be conducted using low abrasion pads at speeds lower than 300 rpm and wet methods.
    - Burnishing or dry buffing may be performed only on flooring which has sufficient finish so that the pad cannot contact suspect ACM.

9.3 **Inspections for damaged ACM**

- EH&S coordinates periodic inspection for damaged ACM in high risk areas, such as machine rooms and the MSB cellar corridor.

9.4 **Planned construction, renovation and maintenance projects**

- **Asbestos survey**
  - EH&S ensures that all surveys are conducted safely and in accordance with the DEP, DOL, OSHA, and EPA asbestos regulations.

- PMs anticipating maintenance, renovation or construction work activities submit a request for an asbestos survey to EH&S prior to initiating activities that could disturb suspect ACM. The PM provides all necessary documentation to detail the scope of the planned work. Such documentation includes design plans and drawings indicating all areas that will be impacted, and a schedule for the work. For minor projects, hand-drawn drawings are acceptable.

- EH&S reviews departmental files and forwards relevant information about ACM to the PM.

    - This does not eliminate the need for an asbestos survey. Consultants generally cannot issue an ACP-5 based on past negative sample results or past gut renovations.

- The PM meets with EH&S and the consultant to review the work activities and to identify the materials to be sampled.

- Upon approval to proceed, EH&S prepares a Work Order for the survey, obtains the consultants signature, and forwards the Work Order to the PM.

- The PM prepares a Purchase Requisition, attaches the Work Order, and processes it.

- The PM arranges access for the consultant to all areas that need to be surveyed.

- The consultant provides a DEP-certified asbestos investigator. The investigator obtains and processes samples, and the consultant prepares a report. EH&S provides QA for the process and forwards the final report to the PM.

- Upon receiving 100% construction drawings, the PM and EH&S evaluate the need for additional samples. If conditions have changed since the survey was conducted or areas were inaccessible at the time of the survey, additional samples may be required.

- **Contractor selection**
  - The PM, consultant, and EH&S define the scope of abatement based on the results of the survey and final plans for the project.
  - The consultant prepares a bid package. EH&S provides QA for the process.
  - The PM schedules a bid walkthrough and ensures that appropriate individuals (e.g., the PM, architect, and engineer) attend so all questions can be answered. EH&S identifies and invites appropriate pre-qualified contractors.
  - EH&S reviews the bids, addresses all discrepancies, and recommends a contractor.
- **Preparation for asbestos abatement**
  - EH&S reviews and forwards the consultant's monitoring proposal to the PM.
  - The PM prepares and processes a Purchase Request for the contractor and a Change Order Request for the consultant.
  - If soft demolition is needed to facilitate abatement, the PM forwards drawings to EH&S and EH&S obtains an ACP-5 from the consultant. The PM coordinates DOB filings and obtains necessary DOB permits.
  - EH&S posts the written Notice of Asbestos Abatement in and adjacent to areas where asbestos will be abated, as required by the DEP.
  - The abatement contractor prepares and submits the DEP Asbestos Project Notification, any variances or other required DEP filings, and any required DOL or EPA notifications. EH&S provides QA for the process.
  - The PM provides notification of the project to personnel who may be impacted.
  - The PM coordinates moves and relocations.
  - The PM manages relocation of all movable items in the work area.

- The PM manages logistics, including shutdown of HVAC, plumbing and electrical connections for the abatement contractor, emergency egress, and fire and life safety issues.

- **Asbestos abatement**

  - EH&S manages all abatement projects in accordance with DEP, DOL, OSHA, and EPA asbestos regulations.

  - The contractor isolates the work area by installing surface barriers, plasticizing all surfaces to prevent asbestos contamination, and maintaining the area under negative pressure using HEPA-filtered blowers and/or vacuums. For minor projects, the contractor may use tents and/or glovebags under certain circumstances, if allowed by regulation. Decontamination areas are constructed to decontaminate personnel, materials and equipment as they are moved out of the asbestos abatement work area. Wet removal techniques are used. After cleaning, a thin coat of lockdown encapsulant is applied to all surfaces in the work area which were not the subject of removal or abatement, including cleaned surface barriers, but excluding sprinklers, standpipes, and other active elements of the fire suppression system.

  - The consultant provides a project monitor, who holds a valid Project Monitor Certificate issued by the DOL. The monitor validates that the contractor and all workers have current licenses. The monitor collects air samples throughout the project and conducts inspections for compliance with the scope of work and applicable asbestos regulations. The monitor conducts a final visual inspection and clearance air monitoring to confirm that the work has been successfully completed and the area is cleared for reoccupancy.

  - When the monitor has confirmed that the space can be reoccupied, EH&S notifies the PM.

  - For work filed with the DOB, the abatement contractor enters notification of project completion into the DEP's web application. The DEP notifies the consultant, who approves the information and submits an ACP-15 to the DEP. The DEP subsequently issues an ACP-20 or ACP-21.

- The PM restores the area.

9.5 Emergency response

- Under no circumstance are NYULMC personnel or contractors (other than approved asbestos contractors) permitted to intentionally disturb ACM, even to facilitate emergency repairs. EH&S maintains contracts with approved asbestos contractors for emergency response.
- In the case of an unexpected event, such as accidental disturbance of ACM or a pipe break, precautions are taken to prevent exposure to asbestos. Facilities Management and EH&S work jointly to contain and abate the hazard.
- As a rule, Facilities isolates the area, assesses the potential for presence of ACM, and immediately relays findings to EH&S.
- Personnel must vacate the affected area until EH&S notifies them that the area has been cleared for re-occupancy.
- EH&S determines if samples of suspect materials are required. If asbestos vendors are needed, EH&S coordinates all asbestos vendors' activities, including any required regulatory notifications.
- Facilities personnel provide access to the location and are responsible for required utility shutdowns, and for repairs/restoration once potential hazards have been assessed and abated.

9.6 Waste disposal

- EH&S contracts with a licensed asbestos waste hauler for the transport and disposal of ACM waste.
- The waste hauler provides dumpsters for ACM waste.
- Contractors properly package, label, and place all ACM waste in locked dumpsters.
- The waste hauler transports the dumpsters of ACM waste to an approved landfill with the required waste manifest. EH&S maintains and tracks waste

manifests to ensure that waste is received by the landfill within the required time period (35 days).

10.0 Recordkeeping

10.1 EH&S maintains documentation for all asbestos surveys, abatement projects, air monitoring, and exposure monitoring.

10.2 Training records are kept by the respective departments and may also be kept by EH&S.

- Training records are maintained for a minimum of one year following the last day of employment.

11.0 Access to records

NYULMC training records and personal exposure monitoring records are available to employees, employee representatives, OSHA and NIOSH in accordance with 29 CFR 1910.20.

12.0 Program evaluation

EH&S conducts an annual evaluation of the program as part of the annual evaluation of NYUHC's Hazardous Materials and Wastes Management Plan.

Appendix A	List of Common Suspect Asbestos-Containing Materials

Issue date	5/29/12
Replaces	4/12
Reviewed by	J. Goldberg, Environmental Health and Safety P. Aquilar, Building Services R. Cohen, Facilities Operations B. Everett, Real Estate A. Holder, Environmental Services T. Howard, RED+F Construction R. Maffia, RED+F Construction E. Tautel, IT Cable Management P. Schwabacher, Facilities Management NYUHC Environment of Care Committee

Appendix A
Suspect Asbestos Containing Material

The following is a list of materials found in medical center facilities that may contain asbestos. This list is not all-inclusive, and additional materials may be present:

Surfacing Materials
Sprayed-on fireproofing
Ceiling and wall plaster
Acoustical and decorative plasters (i.e.popcorn ceilings)

Thermal System Insulation
Air handler and duct insulation
Pipe, Pipe fittings, flanges
Boiler & Tank insulation
Covering over fiberglass insulation

Miscellaneous Materials
Adhesives (e.g., wall panel, floor molding, wall mirrors and panels)
Ceiling tile
Ceramic tile backing
Ceramic tile grout
Cove base molding
Drywall
Drywall Joint Compound
Duct caulk
Electrical wire insulation
Elevator brake shoes
Expansion joints
Exterior caulks or mastic
Fire blankets
Fire block/fire stopping material
Fire doors
Floor drain materials
Floor leveling compound
Floor tile
Gaskets
Lab benches/tops
Lab hoods
Linoleum and vinyl flooring
Mastic/glue (floor tile, carpet, ceiling tiles)
Pitch/tar
Roof flashing
Roofing
Sealants and caulks on equipment
Shingles
Tar paper
Terrazzo
Transite panels
Transite piping
Vapor barrier
Vermiculite insulation
Vibration cloth/damper
Wallboard
Waterproofing (membrane, tar, mastic)
Window caulk or chinking
Window glazing

APPLICATION

NYU Hospitals Center (NYUHC)

POLICY

The use of wireless devices shall be regulated as follows:

1. **Cell Phone** use is permitted in *almost all* areas of the NYUHC without restrictions. Cell phone use is restricted in the following areas:

   - **Tisch NICU/PICU:** If a cellular phone is brought into these areas, it must be turned OFF and not left in the standby mode. This is due to the sensitivity of the patient population and the fact that many cell phones transmit a polling signal to the network while in standby.

   - **OR Services - Tisch 6 and 10, HCC 2, Labor and Delivery ORs, and HJD C1 and C2 ORs:** The use of cell phones in operating rooms facilitates communication which can significantly improve the quality of healthcare. Therefore staff are permitted to use cell phones in these locations under the following conditions:
     - They are educated about the small potential for cell phones to interfere with energized medical devices, and to report all incidents involving the malfunction of medical devices to Clinical Engineering promptly for evaluation. See Appendix A for Supplemental Educational Materials.

2. **Two-way Radios** may be used *in the receive mode only* in all patient areas.

   Procedures for Emergency Use of Two-Way Radios in Restricted Areas

   Whenever maintenance staff, security officers, EMS personnel, Life Flight employees, or other personnel with two-way radios are in a patient care unit and an emergency occurs which requires the use of their radio, they should make their best effort to adhere to the following guidelines, which are listed in order of preferred compliance:
   - Leave the patient care unit to use the two-way radio. (Interference created by RF devices is minimized as the distance between the RF device and the affected equipment is increased.)
   - Keep the two-way radio at least ten (10) feet from any energized medical device.
   - If output levels are adjustable, use the lowest setting possible that still facilitates acceptable communications.

- If any equipment in the vicinity of the radio user should malfunction while the radio is in use, terminate use of the radio immediately. Any further use should be conducted from the visitor waiting area or a non-patient care unit.

3. **Laptops and Notebooks** must undergo ad-hoc testing against the major medical equipment to ensure that they do not cause any interference.

RATIONALE FOR POLICY

It was previously the policy of NYUHC to prohibit the use of cellular telephones, two-way beepers, and wireless devices in all patient care areas because of concerns that medical devices may be susceptible to electromagnetic interference (EMI) from wireless communications devices. At the request of the Medical Board this policy was reevaluated in the summer of 2007 and again in the spring of 2009. A summary of the issues discussed follows:

1. **Evaluation of Risk**
   Risk of patient harm is believed to be extremely low, but not zero.
   - Recent articles have suggested that the risks associated with EMI from cell phones is a diminishing concern because newer cell phone technology produces lower EMI and newer medical devices have improved electromagnetic compatibility. Most notably, a study of use of cellular telephones in the hospital environment, published by the Mayo Clinic in March 2007, was designed to determine whether cellular telephones used in a normal way would cause interference with medical devices located in patient care areas of hospitals. The authors' conclusion was that "when cellular telephones are used in a normal way no noticeable interference or interactions occurred with the medical devices." It is important to note that this study did not include the PICU and OR suites. The restrictions in this policy are recommended because the areas are deemed to be at higher risk than or different from those included in the Mayo Clinic study.
   - Ad hoc testing by the Clinical Engineering department found no EMI interference between BlackBerry devices and a wide sample of medical equipment used at NYUHC.
   - Despite apparent widespread non-compliance with the previous cell phone policy, there were no reported incidents of suspected medical device failure associated with EMI from cell phones at NYUHC from 2007 to 2009. In 2006, one potential incident was reported; however it is believed that this was more likely user error as the pump setting was reported to have spontaneously changed from 0.4 to 1.4 cc/hour.
   - The following cautionary guidance is provided by ECRI in a December 2006 article: "While the risks may have diminished somewhat, they have not disappeared, so continuing to enforce certain restrictions is justified. And, in fact, there are some well-documented reports of cell phones affecting medical devices. Therefore, we urge

hospitals to modify cell phone use policies only with a full understanding of the facts, and we strongly recommend against lifting cell phone restrictions entirely."

2. **Evaluation of Past Policy**

Enforcement of a more restrictive policy proved to be very difficult and ineffective. Very frequent reminders were required and overall compliance was low. Most people did not actually turn off their phones; they "complied" by not speaking on their cell phones or placing them in silent mode while keeping them turned on. Phones that are powered on still emit a polling signal even when not in use. For these reasons, the reviewers felt that a restrictive policy had limited efficacy in reducing the potential risk of EMI.

3. **Benefit of a Less Restrictive Policy**

Uncertainty and concern with regard to EMI have acted as major obstacles to the full deployment of wireless technology in many facilities. Proper application of wireless technology has the potential to increase productivity, decrease costs, and generally improve the quality of healthcare. Cell phone use may provide clinical benefits by providing a fast, convenient way for doctors and other parties to communicate. This is supported in an article in the February 2006 issue of *Anesthesia and Analgesia* (Soto et al.) that concluded that cell phone use offers clinical benefits that outweigh the risks of EMI.

In the past, Nursing staff reported that caregivers spent significant time and effort in an effort to make patients and visitors comply with restrictions. They believe relieving this enforcement responsibility facilitates patient/family satisfaction and reduces avoidable conflict.

PROCEDURES

1. **Signage:** Signage will be posted at the entrances to the NICU and PICU: "CELLULAR PHONES **MUST** BE TURNED **OFF** BEYOND THIS POINT."

2. **Electromagnetic Compatibility (EMC):** The Purchasing Department will incorporate language in future bid requests and contracts to require manufacturers to certify the electromagnetic compatibility of the requested medical device(s) as defined by international EMC standards. For example, NFPA 99, Standards for Health Care Facilities, paragraph 9-2.1.6.4, states, "All appliances shall be designed so that they are capable of operating in a radio frequency electromagnetic environment where limits are established by IEC 60601-1-2". The Center for Devices and Radiological Health (CDRH), a division of the FDA, in cooperation with the Association for the Advancement of Medical Instrumentation (AAMI)

has also developed guidance standards for medical device manufacturers seeking pre-market approval.

3. **Incident Reporting:** Any suspected incidents of medical device electromagnetic interference must be reported to the Department of Clinical Engineering. The Department of Clinical Engineering will investigate each incident, develop recommendations, and report findings to the Patient Safety Officer, Risk Management, the Clinical Safety Committee and/or the EOC Committee as appropriate.

4. **Special Cases**
   - **Implanted Devices:** Patients and staff with implanted devices such as pacemakers; defibrillators, etc. must exercise caution when carrying and using wireless devices. Recommended procedures, as delineated by the medical device manufacturer must be followed.
   - **Emergency Vehicles:** Operators of Hospital emergency vehicles, which transport patients with sensitive medical devices, and their supervisors, must be cognizant of the fact that two-way radios / beepers and cell phones can cause electromagnetic interference at close range. Medical devices used in these applications must be carefully selected for this demanding application.

5. **Review and Exceptions:** The Department of Clinical Engineering should be called for any questions about the applicability of using and enforcing the use of wireless devices.
   - **Review:** Clinical Engineering will continue to review technical publications and standards for trends and updates relating to this issue and communicate noteworthy advances to the NYUHC Clinical Safety Committee. Clinical staff will contact Clinical Engineering (phone 35021) if they suspect that the function of a medical device has been affected by an EMI generating device. All such incidents will be followed up by Clinical Engineering and reported to Risk Management.
   - **Exceptions to the Policy:** Exceptions to this policy must be approved by the Clinical Safety Committee. **NOTE:** Air waves are unprotected and conversations may be intercepted by other telephones. Refrain from the disclosure of protected health information during cellular phone conversations to prevent the breach of a patient's right to confidentiality.

6. **Effective Period for Policy:** This policy is effective immediately and will remain active until it is changed or deemed unnecessary by the NYUHC Clinical Safety Committee. Any questions pertaining to this issue should be directed to NYUHC Clinical Engineering at 212-263-5021.

Appendix A	Supplemental Educational Material Considerations for Working with Cell Phones in Operating Rooms

Issue date	04/12
Replaces	05/09
Reviewed by	R. Kishun, Clinical Engineering J. Goldberg, Environmental Health and Safety M. Keyes, Risk Management M. Simon, Chief Regulatory Officer NYUHC Environment of Care Committee

NYU Hospitals Center
Safety Policy 212 – Appendix A
Supplemental Educational Material
Considerations for Working with Cell Phones in Operating Rooms

- The undisciplined use of cellular devices in the OR—whether for telephone, e-mail, or data communication, and whether by the surgeon or by other members of the surgical team—may pose a distraction and may compromise patient care.

- Surgeons should be considerate of the duties of personnel in the OR suite and refrain from engaging them unnecessarily in activities, including assistance in cellular communication, that might divert attention from the patient or the conduct of the procedure.

- Cellular phones must not interfere with patient monitoring devices or with other technologies required for patient care.

- Whenever possible, members of the OR team, including the operating surgeon, should only engage in urgent or emergent outside communication during surgery. Personal and routine calls should be minimized. Calls should be kept as brief as possible.

- Whenever possible, incoming calls should be forwarded to the OR desk or to the hardwired telephone in the OR to minimize the potential distraction of cellular phones.

- Whenever possible, cellular telephone calls and data transmissions should be forwarded to voice mail or to memory. The ring tone should be silenced. An inaudible signal may be employed.

- Whenever possible, a distinct signal for urgent or emergent calls should be enabled. This signal may be implemented via a "page" option in most cellular telephones. Callers should be advised to use this function only for urgent and emergent calls if the phone is unanswered.

- The use of cellular devices or their accessories (such as earphones or keyboards) must not compromise the integrity of the sterile field. Special care should be taken to avoid sensitive communication within the hearing of awake or sedated patients.

- Communication using hardwired phones in the operating room is subject to the same discipline as communication using cellular technology.

- The use of cellular devices to take and transmit photographs should be governed by hospital policy on photography of patients and by government regulations pertaining to patient privacy and confidentiality.

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APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

- To protect human health and the environment through the proper management and disposal of hazardous chemical waste.
- To reduce the quantity and toxicity of the medical center's chemical waste.
- To comply with all applicable federal, state and local laws and regulations.

POLICY AND GENERAL INFORMATION

1.0 **Policy:** NYU Hospitals Center and NYU School of Medicine (collectively NYULMC) are committed to collecting, storing, labeling, transporting and discarding hazardous chemical waste in accordance with all applicable federal, state and local laws and regulations. All hazardous chemical waste is transported to permitted hazardous waste disposal facilities for disposal.

2.0 **Definitions**

Accumulation area: A location designated for storage of hazardous chemical waste.

- **Main accumulation area:** A location where personnel can store more than 1 quart of acutely hazardous waste or more than 55 gallons of hazardous chemical waste.
- **Satellite accumulation area**: A location where personnel store less than 1 quart of acutely hazardous waste and less than a total of 55 gallons of hazardous chemical waste.

Hazardous chemical wasteis any chemical waste that is 1) listed, 2) characteristic, or 3) otherwise hazardous as described below. For evaluation of specific waste streams, contact Environmental Health and Safety (EH&S).

- **Listed waste** contains chemicals that are listed by the Environmental Protection Agency (EPA) on the F-list (40 CFR 261.31), K-list (40 CFR 261.32) or P- and U-lists (40 CFR 261.33).

- **Acutely hazardous waste**contains chemicals that are listed by the EPA on the P-list because they can cause irreversible damage to humans or animals at low doses.

- **Characteristic waste** exhibits one or more of the following characteristics.

  - **Ignitable**: Solids, liquids or compressed gases that burn readily. Liquids with flash points below 140° F are included in this category.

  - **Corrosive**: Solids or liquids that dissolve metals, other materials, or burn the skin, eyes and other mucus membranes. Acids with a pH below 2 and bases with a pH above 12.5 are included in this category.

  - **Reactive**: Wastes which are unstable or undergo rapid or violent chemical reaction with water or air. Potentially explosive materials and materials containing cyanide and sulfide are included in this category.

  - **Toxic**: Wastes that contain any of 40 specific contaminants in concentrations above thresholds identified in the EPA regulations.

- **Other hazardous waste** is chemical waste that is not specifically regulated but meets one of the following criteria:

  - **Carcinogenic**: Contains 0.01% or more of a confirmed human or animal carcinogen or a suspected human carcinogen.

  - **Highly toxic**: Contains 0.1% or more of a compound (excluding biological toxins)which:
    - has an oral LD50 (rat) toxicity of less than 50 milligrams per kilogram;
    - has an inhalation LC50 (rat) toxicity of less than 2 milligrams per liter; or
    - has a dermal LD50 (rabbit) toxicity of less than 200 milligrams per kilogram.

  - **Other**: Other chemical waste in quantities and/or concentrations that would result in any of the following adverse effects if it were discarded as regular trash or down the drain:
    - death, serious illness or physical injury to humans
    - a hazard to the environment
    - a demonstrated threat to biological life cycles

3.0 **Responsibilities**

3.1 **Environmental Health and Safety (EH&S)** and **Environmental Services** at the HJD campus are responsible for:

- developing and managing the Chemical Waste Disposal Program (the Program)
- assisting departments in implementing the Program
- providing training on all elements of the Program
- periodically evaluating the effectiveness of the Program
- maintaining chemical waste disposal records and filing governmental reports

3.2 **Departmental heads** or their designee(s) are responsible for compliance with the Program within their departments. Their responsibilities include, but are not limited to:

- ensuring all employees who work with hazardous chemicals receive information and training about the Program
- ensuring waste is collected in appropriate containers, stored and labeled properly, and removed on a regular basis

3.3 **Employees who work with hazardous chemicals** are responsible for:

- being familiar with the hazardous properties of chemicals they use
- collecting, storing, labeling, and transporting waste in accordance with the Program
- notifying their supervisors of exposures, spills, and of any pertinent problems

4.0 **Waste minimization**

4.1 Consider replacing toxic chemicals and products with less toxic substitutes.

4.2 Purchase chemicals in small quantities that can be used within a reasonable period of time. Don't stockpile chemicals.

4.3 Conduct experiments on the smallest scale possible, generating the least amount of waste.

4.4 Redistribute unused surplus chemicals to other chemical users at NYULMC.

4.5 If you generate waste that can be neutralized, consult with EH&S for guidance on how to do so in a safe and compliant manner. The regulations permit on-site neutralization of certain wastes.

5.0 **Drain disposal**

5.1 Do not discard solids, oil or other viscous substances into the sewer system.

5.2 Dilute water-soluble laboratory chemicals which **are not** flammable, explosive, reactive, corrosive ($5 < pH < 9.5$), toxic or malodorous with large volumes of water when discarding them into the New York City sewer system.

6.0 **Containers and waste collection**

6.1 Collect waste in containers that are leak-proof, capable of being sealed tightly and in good condition.

- As a rule, collect waste in a container similar to the one in which the chemical was purchased.
- Obtain polyethylene pails and other specialty containers from EH&S, or Environmental Services at the HJD campus.

6.2 When using old reagent containers for waste collection, remove or deface the original label.

6.3 Place waste containers in secondary containment, especially if they are made of glass or are near sinks or drains.

6.4 Do not collect waste in a container if it could cause the container to rupture, leak, corrode or otherwise fail.

6.5 Do not collect wastes that could react to cause fires, leaks or other releases in the same container.

6.6 Fill each waste container to approximately 90% of its capacity.

6.7 Keep containers securely closed except when adding waste.

6.8 Inspect containers at least once a week for leaks, labeling and tightness of closure.

6.9 Collect halogenated and non-halogenated solvents in separate containers, to facilitate recycling.

6.10 Do not mix heavy metals such as mercury salts with other wastes.

6.11 Do not transport waste between satellite accumulation areas, e.g., from one lab to another.

7.0 Labels

7.1 Place an orange School of Medicine label or a green Hospital label on each container before you begin using the container.

- List every significant (> 1%) constituent of the waste on label. Do not use generic categories, such as organic waste, aromatic hydrocarbons or flammable solvents.

Satellite accumulation areas (SAAs)

- Do not date the label until the container is ready for removal from the SAA.

Main accumulation areas (MAAs)

- Date the label as soon as waste is added to the container (if the container is being filled in the MAA) or the container is accepted at the main accumulation area (if an undated container is transported there from another location).

8.0 Spills

8.1 Keep spill clean-up supplies near areas where chemicals are stored or used, and where waste is generated or stored. Obtain kits from EH&S. Ensure personnel are trained to use them.

8.2 Clean up spills immediately.

8.3 Wear appropriate protective clothing, such as gloves, lab coats and eye protection during clean up.

8.4 Contact EH&S for any spill which creates an inhalation hazard. Respirators must be worn during these clean-ups, in accordance with the medical center's Respiratory Protection Program (Safety Policy 109).

8.5 Following spill clean-up, wash surfaces thoroughly with a detergent solution and rinse with clean water.

8.6 Discard all contaminated absorbents and other materials used to clean up chemical spills as hazardous chemical waste.

9.0 **Removing waste from satellite accumulation areas**

- *Superblock*: When containers are approximately 90% full, contact EH&S to coordinate pick-up and disposal of hazardous waste.
- *HJD campus*: When containers become full, contact the chemical waste contractor for removal.
- *Nelson labs*: When containers are approximately 85% full, contact the site safety coordinator at to coordinate pick-up and disposal of hazardous waste. Waste is generally accepted at the main accumulation storage area on Wednesdays from 11:00-11:30 am and can be stored there for up to 179 days.
- *Other off-site locations*: When containers are approximately 90% full, contact EH&S to coordinate pick-up and disposal of hazardous waste..
- *Lab clean-outs at all facilities*: Contact EH&S to arrange for the removal of large quantities of waste. Two weeks notice is required.

10.0 **Transporting waste from a satellite to a main accumulation area**

10.1 If there is a main accumulation area available, transfer waste to itwhen the container is approximately 90% full.

10.2 Do not transport shock sensitive materials (see Appendix A) or unknown chemicals within NYULMC facilities. Make arrangements with EH&S, or the chemical waste contractor at the HJD campus for removal.

10.3 Do not transport waste unless you have attended chemical waste training in the past year and are familiar with the procedures to follow in the event of a spill.

10.4 Wear protective gloves when handling waste containers.

10.5 Transport waste containers on carts with sides to prevent the containers from falling off. For single containers, use a safety carrier such as a rubber bucket.

10.6 If possible, plan travel routes so as not to travel through clinical or public areas.

11.0 **Managing a main accumulation area**

11.1 Place all containers in secondary containment.

11.2 Segregate incompatible wastes, using secondary containment.

11.3 Inspect containers weekly and maintain an inspection log.

11.4 Ensure a copy of the EH&S Emergency Response Plan (main campus) is readily available.

12.0 **Specific wastes**

12.1 **Batteries**

See Safety Policy 108c: Universal Waste Management Plan.

12.2 **Controlled drugs**

Return controlled drugs to the vendor or the Pharmacy. Additional information on controlled substances may be obtained from the NYS Bureau of Narcotic Enforcement.

12.3 **Gas cylinders**

- Where feasible, return empty compressed gases cylinders to the vendor. Removal of non-returnable cylinders is difficult to arrange and costly.
- Contact EH&S for vendor contact information.

12.4 **Hazardous drug and chemical waste from patient care**

See Safety Policy 108b: Drug and Chemical Waste from Patient Care.

12.5 **Lead pigs**: Some radioisotopes are packaged in plastic-covered lead cases for shielding.

- Survey each lead pig with a Geiger counter or scintillation counter, depending on which isotope was present, to ensure it is not contaminated with a radioactive material.
- Remove the lead from the plastic cover using pliers. Deface the radioactive symbol on the plastic cover using a felt pen. Discard the plastic cover in the regular trash.

- Place the lead in a box or a similar container. Contact a Nuclear Medicine Department Supervisor to inform them of your delivery. Transport the lead to Nuclear Medicine.
- At Bellevue, after separating the lead from the plastic covers, contact EH&S for removal. Do not send lead fromBellevue to Nuclear Medicine at Tisch Hospital.
- All lead generated from lead pigs shall be recycled through a licensed contractor.

12.6 **Light bulbs**

See Safety Policy 108c: Universal Waste Management Plan.

12.7 **Mixed chemical/infectious waste**

- Make arrangements in advance with EH&S for removal of mixed chemical/infectious waste.

12.8 **Organic peroxides**

- Do not transport organic peroxides because they may be shock sensitive.
- Contact EH&S for removal.
- Store in an explosion-proof refrigerator until removal.

12.9 **Polychlorinated biphenyls (PCBs)**

- Make arrangements in advance with EH&S before removing items that could contain PCBs, such as old transformers, condensers or ballasts.

12.10 **Radioactive waste and mixed chemical/radioactive waste**

- Contact Radiation Safety.

12.11 **Shock sensitive materials**

- Do not open or move containers which may contain shock-sensitive or explosive materials (see Appendix A). Contact EH&S for removal.

12.12 **Silver halide process wastewater and used film**

- Do not discharge wastewater that contains silver directly into the plumbing system. This includes wastewater from photography film developers, fixers, bleach-fix stabilizers, low flow washes, rinse waters, other washes, or functionally similar solutions.

- Contact EH&S to coordinate installation of a silver recovery system and for used film disposal.

12.13 **Unknown chemicals**

- Do not move unknown chemicals because they may be shock sensitive. Try to locate responsible personnel and to obtain as much information as possible. Communicate this information to EH&S.

13.0 **Related Safety Policies**

106: Hazardous Drugs (Including Chemotherapeutic Drugs)

108a: Hazardous Waste from Contractors

108b: Hazardous Waste from Patient Care Areas

108c: Universal Waste

Environmental Health and Safety Emergency Response Plan

Appendix A Chemicals Which May Deteriorate to a Hazardous Condition
Appendix B Waste Disposal Procedures for Carpenters
Appendix C Waste Disposal Procedures for Painters

Issue date 12/13
Replaces 02/10
Reviewed by J. Kang, Environmental Health and Safety
L. Ayres, Radiation Safety
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NYUHC Environment of Care Committee

Chemicals Which May Deteriorate to a Hazardous Condition

The following is a selection of chemicals which can deteriorate to a dangerous condition with age, under common storage conditions. The degree of the hazard varies considerably with age and the exact situation.

acetal[3]
acetaldehyde diethyl acetal[3]
2-acetyl furan[3]
acetyl peroxide[1]
ammonium dichromate[4]
anethole[3]
anisaldehyde[3]
anisole[3]
benzoyl peroxide[1]
2-butoxyethyl acetate[3]
t-butyl hydroperoxide[4]
iso-butyl ether[3]
n-butyl ether[3]
n-butyl glycidyl ether[3]
cellosolve[3]
chromium trioxide[4]
cumene[3]
cyclohexene[3]
cyclopentadiene[3]
cyclopentene[3]
decahydronaphthalene[3]
decalin[3]
di-allyl ether[3]
di-iso-amyl ether[3]
dibenzyl ether[3]
di-iso-butyl ether[2]
di-n-butyl ether[3]
dicyclojpentadiene[3]
1,1-diethoxyethane[3]
diethylacetal[3]
diethyl azidoformate[4]
diethylazodicarboxylate[1]
diethylene glycol dimethyl ether[3]
diethyl ether[3]
diglyme[3]
dihydropyran[3]
1,2-dimethoxyethane[3]
dimethoxymethane[3]
2,4-dinitrophenol[1]
2,4-dinitrophenylhydrazine[1]
1,4-dioxane[3]
diphenyl ether[3]
di-iso-propyl ether[2]
di-n-propyl ether[3]
ether[3]
ethyl cellosolve[3]
ethylene glycol dimethyl ether[3]
ethylene glycol ethyl ether acetate[3]
ethylene glycol monobutyl ether[3]
ethylene glycol monoethyl ether[3]
ethylene glycol monomethyl ether[3]
ethyl ether[3]
2-ethoxyethanol[3]
2-ethoxyethyl acetate[3]
ethyl vinyl ether[2]
furan[3]
glycidyl n-butyl ether[3]
glyme[3]
iodine pentoxide[4]
isoamyl ether[3]
isobutyl ether[2]
isopentyl ether[3]
isopropyl alcohol[3]
isopropyl ether[2]
isopropyl benzene[3]
magnesium perchlorate[4]
mercury fulminate[1]
2-methoxyethanol[3]
methylal[3]
methyl cellosolve[3]
methyl iso-butyl ketone
methyl ethyl ketone peroxide[1]
methyl vinyl ketone[3]
nitromethane[1]
peracetic acid[1,4]
perchloric acid[4]
picric acid[1]
picryl chloride[1]
picrylsulphonic acid[1]
potassium (metal)[1]
potassium amide[1]
potassium chlorate[4]
potassium perchlorate[4]
propan-2-ol[3]
propargyl bromide[1]
propargyl chloride[1]
sodamide[1]
sodium amide[1]
sodium chlorate[4]
sodium chlorite[4]

sodium metal dispersions[1]
sodium perchlorate[4]
styrene[3]
tetrahydrofuran[3]
tetralin[3]
trinitrobenzene[1]
trinitrobenzenesulphonic acid[1]
urea nitrate[4]
vinyl acetate[3]
vinylidene chloride[1]
vinyl pyridine[3]

1 Can deteriorate to a shock-sensitive explosive. Take exceptional care if there is evidence of drying out, crystallization or contamination. It may be very dangerous to attempt to open the container.

2 Forms peroxides, especially on exposure to air and light, making the material liable to explode. Material more than one year old should be discarded, even if unopened. Containers should not be opened if there is solid visible around the closure or evidence of crystals inside.

3 Also form peroxides. If very old or obviously in poor condition treat as 2 (above).

4 High energy materials which are sensitive to the presence of dust. Clean the outside of containers before opening. If in doubt, do not open. Mixtures of the material with dust, paper or organics may ignite or detonate when exposed to friction (e.g. unscrewing the top of the container).

Waste Disposal Procedures for Carpenters

Regular Trash

1. Used rags.
2. Empty solvent and paint thinner cans.
   - Note: Do not pour any solvent or paint thinner down any drain. Use a 5-gallon pail to collect (see 2 under Hazardous Waste).
   - A container is empty if it contains less than 3% of the original product. Cans with fluids greater than 3% must be labeled with a "Hazardous Waste" label and disposed of as hazardous waste.

Hazardous Waste Containers

1. General Notes
   - Hazardous waste containers are available from EH&S.
   - Place a "Hazardous Waste" label on the container, and write the name of the product on the label, before you put waste in it.
   - Keep containers closed when not in use.
   - Keep containers in a protected location, to prevent accidental spills.
   - When containers are full, contact EH&S to arrange for pick-up.

2. Waste paint thinner and solvent
   - The name of the waste is "Paint Thinner and Solvent" or the product names (example: Top Grip 107 and 207).
   - Collect in a 5-gallon pail for flammable solvents (available from EH&S
   - When containers are full, contact EH&S to arrange for pick-up.

3. Aerosol cans
   - The name of the waste is "Used Aerosol Cans".
   - Collect in the red flammable waste container.
   - When the waste container is full, transfer the used cans to a box. Make sure the box is properly labeled "Used Aerosol Cans".
   - When containers are full, contact EH&S to arrange for pick-up.

4. Discarded dirty paint brushes
   - The name of the waste is "Paint Brushes with Paint Thinners and Solvents". You can write the name of the product (e.g. Top Grip 107 & 207) instead of "paint thinners and solvents".
   - Collect in a screw top 5-gallon pail (available from EH&S)
   - When containers are full, contact EH&S to arrange for pick-up.

Waste Disposal Procedures for Painters

Regular Trash

1. Used rags
2. Latex paint: Check the label on the container. Paint that **does not** contain heavy metal pigments (e.g. lead, cadmium, chromium) and has dried-up can be disposed of in regular trash. If the paint is not dry, wait until is dries or add a solidifier before putting it in the trash.
3. Empty cans (paint, paint thinner and solvent) may be disposed into regular trash.
   - Note: **Do not** pour any oil-based paint, paint with heavy metal pigments, paint thinner or solvent down any drain. If you have waste product, pout into a 5-gallon pail (see 2 and 3 under Hazardous Waste).
   - A container is considered empty if it contains less than 3% of the original product.
   - Cans of oil-based paints, paint thinners and solvents that are more than 3% full must be labeled with a "Hazardous Waste" label. Contact EH&S for pick-up.

Hazardous Waste Container

1. General Notes
   - Hazardous waste containers are available from EH&S.
   - Place a "Hazardous Waste" label on the container, and write the name of the product on the label, before you put waste in it.
   - Keep containers closed when not in use.
   - Keep containers in a protected location, to prevent accidental spills.
   - When containers are full, contact EH&S to arrange for pick-up.

2. Waste oil-based paints, paint thinner and solvent
   - The name of the waste is "Paint, Paint Thinner and Solvent" or the product names (example: Benjamin Moore Paint and benzene).
   - Collect in a 5-gallon pail for flammable solvents (available from EH&S).
   - When containers are full, contact EH&S to arrange for pick-up.

3. Latex–based paints that contain heavy metal pigments (e.g. chromium, cadmium, lead)
   - The name of the waste is "Pigmented Latex Paint" or the product names.
   - Collect in a 5-gallon steel or poly pail (available from EH&S).
   - When containers are full, contact EH&S to arrange for pick-up.

4. Aerosol cans
   - The name of the waste is "Used Aerosol Cans".
   - Collect in the red flammable waste container.
   - When the waste container is full, transfer the used cans to a box. Make sure the box is properly labeled "Used Aerosol Cans".
   - When containers are full, contact EH&S to arrange for pick-up.

5. Discarded paint brushes and rollers that haven't been cleaned
   - The name of the waste is "Paint Brushes with Paint". You can write the name of the product (e.g. Benjamin Moore Paint and benzene) instead of "paint".
   - Collect in a screw top 5-gallon pail (available from EH&S).
   - When containers are full, contact EH&S to arrange for pick-up.

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

To protect personnel who enter permit-required confined spaces from potential hazards.

To comply with the Occupational Safety and Health Administration (OSHA) standard on Confined Space Entry (29 CFR 1910.146).

POLICY AND GENERAL INFORMATION

1.0 Application

This program applies to:

- All indoor and outdoor areas of all NYULMC facilities.
- All employees of NYU Hospitals Center and NYU School of Medicine. The primary departments and divisions impacted by the program are:
  - Facilities Operations and HJD Facilities Engineering (collectively Facilities)
  - Real Estate and Housing
  - RED+F Design and Construction
- All contractors and subcontractors.

2.0 Definitions

Confined space means a space that:

- Is large enough and so configured that a person can bodily enter and perform assigned work; and
- Has limited or restricted means for entry or exit (e.g., tanks, vessels, silos, storage bins, vaults, sewers and pits); and
- Is not designed for continuous occupancy.

Confined space entry permit (Permit) means NYULMC's pre-numbered two-copy form that incorporates the information in Appendix A and is completed in accordance with Appendix B.

Permit-required confined space means a confined space that:

- Contains or may contain a hazardous atmosphere; or
- Contains a material that can engulf an entrant; or
- Has an internal configuration that can trap or asphyxiate an entrant; or
- Has any other serious health or safety hazard.

3.0 Responsibilities

3.1 Environmental Health and Safety (EH&S) is responsible for:

- Developing the Confined Space Entry Program (the Program) and collaborating with others to implement and maintain it.
- Training relevant groups, including Facilities, Real Estate and Housing, and RED+F Design and Construction, on:
  - The requirements of the Program.
  - The use of equipment for pre-entry atmospheric checks.
  - The use of personal protective equipment.
- Functioning as a consultant on an as needed basis for confined space entry issues, such as work with or around hazardous chemicals.
- Evaluating the effectiveness of the Program and recommending changes as needed.

3.2 Facilities is responsible for:

- Managing the Program and the permitting process.
- Ensuring that all permit-required confined spaces are identified and included in the Program.

3.3 The **Vice Presidents** and **Directors of Facilities, Real Estate and Housing** and **RED+F Design and Construction** are responsible for compliance within their departments and divisions. Their responsibilities include, but are not limited to:

- Implementing the Program within their departments and divisions.
- Ensuring all requirements of this policy are followed.
- Ensuring all confined space work is identified and included in the Program.
- Ensuring all personnel who are covered by the Program are trained in confined space entry and the use of personal protective equipment.
- Ensuring that personal protective, testing and rescue/retrieval equipment are available to all personnel who are included in the Program.
- Ensuring contractors comply with this policy.

3.4 **Foremen, managers and project managers (PMs)** (e.g., design, construction, renovation, operations, and maintenance), are responsible for:

- Implementing and maintaining the Program on their projects.
- Ensuring their employees and contractors comply with this policy.
  - Incorporating the requirements of the policy into the specifications for the work.
  - Informing contractors about the requirements of this policy during the bidding process.
  - Discussing the Permit, training requirements, required safety equipment, air monitoring results, and work area preparation with employees and contractors.

3.5 **Contractors** are responsible for:

- Complying with all provisions of the OSHA Confined Space Entry Standard and the requirements of this policy.

3.6 **Workers who enter permit-required confined spaces** are responsible for:

- Attending training on confined space entry.
- Requesting a Permit prior to entering any permit-required confined space.
- Following the requirements of the Permit.
- Notifying their supervisors of any pertinent problems.

4.0 **Permit-required confined spaces**

Facilities identifies all permit-required confined spaces and installs signs on or stencils each space reading DANGER - PERMIT-REQUIRED CONFINED SPACE - DO NOT ENTER. A list of permit-required confined spaces on the superblock is included as Appendix C.

5.0 **Confined space entry procedures**

5.1 Prior to working in a confined space, personnel shall evaluate all potential hazards e.g., slips, trips and falls, and implement appropriate controls.

5.2 Prior to working in a permit-required confined space, personnel shall obtain a Permit from Facilities and complete it. A sample Permit is included as Appendix A. Instructions for completing the Permit are included as Appendix B.

- For in-house work, the foreman shall:
  - Prepare the work area for confined space entry.
  - Have the appropriate manager conduct the pre-entry atmospheric test.
  - Assign workers to enter the confined space and an attendant to watch from outside it.
  - Ensure the workers have appropriate personal protective and safety equipment.
  - Complete Section 1-4 of the Permit and sign it.
  - Have the appropriate manager sign and authorize the work.
- For work done by contractors, the PM shall initiate the Permit.

- The PM shall coordinate the work with the appropriate Facilities manager.
- The PM and contractor supervisor shall jointly complete and sign the Permit following the steps listed above (under in-house work).

5.3 A completed and authorized Permit shall be valid until:

- The end of the workers' work shift or the work is completed, whichever comes first; or
- There is an emergency involving or affecting the work area.

5.4 The hard copy of the signed Permit shall be posted in the work area until the Permit is no longer valid or the work is completed. The manager or PM keeps the soft copy.

5.5 During the work, the foreman shall stay in radio contact with the attendant. The attendant shall call the foreman when the work is complete or in case of an emergency.

5.6 The foreman, manager, and/or PM shall inspect the work area periodically during the work to ensure that the conditions of the Permit are maintained.

5.7 The manager or PM shall debrief the employees or contractor who completed the work regarding any challenges encountered during the work. The results of the debriefing will be communicated to EH&S.

5.8 When the work is completed and workers have left the confined space, all systems shall be returned to their original condition. The Facilities manager shall check the work area and authorize systems to be put back into service.

5.9 The foreman or PM shall return the Permit to the Facilities office.

- For in-house work, the foreman returns the hard copy to the office. The manager who signed the Permit puts the two copies together.
- For work done by contractors, the contractor returns the hard copy to the PM. The PM puts the two copies together and returns them to Facilities.

5.10 Facilities managers shall forward Permits for completed work to EH&S on a daily basis.

5.11 EH&S shall evaluate Permits received to ensure compliance with this policy and make recommendations for changes as necessary.

6.0 Training

6.1 Managers and contractors shall train workers who enter permit-required confined spaces on the:

- Requirements of this policy.
- Proper preparation of a confined space for entry.
- Use of safety equipment.
- Emergency procedures (such as employee injury protocols)

6.2 EH&S will assist with training of employees, e.g., on the use of air monitoring equipment and personal protective equipment.

6.3 Training shall be conducted:

- Before a worker is first assigned to confined space entry.
- Before a worker is assigned new confined space entry tasks.
- Whenever there is a change in procedures or new hazards are introduced.
- Whenever there are deviations from the requirements of the policy, or there are inadequacies in a worker's knowledge or use of these procedures.

6.4 Each department/division shall maintain training records for its employees.

- Records shall include the dates of training, subjects covered, names of employees trained and name and signature of the trainer.
- Records shall be maintained for 1 year past the last day of employment.
- Copies of records shall be provided to EH&S upon request.

7.0 Program evaluation

EH&S conducts an annual evaluation of the Program as part of the annual evaluation of NYUHC's Environmental Safety Management Plan.

Appendix A	Sample Confined Space Entry Permit
Appendix B	Instructions for Preparing a Confined Space for Entry and Completing the Permit
Appendix C	List of Permit-Required Confined Spaces in Facilities Owned by NYULMC

Issue date	4/12
Replaces	4/09
Reviewed by	J. Goldberg, Environmental Health and Safety R. Cohen, Facilities Operations B. Everett, Real Estate and Housing T. Howard, RED+F Construction R. Maffia, RED+F Construction D. Rubbo, HJD Engineering P. Schwabacher, Facilities Management NYUHC Environment of Care Committee

Sample Confined Space Entry Permit

SECTION 1: Entry Permit (valid for 8 hours only)			
Date:	Start time: AM/PM	Expiration time: AM/PM	
Building:	Location:		
Job supervisor:	Equipment to be worked on:		
Work to be done:			
Location of nearest fire alarm pull station:		Nearest telephone:	
Communication procedures:			
Rescue procedures:			
SECTION 2: Confined Space Preparation			
Pre-entry atmospheric checks			
Time:	Tester's signature:		
Date calibration expires:	Oxygen (should be 19.5-23.5%):		
Explosive:	CO:		
H2S:	Other:		
Area Preparation	**Yes**	**No**	**N/A**
Lockout/tagout complete?			
Equipment empty and clean?			
All lines disconnected, blanked, or plugged?			
Ventilation modification? (if yes, redo atmospheric check)			
Barriers			
SECTION 3: Safety Equipment			
Basic Equipment (Circle equipment required)		Lighting	
Chemical splash goggles	Continuous air monitor	Hoisting equipment	
Impervious boots	Radio for attendant	Safety harnesses/lifelines	
Other Equipment (Circle equipment required)			
Face shield	Impervious suit	Ladder	
Impervious gloves	Respiratory protection	Fire extinguisher	
SECTION 4: Entry Authorization			
Workers entering confined space	Attendants		
All training requirements have been met ☐ (Permit cannot be authorized if this box is unchecked)			
I have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any questions have been answered "No." This permit is not valid unless all appropriate items are completed.			
Foreman's signature:	Date:	Time:	
Manager's signature:	Date:	Time:	

Revised: April 23, 2012

Instructions for Preparing a Confined Space for Entry and Completing the Permit

SECTION 1

When it is determined that a permit-required confined space must be entered to do work, the foreman will complete Section 1 of the Permit. The DATE, START TIME, EQUIPMENT NO., BUILDING and LOCATION will be filled in. The EQUIPMENT PREVIOUSLY CONTAINED section should state what was in the confined space (e.g., No. 2 fuel oil tank). The WORK TO BE DONE section should state the work that workers will do in the confined space (e.g., welding).

SECTION 2

Pre-entry atmospheric checks

Personnel will use a continuous air monitor to do a pre-entry atmospheric check in the confined space for oxygen deficiency and percent of the lower flammable limit (L.F.L.). Additional test for toxicity (for any chemical that was contained or maybe contained in the confined space) may also be done. These tests are done using a monitor that has a current calibration. The percent oxygen should be 19.5-23.5%. The L.F.L. should be less than 10%. For toxicity, EH&S should be contacted to determine the appropriate levels not to be exceeded. The person conducting the test will sign next to the results for the pre-entry atmospheric checks when the levels are within the prescribed limits.

If any of these tests are not in the prescribed range, forced ventilation into the confined space should be used until the required levels are met. The source of the air for forced ventilation should be from a location that is not contaminated with pollutants.

Lockout/Tagout

OSHA-compliant lockout/tagout procedures should be followed. If there is no equipment requiring lockout/tagout N/A should be checked.

Equipment empty and clean

The confined space to be entered should be empty of its contents and cleaned if necessary as to not cause any hazard to the workers that will be entering it. If the confined space contained chemicals or chemicals are used to clean the confined space, EH&S should be contacted for disposal of these chemicals, cleaning solution and any rinse water that may contain chemical contaminants. If no cleaning is necessary, N/A should be checked. If the equipment cannot be cleaned, EH&S should be contacted for any special procedures that may be necessary.

Instructions for Preparing a Confined Space for Entry and Completing the Permit

All lines disconnected, blanked or plugged

All pipelines that are connected to a confined space must be disconnected, blanked or plugged so that no contaminants will enter the confined space during entry. In the case of confined spaces that cannot be completely isolated (e.g., sewers), as much isolation as possible should be done to reduce the possibility of any contaminants or sudden flooding.

Ventilation

Forced air ventilation into the confined space is necessary if the atmospheric checks indicate that there is an oxygen deficiency, the L.E.L exceeds 10% or there may be a toxic chemical in the confined space. If the atmospheric checks cannot be maintained within the required levels continuous forced air ventilation should be used. If continuous forced air ventilation does not meet the required levels respirators may be necessary. EH&S should be contacted before using respirators.

Barriers

Barriers to keep pedestrians away from the confined space should be installed as necessary.

SECTION 3

Basic Safety Equipment Necessary

Workers entering a confined space must be given the following safety equipment:

Chemical Splash Goggles
Impervious Boots
Safety Harness/Lifeline

In addition, lighting should be provided to illuminate the work area inside the confined space. A radio for the attendant should be provided to be used in case of an emergency requiring rescue of an injured worker(s) in a confined space. A continuous air monitor should be on at all times during the confined space entry to determine if the atmosphere inside the confined space changes during the entry operation.

Other Equipment that may be necessary

The foreman should circle on the Permit any other equipment that the workers may need to enter the confined space. This may include:

Instructions for Preparing a Confined Space for Entry and Completing the Permit

Face Shield	Impervious Gloves	Impervious Suits
Respiratory Protection	Fire Extinguisher	Ladder

SECTION 4

The foreman will list the workers that will enter the confined space. The foreman will also write the name of the attendant that will be monitoring the workers inside the confined space, informing the workers of any change in the continuous air monitor, and using the radio for keeping the foreman informed or for calling for rescue. The foreman should review the Permit and procedures to be used in the confined space with the worker(s) and attendant. The foreman will contact the manager for authorization to enter the confined space. The foreman and manager will sign and enter the date and time on the Permit.

The hard copy of the Permit remains at the confined space. The manager keeps the soft copy. After the work is done or the Permit is no longer valid, the hard copy is returned to the office and matched up with the soft copy. Both copies are sent to EH&S on a daily basis.

EMERGENCY PROCEDURES

In case of worker injury, the attendant should contact the foreman on the radio and request assistance. The attendant should never try to enter a confined space to assist an injured worker(s). The attendant should only hold the lifeline and try to assist the injured worker to exit the confined space. If other workers are in the area of the confined space, their assistance should be requested. If the worker (s) are not able to leave the confined space and no other workers can assist the attendant, the foreman should pull the nearest fire alarm and contact the Communications Department (33-911) to indicate that a Fire Department rescue is necessary. NYULMC employees who respond should assist in trying to retrieve the workers in the confined space but should NEVER enter a confined space. Communications should inform the NYC Fire Department about the nature of the emergency.

Instructions for Preparing a Confined Space for Entry and Completing the Permit

POST CONFINED SPACE ENTRY PROCEDURES

After the confined space entry work is completed, the space should be returned to its original condition. All lines should be reconnected, unblanked or unplugged. Facilities electrical safety procedures shall be followed. The manager should check and authorize the confined space to be put back into service.

All equipment that was used in the confined space entry should be cleaned and returned to storage for future use. All personal protective equipment (e.g., goggles, suits, and boots) should also be cleaned and stored for future use. If disposable personal protective equipment was used and contaminated with chemicals, it should be put in a container and sent to the chemical waste vault for disposal (as per Safety Policy No. 108, Hazardous Waste Disposal).

If necessary, showers should be provided to workers after the confined space entry operation is completed.

List of Permit-required Confined Spaces in Facilities Owned by NYULMC

Superblock

Domestic water tanks
660 First Avenue roof
Medical Science Building 10 (2 tanks)
Rubin Hall (2 tanks)
Skirball 25 upper bulkhead (2 tanks)
Tisch 20 (2 tanks)

Hot water tanks
Medical Science Building C-07 (4 tanks)
Perelman cellar (2 tanks)
Rubin Hall C-89A
Rusk south MER (2 tanks)
Tisch 7 west MER (2 tanks)

Acid neutralizing tanks
Coles G-100
Health Care Center garage
Medical Science Building 1, Medical Library
Perelman cellar locksmith shop
Skirball 1 (2 tanks)
Smilow cellar/ground
Tisch cellar exchange cart area

Fuel oil vaults
Medical Science Building ground
Skirball G-037 and G-047 (2 vaults)
Smilow cellar
Tisch Receiving parking area

Reverse osmosis tank
Skirball 6

Vacuum and air tanks
Medical Science Building, lab vacuum and air (2 tanks)

Sump pits (greater than 4 feet deep)
Greenberg SC2 (2 pits)
HCC C-9A (2 pits)
HCC C-52 west
MSB C-06
MSB C35
MSB C-85A
Perelman cellar
Rusk south cellar
Rubin Hall
Schwartz East
Schwartz west
Skirball (3 pits)
Smilow (5 pits)
Tisch HC-132A
Tisch 160

660 First Avenue

Domestic water tank, roof

Clinical Cancer Center

Domestic water tank, roof

HJD

Cold water tank, C1
Hot water tanks, C1 (2 tanks)
Fuel oil tank, SC3
Sewer/ejector pit, SC3, C-304
Sewer/ejector pit, SC3, C-316
Storm pit, SC3, C-304
Storm pit, SC3, C-316

Revised: April 23, 2012

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

To ensure the safety of patients, staff, visitors and construction personnel whenever work is being performed by construction contractors for NYU Hospitals Center or NYU School of Medicine.

POLICY AND GENERAL INFORMATION

1.0 General Requirements

The contractor shall comply with all federal, state and local regulations, the provisions of National Fire Protection Association (NFPA) Standard 241 (latest version), and all referenced NYULMC Safety Policies.

The contract documents or specifications for work for NYU Hospitals Center or NYU School of Medicine include a provision that contractors meet minimum safety, health and equipment requirements, including provisions for protecting patients, visitors and NYULMC personnel. The contract requirements and this policy must be strictly adhered to by all contractors, their employees, subcontractors and agents.

2.0 Required NYULMC Permits and Compliance Plans

Contractor shall obtain copies of all applicable NYULMC permits and compliance plans before performing any work, including:

- Confined Space Permit
- Construction/Interim Life Safety (ILS) Permit
- Universal and Hazardous Waste Compliance Plan
- Hot Work Permit
- Infection Control Risk Assessment (ICRA) Permit
- Penetrations Permit

3.0 Pre-commencement Conference and Pre-planning

3.1 A pre-commencement conference shall be held between contractor's supervisory personnel, the NYULMC Project Manger(s), representative(s) of the affected operating department(s) and an NYULMC Environmental Health and Safety (EH&S) representative. If the job impacts a patient care area, a representative of Infection Prevention and Control shall be present.

3.2 The pre-commencement conference shall acquaint the contractor's representatives with NYULMC safety procedures, and any special safety equipment that shall be required due to the hazards of the operation.

3.3 Contractor shall pre-plan and coordinate all work with the NYULMC Project Manager to ensure that it is conducted in a safe manner.

4.0 Security and Orientation

4.1 In accordance with New York City Local Law 41 of 2008, all construction personnel shall present evidence of having attended an OSHA 1926 10-hour class within the last 5 years.

4.2 Contractor shall provide all construction personnel with an orientation prior to the start of work. This orientation shall cover the site-specific rules established by the contractor for the project, NYULMC safety policies, and emergency evacuation procedures for the work site. During this orientation, contractor shall advise workers that failure to comply with all rules and regulations will result in dismissal from NYULMC.

4.3 Following orientation, all construction personnel shall receive an I.D. badge issued by the NYULMC Security Department which shall be worn at all times.

4.4 Contractor shall protect the entrance(s) to each job site against unauthorized entry both during work and off hours.

4.5 Contractor shall enclose outdoor work areas by a solid, 8 foot construction fence in accordance with New York City law, to keep unauthorized personnel out. This fence shall be constructed of fire-retardant or non-combustible materials. The gate for this fence, which must not swing outward, shall be kept locked when personnel are not present.

4.6 Contractor shall give NYULMC Security Department advance notice of all work to be performed after hours, work that needs to be performed in controlled or restricted areas, and any work that may adversely affect patients, staff or the public.

5.0 **First Aid**

5.1 Contractor shall be responsible for providing first aid treatment for its personnel. In case of severe injury, personnel may use the NYUHC Emergency Department located on the Ground Floor of Tisch Hospital.

5.2 Contractor shall immediately report any incident which involves treatment beyond first aid to the NYULMC Project Manager.

6.0 **Public Protection**

6.1 Contractor shall ensure personnel use cell phones, mobile phones, and 2-way radios in accordance with the requirements set forth in the following NYULMC Safety Policy:

212: Use of Cellular, Mobile Phones, Personal Computers and Laptops

6.2 Contractor shall schedule the work to minimize the impact of noise and vibration on patients and staff.

6.3 Contractor shall minimize to the fullest extent possible, interactions with patients, staff, visitors and tenants. Where feasible, an elevator shall be dedicated to the demolition/construction project and, if possible, this elevator shall be programmed to stop only on floors where the work is occurring. If possible, tenant elevators shall be programmed not to stop on demolition/construction floors.

6.4 Contractor shall use a separate building entrance for material deliveries and debris removal, where feasible. If no separate entrance is available, contractor shall schedule debris removal and material deliveries for times when patient, staff, visitor and tenant interaction is minimal, factoring in the noise it creates. Contractor shall assign an escort for all material deliveries and debris removal to protect pedestrians.

6.5 Contractor shall protect windows against physical damage. The materials used to accomplish this shall be fire-retardant or non-combustible.

6.6 Contractor shall protect patients, staff, tenants and visitors from construction and demolition operations through the use of appropriate construction partitions, fences, barricades, sidewalk sheds, controlled access zones and other protective measures. Posting of proper warning and directional signage is required.

6.7 Temporary pedestrian walkways shall be at least five (5) feet in width, artificially lit and kept free of tripping and other hazards. Where pedestrians are directed into a roadway, the barrier separating pedestrians from vehicular traffic shall be properly pinned concrete jersey barriers with flashing lights at 15 foot intervals. All walkway and lane changes/closures, shall be set up in accordance with the NYC Department of Transportation approved plan.

6.8 Contractor shall install sidewalk shed(s) and/or other protective measures for the benefit of the public and the workers where required by code or otherwise deemed necessary.

6.9 Contractor shall protect elevated leading edges and work platforms against falling objects by installing toe boards and vertical netting.

6.10 Contractor shall provide an adequate number of flagmen to direct pedestrian and vehicular traffic wherever construction operations, trucks and equipment transverse into public areas.

6.11 Contractor shall not pick loads over people or moving vehicles. Where loads must be picked over an occupied building, the top 2 floors of the building shall be vacated or overhead protection provided with a design live load of 300 pounds per square foot.

6.12 Contractor shall ensure that workers at height tether their tools to keep them from falling to a lower level.

6.13 Contractor shall secure construction materials and debris against displacement by winds. Cranes, hoists and suspended scaffolds shall not to be operated when wind speeds exceed the limit set forth by the manufacturer or the City of New York, whichever is less.

7.0 **Fire Safety**

7.1 Contractor shall comply with the requirements set forth in the site-specific Interim Life Safety (ILS) or Construction Safety Permit issued for the work and the following NYULMC Safety Policies:

104: Tobacco Free Facilities

111: Fire Incident Protocol

122: Fire Prevention

126: Fire Safety Requirements for Interior Finish Materials

131: Fire Sprinkler/Standpipe System Impairment

143: Hot Work

145: Interim Life Safety Program

147: Penetration of Fire/Smoke Barrier

7.2 Contractor shall ensure that compressed gas cylinders are handled, used and stored in accordance with OSHA 1926 subpart J, the New York City Fire Code and NYULMC Safety Policy 143: Hot Work.

8.0 **Utility Safety**

8.1 Contractor shall obtain specific authorization from NYULMC Facilities Operations prior to performing any work on existing systems, including, but not limited to, HVAC, electrical, fire suppression, steam, medical and natural gas, and water.

8.2 Contractor shall comply with the requirements set forth in the following NYULMC Safety Policies:

133: Installation and Testing of New Medical Gas Outlets/Piping

157: Electrical Safety

8.3 No work shall be performed on energized utilities, systems or equipment unless pre-planned in coordination with the NYULMC Project Manager, Facilities Operations, and EH&S. Work on live electrical systems shall be performed in accordance with all requirements set forth in NFPA 70e.

8.4 Contractor shall contact Dig Safely New York City and comply with their requirements prior to starting any excavation work.

8.5 Contractor shall employ ground penetrating radar (GPR) or equivalent technology to locate and mark underground utilities prior to the start of excavation. When the excavation reaches the approximate location of a utility, contractor personnel shall hand dig to avoid striking or otherwise damaging it. The utility shall be protected/supported and/or relocated for the benefit of the workers and to reduce the likelihood of damage.

8.6 Where interior work requires penetrating floors, contractor shall use GPR to ensure no striking of in-slab utilities.

9.0 Control of Hazardous Materials and Air Contaminants

9.1 Contractor shall comply with all requirements set forth in the site-specific Infection Control Risk Assessment (ICRA) permit for the project.

9.2 Contractor shall comply with the requirements set forth in the following NYULMC Safety Policies:

108a: Hazardous Waste from Contractors

121: Hazard Communication

144: Lead Management Program

159: Asbestos Management Program

9.3 Contractor shall be knowledgeable about suspect asbestos-containing material (ACM) at NYULMC and shall not disturb suspect ACM. An asbestos survey shall be completed prior to undertaking any work that may disturb suspect ACM. If suspect ACM is found at any point during the course of the project, the work is to cease and the NYULMC Project Manager immediately notified.

9.4 Contractor shall employ appropriate engineering controls (e.g. exhaust ventilation, power tools with vacuum attachments, or wet methods) when performing dust and fume producing work indoors and outdoors.

9.5 Contractor shall pre-plan and coordinate with NYULMC Facilities Operations all work performed in close proximity to or which may otherwise negatively impact air intakes, to ensure proper controls are in place.

9.6 Where dust or fume producing work is to be performed indoors, contractor shall place a smoke-tight seal over penetrations and return air registers and shall maintain the work area under negative pressure at all times, with air exhausted outdoors. Where exhausting air outdoors is not feasible, contractor shall obtain approval from EH&S via the NYULMC Project Manager prior to the start of work.

9.7 Contractor shall ensure all chemicals and products used are no or low Volatile Organic Compound (VOC) unless approved by EH&S.

9.8 Contractor shall ensure that welding is done only with an operable smoke eater at the point of the work.

9.9 Where feasible, power tools and equipment shall be electric-powered. Where diesel-powered equipment represents the only feasible alternative, it shall be equipped with a diesel particulate filter approved by EH&S.

9.10 All debris containers shall be moistened and capped with plastic prior to leaving indoor work areas.

10.0 Fall Prevention and Protection including Ladders, Scaffolds and Aerial Lifts

10.1 Contractor shall comply with the requirements set forth in the following NYULMC Safety Policies:

160: Fall Prevention and Protection

163: Ladders, Scaffolds and Aerial Lifts.

11.0 Demolition

11.1 Contractor shall pre-plan and conduct all demolition work in accordance with OSHA 1926 subpart T, the New York City Building Code, all local laws and all provisions of NFPA 241.

11.2 Contractor shall schedule a "Time out" with the Project Manager and a representative of EH&S immediately prior to the start of demolition to ensure all necessary controls are in place.

12.0 Excavation, Foundation and Erection

12.1 For excavations greater than 4 feet in depth, contractor shall ensure ladder access at 25 foot intervals for the workers. Contractor shall ensure that excavations 5 feet or greater in depth are properly sloped, benched or protected by an engineer-designed shoring system. Excavations shall be inspected daily for hazards by the contractor's designated competent person.

12.2 Contractor shall protect the excavation perimeter (topside) with a guard rail system (top rail, mid rail, toe board).

12.3 Contractor shall install shoring and concrete formwork in accordance with the manufacturer's specifications and the NYS design professional's stamped drawings.

12.4 Contractor shall protect rebar which poses an impalement hazard. Rebar shall not be used as a fence post.

13.0 Power Tools and Equipment

13.1 Contractor shall comply with the requirements set forth in the following NYULMC Safety Policy:

161: Power Tools and Equipment.

14.0 Cranes, Hoists, Powered Mobile Equipment and Industrial Trucks

14.1 Contractor shall comply with the requirements set forth in the following NYULMC Safety Policies:

149: Powered Industrial Truck Program

162: Cranes, Hoists and Powered Mobile Equipment

15.0 **Confined Space Entry**

15.1 Contractor shall pre-plan with EH&S, at least 2 weeks in advance, any work to be performed in a confined space and shall conduct such work in accordance with OSHA 1910.146 and with the requirements set forth in the following NYULMC Safety Policy:

138: Confined Space Entry

16.0 **Personal Protective Equipment**

16.1 Contractor shall comply with OSHA Standard 1926 Subpart E: Personal Protective and Life Saving Equipment.

16.2 Construction personnel shall wear work boots, long pants and a short sleeve shirt.

16.3 Hard hats shall be worn where an impact, overhead, falling/flying object or electrical hazard exists.

16.4 Construction personnel shall use all necessary task-specific personal protective equipment and clothing, including but not limited to:

- Safety glasses and face shields
- Hearing protection
- Dust mask
- Cut-resistant and fire-retardant gloves
- Welding helmet and jacket

16.5 Construction personnel shall wear reflective vests when directing traffic and working in close proximity to trucks and powered-mobile equipment.

16.6 Contractor shall complete a pre-task assessment in coordination with EH&S prior to undertaking any work which requires construction personnel to use respirators. Contractors whose personnel utilize respirators shall provide their written respiratory protection plan to NYULMC's project manager. All personnel shall present evidence of fit testing and must be trained in the proper use and maintenance of respirators. Engineering controls (e.g. ventilation, wet methods, etc.) shall be employed to minimize airborne contaminants or chemical exposure for patients, staff and other construction personnel.

Appendix A Related NYULMC Safety Policies

Issue date 10/13
Replaces 04/12
Reviewed by J. Goldberg, Environmental Health and Safety
T. Howard, RED+F Construction
R. Maffia, RED+F Construction
R. Cohen, Facilities Operations
P. Schwabacher, Facilities Management
NYUHC Environment of Care Committee

Related NYULMC Safety Policies

104: Tobacco Free Facilities

108a: Hazardous Waste from Contractors

111: Fire Incident Protocol

121: Hazard Communication Program

122: Fire Prevention

126: Fire Safety Requirements for Interior Finish Materials

131: Fire Sprinkler/Standpipe System Impairment

133: Installation and Testing of New Medical Gas Outlets/Piping

138: Confined Space Entry

143: Hot Work

144: Lead Management Program

145: Interim Life Safety Measures

147: Penetrations of Fire/Smoke Barriers

149: Powered Industrial Truck Program

157: Electrical Safety

159: Asbestos Management Program

160: Fall Prevention and Protection

161: Power Tools and Equipment

162: Cranes, Hoists and Powered Mobile Equipment

163: Ladders, Scaffolds and Aerial Lifts

212: Use of Cellular, Mobile Phones, Personal Computers and Laptops

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

- To protect employees, patients, visitors, and contractor personnel from electrical hazards.
- To minimize the possibility of electrical shock, electrocution, or fire from the use of inadequate current-bearing wiring.
- To comply with the following:
  - National Fire Protection Association (NFPA) *National Electrical Code (NEC)*, known as NFPA 70
  - NFPA 70E *Standard for Electrical Safety in the Workplace*
  - NFPA 101 *Life Safety Code*
  - NFPA 99 *Health Care Facilities Code*
  - New York City *Electrical Code*
  - Joint Commission standards
- To provide a written plan of action for personnel to follow in the event of an accident where a person has received an electric shock.

POLICY AND GENERAL INFORMATION

1.0 Scope

This policy covers:

- the design, installation, and maintenance of electrical wiring and wiring components, including temporary and permanent wiring, pull boxes, junction boxes, fittings, switch boards, panel boards, switches, conductors, light sockets, and flexible cords and cables in all NYULMC facilities
- proper usage of extension cords
- emergency procedure for electric shock

2.0 Responsibilities

2.1 **Environmental Health and Safety (EH&S)** is responsible for:

- developing the policy and updating it as needed
- conducting semi-annual quality assurance (QA) inspections for electrical hazards and distributing summary reports

2.2 **Departments that coordinate work involving electrical wiring and wiring components** are responsible for compliance with the policy. Their responsibilities include:

- ensuring that every project manager is trained on and familiar with the requirements of this policy
- including the requirements of this policy in bid documents
- ensuring that contractors are appropriately trained and informed about the policy
- ensuring that the policy is implemented and all requirements are followed

2.3 **Project managers** are responsible for implementing the policy on their projects. Their responsibilities include, but are not limited to:

- ensuring that work involving electrical wiring and wiring components is filed, inspected, and closed out with the NYC Department of Buildings
- ensuring that contractors and employees install and maintain wiring and wiring components in accordance with this policy
- conducting (or coordinating) daily inspections during the project duration and following up on identified issues
- coordinating close-out inspections by licensed electricians from Facilities Operations (main campus) or Hospital for Joint Diseases (HJD) Facilities Engineering (HJD campus)
- ensuring that contractors correct the identified deficiencies, and withholding final payment until every deficiency is corrected

3.0 Electrical wiring and wiring components

3.1 All employees and contractor personnel who engage in work that involves electrical wiring or wiring components shall:

- install and maintain the wiring and components in accordance with the current editions of the *NEC* and the New York City *Electrical Code*
- perform work above 50 volts only under the supervision of a New York City licensed electrician
- perform work on live systems in excess of 50 volts in accordance with the requirements set forth in the NFPA 70E *Standard for Electrical Safety in the Workplace*

3.2 Any contractor failing to conform to this policy shall be prohibited from working at NYULMC.

3.3 Electrical equipment to be employed outdoors or otherwise exposed to water, liquids or other hazards shall be protected within the proper National Electrical Manufacturers Association (NEMA) rated enclosure.

3.4 Live electrical wiring shall not be exposed. All electrical wiring shall be protected against chafing.

3.5 Temporary wiring shall be elevated off the ground in accordance with OSHA standard 29 CFR 1926, Subpart K.

3.6 Electrical panels and rooms shall be kept locked. Electrical panels and junction boxes shall be covered with an appropriate manufactured cover and trim when not being serviced.

3.7 Contractor personnel shall maintain all temporary electrical power in construction areas under an assured equipment grounding conductor program in accordance with OSHA 1926.404(b)(1)(iii).

3.8 Lighting shall comply with NYULMC Safety Policy No. 122, Fire Prevention.

4.0 **Close-out inspection**

4.1 Upon completion of a construction/renovation project, the project manager shall coordinate an inspection by the licensed electrician who filed the application with the NYC Department of Buildings.

4.2 The electrician shall inspect all wiring and wiring components for code-compliance and shall inform the project manager of all deficiencies.

4.3 The project manager shall notify the Facilities Operations electrical shop (main campus) or HJD Facilities Engineering (HJD campus) when deficiencies have been corrected.

4.4 As a rule, a licensed electrician from Facilities Operations (main campus) or HJD Facilities Engineering (HJD campus) shall re-inspect the project to confirm that electrical deficiencies have been corrected.

5.0 Electrical extension cords

5.1 Electrical extension cords are prohibited in all patient care areas. Exceptions to this policy must be approved by the Environment of Care (EOC) Committee, except in emergencies as summarized below.

5.2 Extension cords may be used during an emergency to prevent the loss of life or property without prior approval from the EOC committee.

5.3 Designated extension cords, located at the nurse's station on each patient floor, may be used during loss of electrical power (see Safety Policy 117, *Emergency Power*).

5.4 Extension cords approved for use or used in an emergency must be:

- Underwriters Laboratories (UL) listed, double insulated, with grounded cords, or
- manufactured by the staff electricians, under direction of the Manager of Electrical Systems.

5.5 Extension cords used in wet areas must be Ground Fault Circuit Interrupter (GFCI) protected. These extension cords must be specially ordered by the department that needs them. A limited number are available in the Facilities Department stockroom and the electrical shop.

6.0 Performance monitoring

EH&S shall conduct semi-annual QA inspections for electrical deficiencies in conjunction with QA inspections for penetrations.

7.0 Emergency procedures for electrical shock

7.1 If someone appears to be receiving electrical shock and is still in contact with the current, do NOT touch the person with your bare hands.

7.2 Shut off the current if possible. Stay away from high-voltage wires until the power is turned off.

7.3 If shutting off the current is not possible, use an insulator to cautiously remove contact from the victim while staying as far away as possible. An insulator is any dry, non-conducting object, such as a heavy rubber hose or a hand inside a glass beaker. Push the victim or current source aside to remove contact from the victim. A dry towel will not suffice.

7.4 If someone appears to have been a victim of electrical shock, do not move the person unless they are in immediate danger.

7.5 Dial the emergency phone number for your location:

- 33-911 – Main Campus
- 3-911 – HJD
- 911 - Offsite

Related policies:
120: Contractor Safety Requirements
122: Fire Prevention
145: Interim Life Safety Measures
156: Installation & Maintenance of Dispensers for Alcohol-based Hand Sanitizer
203: Electrical Equipment – Privately Owned
207: Portable Space Heaters

Issue date	10/13
Replaces	08/13
Reviewed by	R. Cohen, Facilities Operations S. Haney, Environmental Health and Safety T. Howard, Facilities Construction B. Maffia, Facilities Construction D. Rubbo, HJD Engineering NYUHC Environment of Care Committee

APPLICATION

NYU Langone Medical Center ("NYULMC")

PURPOSE

- To prevent employees and construction personnel from falling off, onto, or through surfaces;
- To protect patients, staff, and the public from being struck by falling objects; and
- To comply with Occupational Safety and Health Administration ("OSHA") fall protection standards, including 29 CFR 1910 subpart D and F and 1926 subpart M.

POLICY AND GENERAL INFORMATION

1.0 Policy

All employees shall be protected against falls from heights greater than 4 feet at all times in accordance with OSHA 1910 subpart D and F and the American National Standards Institute ("ANSI") Z359 (latest version).

All construction personnel, including scaffold erectors and ironworkers, shall be protected against falls from heights greater than 6 feet at all times in accordance with the OSHA 1926 subpart M only (not subparts L or R).

Use of active fall protection systems is limited to situations where elimination and passive fall protection systems cannot provide adequate protection or are not feasible.

Personnel shall not use active fall protection systems without written approval from Environmental Health and Safety ("EH&S").

2.0 Application

This program applies to:

- All indoor and outdoor areas of all NYULMC-owned facilities, and all areas under the control of NYULMC in leased facilities;

- All employees of NYU Hospitals Center and New York University School of Medicine, an administrative unit of New York University; and
- All contractors and subcontractors.

The primary departments and divisions impacted by this program are:

- Environmental Services;
- Facilities Operations and HJD Facilities Engineering (collectively "Facilities");
- Real Estate and Housing; and
- Real Estate Development and Facilities ("RED+F") Design and Construction.

3.0 Definitions

"Authorized person" means an employee assigned by his/her employer to perform duties at a location where that employee will be exposed to a fall hazard. Authorized persons are responsible for inspecting their fall protection equipment prior to each use and for properly storing and maintaining it.

"Competent person" means an individual who, through training and knowledge, is capable of identifying, evaluating and addressing existing and potential fall hazards, and who has the authority to take prompt corrective action with regard to such hazards. Competent persons are responsible for supervising the selection and use of structural anchorage and fall protection system components, conducting inspections of structural anchorage and all fall protection system components prior to each use, and immediately removing damaged equipment from service.

"Fall protection hierarchy" refers to the following fall prevention and protection methods in the following order:

- **"Elimination"** refers to pre-fabricating components and lifting them into place or utilizing tools and equipment that avoid placing a worker at height.
- **"Passive fall protection system"** refers to systems that do not require the wearing or use of personal fall protection equipment (e.g., installation of stationary guardrail (and catwalk) systems; guardrail systems present on scaffolds and aerial lifts;

engineered vertical fall protection systems; proper protection of floor openings; and use of engineered and tested horizontal personnel netting systems).

- **"Active fall protection system"** refers to systems that require authorized persons to wear or use fall protection equipment and attend fall protection training, and include fall or travel restraint systems or a personal fall arrest systems, as defined below.
  - **"Fall or travel restraint system"** means a fall protection system requiring an authorized person to wear a body harness and a lanyard (secured to a proper anchorage point) short enough to prevent him/her from reaching a fall hazard.
  - **"Personal fall arrest system"** means a system used to arrest an authorized person's fall. It consists of an anchorage, connectors, and a body harness and may include a lanyard, deceleration device (e.g., grab rope or self-retracting lifeline), lifeline or combination of these.

"Qualified person" means a person with a recognized degree or professional certificate and extensive knowledge, training and experience in fall protection and rescue. Qualified persons are responsible for supervising the design, installation and inspection of fall protection equipment and non-structural anchorage products/devices.

4.0 Responsibilities

4.1 EH&S is responsible for:

- Developing the Fall Prevention and Protection Program (the "Program") and collaborating with others to implement and maintain it;
- Providing senior leadership within RED+F with information needed to support decisions about fall protection;
- Training RED+F managers and project managers on the requirements of the Program;
- Maintaining a list of consultants who can provide competent persons and qualified persons;
- Responding promptly to questions and concerns about fall protection; and

- Monitoring the effectiveness of the fall protection program and providing recommendations for improving it.

4.2 **Vice Presidents** and **Directors** are responsible for implementing the Program within their departments and divisions. Their responsibilities include, but are not limited to, communicating the requirements of this policy to their employees and contractors.

4.3 **RED+F Program Directors** and **Project Executives** are responsible for working with the Project Managers ("PMs") assigned to their projects to implement the Program.

4.4 **Managers** and **PMs (e.g., design, construction, renovation, operations, maintenance, and cable management)** are responsible for implementing and maintaining the Program on their projects. The Managers' and PMs' responsibilities include, but are not limited to:

- Communicating the requirements of this policy to their employees and contractors;
- Assessing the need for fall protection during the design phase of a new project and for existing day-to-day tasks. For anticipated work at heights, working with a competent person to select fall protection and develop specifications based on consideration of the fall protection hierarchy;
- Ensuring a competent person supervises the use of engineered horizontal or vertical fall protection systems and active fall protection systems;
- Coordinating pre-planning sessions with appropriate personnel, including a qualified person, at least one week in advance of any work that involves active fall protection systems; and
- Conducting routine inspections of their projects for proper use of fall protection and immediately following-up on identified issues.

4.5 **Contractors** whose personnel work at heights are responsible for:

- Ensuring workers tether their tools to prevent them from falling to a lower level;

- Reporting all incidents involving fall of persons, material, equipment or debris, regardless of how minor, to NYULMC's manager or PM and EH&S;
- Implementing fall protection in accordance with the fall protection hierarchy;
- Providing the right equipment for working at heights and ensuring workers are properly trained to use it;
- Obtaining written approval from NYULMC for all active fall protection systems; and
- If NYULMC approves an active fall protection system:
  - Providing a written site-specific fall protection program;
  - Identifying and providing evidence of training for the competent person and authorized persons who will be engaged in the work;
  - Providing a detailed plan for prompt rescue if a worker falls and remains suspended;
  - Scheduling a pre-planning meeting, at least 1 week in advance, with NYULMC's PM and EH&S to ensure that all necessary equipment and protective measures are in place; and
  - If contractor's rescue plan relies solely on rescue by outside agencies (e.g., FDNY or NYPD), formally notifying the agencies at least one week in advance and coordinating with them..

4.6 **Employees** who work at heights are responsible for:

- Tethering their tools to prevent them from falling to a lower level;
- Using all required fall protection;
- Inspecting active fall protection system components and anchorage they are authorized to use prior to each use; and
- Notifying their supervisors of any pertinent problems.

5.0 **Requirements for passive fall protection systems**

5.1 Vertical and horizontal fall protection systems shall be designed and installed in accordance with the manufacturers' instructions under the supervision of a qualified person. Horizontal personnel netting systems shall be drop-tested prior to use in accordance with the requirements in OSHA 1926.502.

5.2 Guardrail systems shall be constructed and installed in accordance with the requirements in OSHA 1926.502 and Chapter 33 of the New York City Building Code.

5.3 Openings in floors, roofs and other walking surfaces shall be covered with material capable of supporting twice the maximum anticipated load (e.g., aerial lift) on the floor. These covers shall be marked "hole" or "cover." Openings greater than 4 feet by 4 feet shall be protected with a proper guardrail system, not a cover.

5.4 Personnel shall not remove passive fall protection systems (e.g., guardrail, scaffold, aerial lift, vertical protection system), or raise their work level above them, without notifying their competent person. Where the work requires this, an assessment shall be undertaken by the competent person to determine what additional fall protection measures shall be implemented. Any passive fall protection equipment that is removed in order to complete work shall be properly replaced prior to leaving the work area.

6.0 **Requirements for active fall protection systems**

6.1 A controlled access zone shall be established below locations where active fall protection systems are employed and where a potential for falling objects exists.

6.2 All fall restraint and personal fall arrest system components (e.g. body harness, lanyard, lifeline, declaration device, anchorage connector, anchorage point) shall be engineered and installed, inspected, used and maintained in accordance with the manufacturer's instructions.

6.3 All fall restraint and personal fall arrest system components shall be inspected daily prior to use by both the competent person and authorized person. Any damaged components shall be immediately removed from service.

6.4 Horizontal lifelines shall be designed, installed and used under the supervision of a qualified person.

6.5 Where feasible, active fall protection system components (e.g. horizontal lifelines, anchor points) shall be secured on structural members prior to these members being installed.

6.6 Personal fall arrest systems shall be rigged in a manner which prevents a worker from free falling more than 6 feet and making contact with anything below his/her work surface. These systems shall also be equipped with an energy absorbing device which limits maximum arresting force to 900 pounds or less.

6.7 Each worker shall be secured to an independent lifeline (horizontal or vertical) unless the lifeline is specifically designed to support more than one person.

6.8 The anchorage for personal fall arrest systems shall be independent of the anchorage for suspended platforms.

6.9 Knots shall not be tied in lifelines, lanyards or other active fall protection system components.

6.10 Concrete-embedded fall protection anchorage devices shall be designed and pull or drop tested by a qualified entity in accordance with New York City Department of Buildings regulations prior to use.

6.11 Chafing protection shall be used wherever fall restraint and personal fall arrest system components may come into contact with sharp edges.

6.12 Only shock absorbing lanyards shall be used. Lanyards shall be connected to the body harness D ring only. Lanyards shall not be tied back to themselves unless specifically designed for that purpose. Lanyards shall not be connected in series. Retractable lanyards shall be connected directly to the body harness D ring.

Related Safety Policies

120: Construction Contractor Safety Requirements
138: Confined space entry
163: Ladders, scaffolds and aerial lifts

Issue date	May 1, 2012
Replaces	New
Reviewed by	J. Goldberg, Environmental Health and Safety R. Cohen, Facilities Operations S. Eisenberg, Legal Counsel A. Holder, Environmental Services T. Howard, RED+F Construction R. Maffia, RED+F Construction C. Pedersen, Facilities Operations D. Rubbo, HJD Facilities Engineering P. Schwabacher, Facilities Management A. Paterno, Holland and Knight NYUHC Environment of Care Committee

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

To ensure the safety of patients, employees and visitors by providing a protocol for reporting to building occupants and the local fire department (FDNY) the presence and location of a fire, even during a power failure.

POLICY AND GENERAL REQUIREMENTS

1.0 **Policy:** Upon discovery of smoke or fire, the fire alarm shall be pulled and the protocol described in this policy shall be followed. The potential for underestimating the seriousness of a fire dictates no exceptions to this policy.

2.0 **General Fire Emergency Instructions - RACE**

2.1 Rescue

Remove all person(s) in immediate danger to a safe area away from the fire. Shout out the code phrase "Code Red." Never call out the word "Fire" during a fire emergency.

2.2 Alarm

2.2.1 If a fire is suspected or discovered, pull the nearest fire alarm in order to get help. This is essential because small fires can rapidly become out of hand.

2.2.2 To **activate the alarm**:

- open the door of the alarm box, if so equipped
- pull the lever down completely
- release the lever

2.2.3 Coded bells or tones are sounded throughout the superblock, HJD and Hassenfeld. Charts located near pull stations decode the location of alarm pulled.

2.2.4 At the Clinical Cancer Center, Outpatient Ambulatory Surgery and other non-hospital buildings the alarm sounds on the floor of the incident and the floor above. A signal may also be heard on other floors.

2.2.5 Call the emergency number and tell the operator *your name, extension* and the *location of the fire or smoke condition,* including the *building, floor and room number.*

- At the superblock call Communications at 33-911
- At HJD call 3911
- Off-site locations call the facility's emergency number or NYC's 911

2.3 Contain or Confine

2.3.1 Close all windows and doors in the area to prevent the spread of fire and smoke.

2.3.2 If patient room is supplied with oxygen and there is a fire in **that** room, shut off oxygen supply after obtaining the head nurse's permission.

2.3.3 Turn off electrical equipment, e.g., computers, copiers and non-essential clinical apparatus, if safe to do so. Leave the lights on.

2.3.4 Remove gas cylinders and flammable liquids from the immediate fire vicinity, if safe to do so.

2.4 Evacuate or Extinguish

2.4.1 *Patient Areas*
If evacuation is ordered, move patients horizontally to the other side of the fire/smoke doors to the Initial Refuge Area, as per the Evacuation Plan for the area. If patients are not in immediate danger, have them remain in patient rooms with the door closed or in the Solarium until the "All Clear" is sounded.

2.4.2 *Clinical Areas (Operating Room, Diagnostic and Therapeutic Areas)*
If patients undergoing an operation or treatment are in immediate danger, move them, under the direction of the operating room physician, nurse, therapist or technician in attendance. If the patients are not in immediate danger, keep them in the operating or treatment rooms until the "All

Clear" is sounded or until instructed to do otherwise by the FDNY or the Fire Marshall.

2.4.3 *Laboratories, Office Areas, Classrooms, Public Areas*

- *All occupants of the floor where the fire condition exists*: Using the nearest exit or exit stairway, evacuate to at least two floors below the fire location or to a safe place out of the building. Do not use elevators when evacuating from these areas.

- *Occupants of non-fire condition areas*: Remain inside office, classroom or laboratory with the door closed until the "All Clear" is sounded or until instructed to do otherwise by the FDNY or the Fire Marshall.

2.4.4 *Greenberg Hall, Skirball Building, 660 First Ave., Clinical Cancer Center*
Follow the instructions of the floor warden or Fire Safety Director. If there is a fire or smoke condition, evacuate via stairs to two floors below fire floor or out of the building. Do not use elevators when evacuating from these areas unless instructed by the FDNY.

2.4.5 *Other off-site facilities*
Follow the instructions provided by the building management.

2.4.6 Do not fight fire alone. Only attempt to extinguish small fires. Position yourself near an exit in case fire becomes out of control. Be familiar with types of fire extinguishers, their location, and how to use extinguishers.

2.4.7 When using a fire extinguisher, remember **PASS:**

- **P**ull the pin
- **A**im the hose at the base of the fire
- **S**queeze the handle
- **S**weep the hose from side to side

3.0 All Clear

3.1 All fire emergency protocols must remain in effect until the "All Clear" is announced or sounded.

3.2 On the main campus, two bells are sounded and the operator announces "Attention, Attention, Attention, Code Red, all clear". In Greenberg Hall,

Skirball, the Cancer Center and 660 First Ave., the Fire Safety Director will announce the end of the alarm condition. In off-site facilities, follow "All Clear" procedures in the fire safety plans at those sites.

4.0 Fire Marshall During Off-hours

4.1 During the hours of 5 P.M. through 9 A.M. and weekends the protocol remains the same with the exception that the Communications Department operator notifies Environmental Health and Safety (EH&S).

4.1.1 The on-call EH&S member is contacted via the EH&S on-call cell phone.

4.1.2 In the event that the on-call EH&S member cannot be reached, the operator uses the EH&S call list to notify another EH&S member.

5.0 Fire Condition Notification During a Full Power Failure

5.1 In the event of a power failure to the normal electrical supply, the emergency power system provides electrical service to the alarm system (see Safety Policy 117).

5.2 If the interior alarm system is out of service as a result of the failure of both systems the following procedures shall be followed:

5.2.1 Any person discovering a fire should immediately call the emergency number (see section 2.2.5) and tell the operator their *name, extension* and *the location of the fire or smoke condition* including the *building, floor and room number.*

5.2.2 The operator shall immediately notify the FDNY and alert EH&S, Security, and Facilities Operations personnel of the location of the fire and its origin.

5.3 If the interior fire alarm system will be disabled for more than 4 hours in a 24 hour period, personnel shall establish a fire watch (see Safety Policy 145: Interim Life Safety Program).

Issue date	4/12
Replaces	10/11
Reviewed by	B. Bjornstad, Environmental Health and Safety T. Fascianella, HJD Loss Prevention J. Leszkiewicz, Facility Manager, Clinical Cancer Center

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

To inform employees and contractors of measures to be taken to prevent fires.

POLICY AND GENERAL INFORMATION

All employees and contractors must be aware of potential fire hazards, and every effort must be made to prevent fires. This policy highlights fundamentals that should be reviewed by all NYULMC personnel and contractors. It is supplemental to the Fire Safety Handbook, which outlines in detail procedures to be followed in the event of a fire. The Handbook may be accessed via the NYULMC Environmental Health & Safety (EH&S) website.

1.0 Housekeeping

Good housekeeping prevents fires from starting. All NYULMC staff and contractors must practice workplace housekeeping. Areas of specific attention include the following:

1.1 Strict control shall be maintained over the delivery, distribution, storage, and use of flammable and combustible liquids and products. Such materials shall only be stored in approved containers, and instructions regarding their storage must be strictly followed.

1.2 Waste baskets shall not exceed 32 gallon capacity in any room that does not meet Life Safety Code requirements for a hazardous area (e.g., waste storage room). Large, mobile waste carts (exceeding 32-gallon capacity) shall be attended when in corridors. All unattended mobile waste carts shall be stored in a room designed and maintained as a hazardous area.

1.3 Waste rags and cloths used with solvents shall only be stored in approved containers in accordance with the material safety data sheet for the specific chemical product.

1.4 Control must be established over shop materials such as paints, thinners, scrap, shavings and other housekeeping department materials, including solvents and caustics.

1.5 Spray painting with lacquers and oil-based paint is extremely hazardous. Such work shall be restricted to specially shielded and ventilated areas. Any tools used in these areas should be nonferrous and non-sparking.

1.6 All sizes and types of film and computer tapes, used or unused, must be stored in approved areas.

1.7 Compressed gas cylinders shall be handled in accordance with Safety Policy 102: Compressed Gas Cylinders: Safe Storage, Handling & Use.

1.8 Compressed gas cylinders used on construction sites shall be stored in accordance with New York City laws and only in locations approved by both the New York City Fire Department and NYULMC's Fire Safety Director. Compressed gas cylinders containing oxygen and flammable gas shall be removed from the building when not in use and at the end of each work day.

2.0 Engineering Controls and Maintenance

2.1 Only explosion-proof refrigerators shall be used for refrigerated storage of flammables.

2.2 Electrical installations shall be made in accordance with the NFPA National Electrical code and local codes.

2.3 Heating and ventilating equipment shall meet appropriate codes and shall only be altered by qualified engineers.

2.4 The use of portable heaters and temporary heat in construction areas is prohibited unless specifically authorized by EH&S.

2.5 Use of three-to-two prong adapters is not permitted. All cord-connected electrically powered appliances that are not Double Insulated shall be provided with a three-wire power cord and a three-pin grounding-type plug.

[Symbol for Double Insulation: ]

2.6 Electrical installations or repairs shall only be performed by Facilities Operations personnel and licensed electrical contractors.

2.7 Any equipment with a damaged power cord shall be immediately removed from service, marked, and sent for repair.

2.8 Due to the fire hazard they pose, the use of incandescent, halogen, quartz, tungsten and other "hot" lighting is prohibited on construction sites. Fluorescent and LED lighting are acceptable alternatives.

2.9 The use of plastic light sockets is prohibited. All light sockets must be ceramic.

3.0 **Administrative Practices**

3.1 Smoking is prohibited at all NYULMC facilities (see Safety Policy No. 104, Tobacco Free Facilities).

3.2 Patients in oxygen tents are prohibited from using any electrical appliances or spark producing sources (e.g., bed controls, signal cords, heating pads, razors, radios, sparking toys, etc.).

3.3 Contractors shall be informed of fire safety practices pertinent to their work site (e.g., the presence of flammable materials and flammable material storage practices).

3.4 In construction areas, materials introduced into the site by the contractor (e.g. plywood, plastic sheeting, tarps, debris netting) shall be fire-retardant. The flammable and combustible load shall be maintained at the lowest level feasible. Flammable and combustible liquids and products in excess of 5 gallons shall be stored in an OSHA/NFPA approved fire safety cabinet with self-closing doors. Material safety data sheets (MSDSs) for all products shall be readily available on site. Unless specifically approved by EH&S, chemicals and products used in construction areas shall:

- contain no volatile organic compounds (VOC)
- be low-odor
- have a health, flammability and reactivity rating of "1" or less on a scale of zero to four

3.5 Due to the fire hazard, the use of heating appliances is restricted.

- The use of hot plates, toasters, toaster ovens, grills, crock pots, sternos and similar food heating appliances and equipment is prohibited in Hospital Center staff lounges and on construction sites.
- The use of coffee makers and microwave ovens, with a prohibition of microwave popcorn, is permitted in staff lounges but not on construction sites.

Related policies:

102: Safe Storage, Handling and Use of Compressed Gas Cylinders
103: Handling and Storage of Flammable and Explosive Chemicals in Laboratories
104: Tobacco Free Facilities
108: Chemical Waste Minimization and Disposal Program
108a: Hazardous Waste from Contractors (Construction and Building Maintenance)
120: Contractor Safety Requirements
126: Fire Safety Requirements for Interior Finish Materials
133: Installation and Testing of New Medical Gas Outlets/Piping
143: Hot Work
145: Interim Life Safety Measures
147: Penetration of Fire/Smoke Barrier
157: Electrical Safety
202: Fire Prevention in Oxygen Storage and Enriched Atmospheres
203: Electrical Equipment, Privately Owned
207: Portable Space Heaters

EH&S Website: http://redaf.med.nyu.edu/safety/environmental-health-safety

Issue date	10/13
Replaces	04/12
Reviewed by	P. Aguilar, Building Services Department R. Cohen, Facilities Operations J. Fabbricante, Facilities Operations S. Haney, Environmental Health and Safety R. Kishun, Clinical Engineering B. Maffia, Facilities Construction NYUHC Environment of Care Committee

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

- To ensure that interior finish materials selected for installation will not pose an unacceptable fire hazard due to their ease of ignitibility and subsequent evolution of smoke and toxic by-products.
- To ensure that these materials meet or exceed all applicable statutory and voluntary standards.

POLICY AND GENERAL INFORMATION

Interior finish materials used at NYULMC shall meet or exceed the requirements of NFPA 101, The Life Safety Code, and the New York City Building Code Sections 27-348 through 27-351.

The following are minimum performance requirements:

1.0 Newly installed interior finish materials used on fixed and movable walls, columns, partitions or ceilings will be rated as Class A when tested in accordance with NFPA 255 (Method of Testing of Surface Burning Characteristics of Building Materials) or ASTM E-84.

1.1 Existing interior finish materials rated Class B in accordance with NFPA 255 may continue in use until replaced.

1.2 Class A Interior Finish: Flame Spread 0-25; Smoke Developed 0-450
Class B Interior Finish: Flame Spread 26-75; Smoke Developed 0-450

1.3 Paint or wall coverings not exceeding 1/28 inches in thickness and applied directly to a noncombustible substrate are exempt from this requirement.

1.4 Class A and B materials correlate directly to Class 1 and 2 materials as used in the Basic/National Building Code and the Uniform Building Code.

2.0 Newly installed interior floor finish in corridors and exits shall be Class 1 rated in accordance with NFPA 253 (Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source) or ASTM E-648 and shall not exceed 300 for smoke development when tested under ASTM E-662.

2.1 Existing interior floor finish rated Class 2 or better may continue in corridors until replaced.

2.2 Minimum Critical Radiant Flux, as per NFPA 253:
Class I: 0.45 watts per square centimeter

Class II: 0.22 watts per square centimeter

2.3 Interior floor finish in other spaces that are not corridors or means of egress may be Class I, Class II, or meet Federal Flammability Standard FF-1-70 "Pill Test".

2.4 Floor covering such as carpeting, when used on walls or ceilings shall meet the Class A rating of NFPA 255.

3.0 Fabrics and other decorations not applied to a solid backing shall be rated Class I when tested in accordance with NFPA 701(Standard Methods of Fire Tests for Flame Resistant Textiles and Films). This includes drapes, curtains, and fabric covered furnishings.

4.0 Upholstered furniture and mattresses in clinical spaces shall meet the applicable codes in NFPA 101, the Life Safety Code.

5.0 It is the responsibility of the department purchasing the material to ensure that it meets the requirements of this policy. Environmental Health and Safety (EH&S) will conduct periodic review of flammability test reports for materials purchased and will evaluate materials for purchase or make recommendations upon request. Where materials submitted have not been tested, EH&S can arrange for testing by an accredited outside laboratory to determine compliance with this policy.

Issue date	04/12
Replaces	09/06
Reviewed by	E. Figueroa, Environmental Health & Safety

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

To establish a procedure for ensuring fire safety is not compromised when there is an impairment of the fire sprinkler/standpipe system.

POLICY AND GENERAL INFORMATION

1.0 Impairment of the fire sprinkler/standpipe system can happen because of a planned renovation, alteration, new construction or maintenance of the system. Facilities Management will initiate the necessary actions mentioned below to ensure that the impairment does not compromise safety at NYULMC.

2.0 All contractors shall arrange isolation of the sprinkler standpipe system with the Director of Engineering in Facilities Management.

3.0 If an impairment of the fire sprinkler/standpipe system is required or occurs because of a maintenance problem, Facilities Management will notify the NYC Fire Department (FDNY), Environmental Health and Safety (EH&S), and the Security Department of the impairment.

3.1 Facilities Management will notify Factory Mutual Insurance Company.

3.2 If the impairment will last longer than 4 hours in a 24-hour period or occurs outside of normal working hours, Facilities Management will request that the Security Department or an outside Contractor provide a fire watch in the location of the impairment.

4.0 When the fire sprinkler/standpipe system has been returned to normal operation, Facilities Management will notify the FDNY, EH&S and the Security Department.

4.1 Facilities Management will notify Factory Mutual Insurance Company.

5.0 Facilities Management will maintain records of the impairment.

Issue date	01/14
Replaces	09/06
Reviewed by	J. Goldberg, Environmental Health and Safety B. Lorino, Facilities Operations NYUHC Environment of Care Committee

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

- To provide non-laboratory* employees with information about the identities and hazards of the chemicals with which they work and the protective measures that are available to prevent adverse effects from exposure to these chemicals.
- To comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

* Laboratory employees are covered by Safety Policy 134, the Chemical Hygiene Plan.

POLICY AND GENERAL INFORMATION

1.0 Introduction

In 2012, OSHA revised its Hazard Communication Standard (HCS) to align with the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Two significant changes contained in the revised standard require the use of new labeling elements and a standardized format for Safety Data Sheets (SDSs), formerly known as, Material Safety Data Sheets (MSDSs). The new label elements and SDS requirements will improve worker understanding of the hazards associated with the chemicals in their workplace. To help companies comply with the revised standard, OSHA is phasing in the specific requirements over several years (December 1, 2013 to June 1, 2016).

NYULMC is committed to providing employees with the information and training they need to work safely with hazardous chemicals. This policy describes the Hazard Communication Program, which was developed and implemented to address this commitment. The policy describes the following key elements of the program:

- hazard classification
- chemical inventory
- labels
- material safety data sheets/safety data sheets
- information and training
- non-routine tasks
- notification of contractors

2.0 Definitions

- **Article** means a manufactured item that satisfies the following:
  - is formed to a specific shape or design during manufacture
  - has end use function(s) dependent in whole or in part upon its shape or design during end use
  - under normal conditions of use, does not release more than minute or trace amounts of a hazardous chemical and does not pose a physical hazard or health risk to employees

  Examples of articles include thermometers, sphygmomanometer, glassware, etc.

- **Chemical** means any element, chemical compound, or mixture of elements and/or compounds.

- **Container** means any bag, barrel, bottle, box, can, cylinder, drum, jar, storage tank or vessel that contains a hazardous chemical, not including pipes or piping systems.

- **Hazardous chemical/product** means any chemical or product that is a physical or a health hazard.

- **Material Safety Data Sheet (MSDS)** means written or printed material concerning a hazardous chemical, prepared in accordance with OSHA's HCS requirements and including at least the identity of the chemical, physical and chemical characteristics, physical hazards, health hazards, primary routes of entry, exposure limits, safe handling procedures, control measures, emergency and first aid procedures, and manufacturer information. In accordance with the 2012 revisions to the HCS, the MSDS will be replaced by the **Safety Data Sheet (SDS)**, which will follow a standardized format and include 16 mandated sections (see Appendix A).

3.0 Exemptions

The following materials are exempted from the Hazard Communication Program.

- articles (see Section 2 for definition)
- consumer products and hazardous substances, as those terms are defined in the Consumer Product Safety Act and Federal Hazardous Substances Act respectively, where they are used in the workplace for the purpose intended by the manufacturer or importer of the product, and the use results in a duration and frequency of exposure which is not greater than the range of exposures that could reasonably be experienced by consumers when used for the purpose intended

- cosmetics that are packaged for sale to consumers and cosmetics intended for personal consumption by employees while in the workplace
- drugs, as defined in the Federal Food, Drug, and Cosmetic Act, in solid, final form for direct administration to a patient (e.g., tablets or pills), drugs packaged by the manufacturer for sale to consumers in a retail establishment (e.g., over-the-counter drugs), and drugs intended for personal consumption by employees while in the workplace (e.g., first aid supplies)
- food or alcoholic beverages that are sold, used, or prepared at the medical center, and foods intended for personal consumption by employees while at work
- hazardous chemical waste (see Safety Policy 108 for definition)
- tobacco and tobacco products
- wood and wood products, including lumber that will not be processed, where the only hazard they pose to employees is the potential for flammability or combustibility (wood or wood products that have been treated with a hazardous chemical, and wood that may be subsequently sawed or cut, generating dust, are not exempted)

4.0 Hazard classification

NYULMC relies on the hazard classification determined by the manufacturer, importer, or distributor of a chemical or product. This information is indicated on the chemical or product label and the MSDS/SDS.

5.0 Chemical inventory

- The Director of each department/departmental subunit is responsible for ensuring that designated departmental staff maintains a current inventory of hazardous chemicals/products that are stored or used within the department/departmental subunit.
- A copy of the inventory, in alphabetical order, shall be used as an index to the department/departmental subunit's MSDS/SDS binder (see section 7).
- The inventory shall be updated as often as necessary, but at least annually.
- Annually upon request, the current inventory shall be submitted to the following departments for incorporation into NYULMC's annual Community Right-to-Know Reports: Environmental Health and Safety (EH&S) for the main campus and Environmental Services for the HJD campus. These reports shall function as comprehensive chemical inventories for medical center facilities.

6.0 **Labels**

- Each chemical user is responsible for ensuring that containers of hazardous chemicals/products are labeled, tagged, or marked with the common name of the contents and all necessary hazard warnings.
- The manufacturer's and/or vendor's labels shall be maintained on all containers of hazardous chemical/products received at NYULMC. In accordance with the 2012 revisions to the HCS, by June 1, 2015 chemical manufacturers and importers will be required to provide a label that includes:
    - product identifier
    - signal word ("danger" or "warning")
    - hazard statement(s)
    - pictogram(s)
    - precautionary statement(s)
    - name, address and telephone number of manufacturer, importer or distributor

  See Appendix B for an example of a label with the 6 GHS labeling requirements, and the pictograms.

- When hazardous chemicals/products are dispensed into other containers, those containers shall be labeled either by following the GHS labeling requirements, or at a minimum with the common name of the chemical/product and appropriate hazard warnings, and accompanied by the MSDS/SDS. Blank labels are available from EH&S.
- Pipes containing hazardous chemicals shall be labeled to identify their contents.

7.0 **MSDS/SDS**

- The Director of each department/departmental subunit is responsible for ensuring that designated departmental staff maintains binders of MSDSs/SDSs for all products listed in their chemical inventory.
- Information on how to obtain MSDSs/SDSs is available on the intranet at http://redaf.med.nyu.edu/safety/environmental-health-safety/msds-links
- MSDS/SDS binders shall be readily accessible to employees in their work areas.

- A hazardous chemical/product shall not be used until the MSDS/SDS is obtained and incorporated into the binder.
- EH&S maintains a collection of MSDSs/SDSs for hazardous chemicals/products commonly used in the medical center.
- MSDSs and SDSs may be used interchangeably through the transition period, until June 2015, at which time only SDSs shall be used.

8.0 **Information and training**

- The Director of each department/departmental subunit is responsible for ensuring that departmental employees receive information and training on all hazardous chemicals/products stored or used within the department/departmental subunit.
- The following topics shall be covered:
  - the requirements of the OSHA HCS
  - a description of the medical center's Hazard Communication Program, its location and availability
  - where to find MSDSs/SDSs and how to use them, including information on the standardized 16-section format
  - training on label elements
  - operations where chemicals/products are present, and the hazards associated with chemicals/products with which the employees work
  - the procedures employees should follow to protect themselves when working with hazardous chemicals/products
  - how to detect exposures to hazardous chemicals/products
  - the signs and symptoms of exposure to hazardous chemicals/products
  - procedures to follow in the event of an exposure to a hazardous chemical/product
- Information and training shall be provided initially, when new hazards are introduced, and when there is a change in the HCS.
  - All new employees shall be provided with general information and training during Human Resources' New Beginnings. Supervisors shall supplement this with training specific to an employee's work assignments.
  - Upon request, EH&S shall provide department-specific refresher training. It is the responsibility of the department to make employees available for this training.

- The Director of each department/departmental subunit shall ensure that all training is documented.

9.0 **Non-routine tasks**

- The Director of each department/departmental subunit is responsible for ensuring employees receive supplemental training before assigning them to non-routine tasks involving hazardous chemicals/products.
- Additional training shall be provided and documented each time a non-routine task is assigned.
- Upon request, EH&S will assist with this training.

10.0 **Notification of contractors**

- Employees who retain contractors are responsible for ensuring that the contractors have a program that is consistent with the medical center's Hazard Communication Program.
- Each contractor shall provide the NYULMC employee who retained them with copies of MSDSs/SDSs for all hazardous chemicals/products the contractor will store or use at the medical center. The contractor shall do so prior to bringing chemicals/products on site. Each contractor must also inform their NYULMC contact of all necessary precautionary measures. Upon request, copies of MSDSs/SDSs shall be forwarded to EH&S (main campus) or Environmental Services (HJD campus).
- Employees who retain contractors shall ensure that their contractors are notified of potential physical or health hazards present in the project work area and, upon request, provide contractors with access to MSDSs/SDSs for materials within this work area. Employees must document all notification given to contractors and forward copies of such documentation to EH&S upon request.

Appendix A	Safety Data Sheet (SDS) Sections
Appendix B	Sample Label and Pictograms

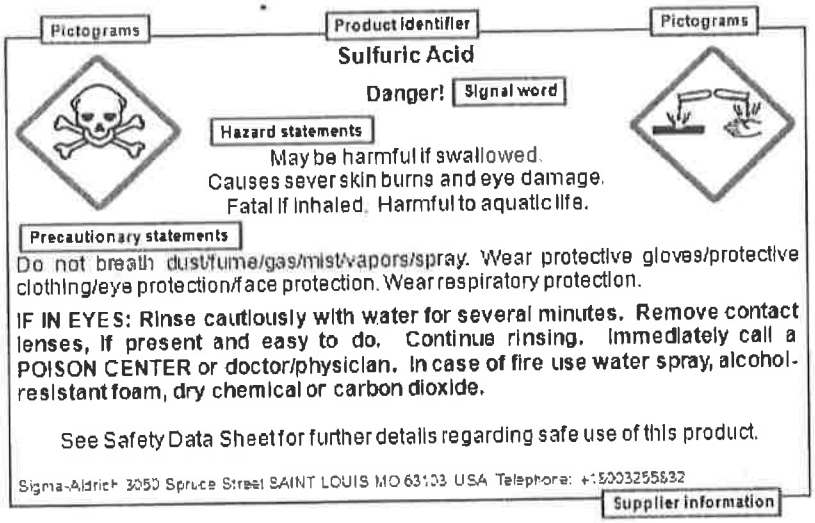
Issue date	11/13
Replaces	2/11
Reviewed by	J. Goldberg, Environmental Health and Safety T. Fascianella, Director of HJD Loss Prevention NYUHC Environment of Care Committee

SAFETY DATA SHEET (SDS) SECTIONS

No.	Section Name	Information included
1	Identifications	Product identifier, manufacturer/distributor information, emergency number
2	Hazard(s) identification	Class/category, signal word, HNOC, mixture comment
3	Composition/ingredients	Common chemical name, CAS, ingredient %
4	First-aid measure	Necessary measures, symptoms/effects
5	Fire-fighting measure	Recommendations for fighting a fire caused by a chemical
6	Accidental release measures	Precautions, PPE, emergency procedures
7	Handling and storage	Guidance on safe handling and conditions for safe storage
8	Exposure controls/Personal protection	Exposure limits, engineering controls, and personal protective measures
9	Physical/chemical properties	Appearance, odor threshold, pH, flash point, LEL/UEL
10	Stability and reactivity	Possible hazardous reactions, incompatible materials
11	Toxicological information	Routes of exposure, acute/chronic exposure symptoms
12 13 14 15	Ecological information Disposal consideration Transport information Regulatory information	Not within OSHA's jurisdiction
16	Other information	Date of preparation/last revision

SAMPLE LABEL

WITH 6 REQUIRED LABEL ELEMENTS



PICTOGRAMS

Health Hazard

- Carcinogen
- Mutagenicity
- Reproductive Toxicity
- Respiratory Sensitizer
- Target Organ Toxicity
- Aspiration Toxicity

Flame

- Flammables
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Self-Reactives
- Organic Peroxides

Exclamation Mark

- Irritant (skin and eye)
- Skin Sensitizer
- Acute Toxicity
- Narcotic Effects
- Respiratory Tract Irritant
- Hazardous to Ozone Layer (Non-Mandatory)

Gas Cylinder

- Gases Under Pressure

Corrosion

- Skin Corrosion/Burns
- Eye Damage
- Corrosive to Metals

Exploding Bomb

- Explosives
- Self-Reactives
- Organic Peroxides

Flame Over Circle

- Oxidizers

Environment

(Non-Mandatory)

- Aquatic Toxicity

Skull and Crossbones

- Acute Toxicity (fatal or toxic)

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

- To protect human health and the environment through the proper management and disposal of hazardous waste, universal waste, and used oil from contractors.
- To comply with all applicable federal, state, and local laws and regulations.

POLICY AND GENERAL INFORMATION

1.0 Contractors who work on construction, renovation, or building maintenance projects at NYULMC shall collect, store, label, transport and discard universal and hazardous wastes and used oil in accordance with all applicable federal, state and local laws and regulations.

2.0 RESPONSIBILITIES

2.1 **Environmental Health and Safety (EH&S)** is responsible for:

- disseminating information about pertinent laws and regulations to NYULMC personnel
- developing *Policy 108a: Hazardous Waste from Contractors (Construction and Building Maintenance)* (the Policy)
- assisting departments in implementing the Policy, including providing guidance and recommending contract language for construction, renovation and building maintenance contracts (see Appendix A)
- approving the *Universal and Hazardous Waste Compliance Plan* (see Appendix B) for each construction and renovation project, and for each contractor engaged in building maintenance
- maintaining manifests
- conducting random quality assurance (QA) inspections of construction and renovation projects to verify compliance with this Policy
- periodically reviewing and updating the Policy as needed

2.2 **The Vice Presidents and Directors of Building Services, Environmental Services, Facilities Operations, Information Technology, Real Estate and RED+F Design and Construction** are responsible for compliance within their departments and divisions. Their responsibilities include, but are not limited to ensuring all of their employees and contractors implement the Policy on construction, renovation, and building maintenance projects.

2.3 **Foremen, Managers** and **Project Managers** (e.g., design, construction, renovation, operations, maintenance, and cable management) are responsible for implementing and maintaining the Policy on their projects. Their responsibilities include, but are not limited to:

- managing their respective construction, renovation, and building maintenance projects in accordance with this Policy, including ensuring that contracts for their projects contain language (see Appendix A) that clearly defines the responsibilities of the contractors for properly managing hazardous waste, universal waste and used oil
- completing a *Universal and Hazardous Waste Compliance Plan* (see Appendix B) for each of their construction and renovation projects, and for each building maintenance contractor, and obtaining approval for the *Compliance Plan* from EH&S prior to the start of the project
- ensuring their contractors use only NYULMC's approved hazardous waste contractors for the removal and disposal of hazardous waste, universal waste and used oil, unless EH&S approves project-specific alternate contractor(s)
- coordinating implementation of the project-specific *Compliance Plan* for each project
- during daily inspections of their construction/renovation project sites, verifying that their contractors have implemented the *Compliance Plan* and that hazardous waste, universal waste and used oil are being managed properly
- ensuring that all hazardous waste, universal waste and used oil from their construction, renovation, and building maintenance projects are disposed of properly
- ensuring their contractors remove all hazardous materials, petroleum products, hazardous waste, universal waste, and used oil from their project sites at the conclusion of projects, unless otherwise instructed
- correcting problems found on their projects

3.0 SPECIFIC WASTES

This section addresses hazardous waste, universal waste, and used oil, the three most common hazardous waste streams generated on construction, renovation, and building maintenance projects.

3.1 **Hazardous waste** includes:

- waste paint, varnish, solvent, sealers, thinners, resins, roofing cement, adhesives, machinery lubricants and caulks
- clean-up materials, such as rags, contaminated with the items listed above, unless test result document that they are not hazardous
- drums and containers that are not completely empty of the items listed above
- spent aerosol cans that once contained flammable or toxic solvents and/or propellants
- used light ballasts, transformers and capacitors unless labeled "non-PCB"
- broken fluorescent light tubes
- broken mercury switches and thermostats
- lead based paint (unless test results document it is not hazardous), lead flashing, lead solder or other lead containing material (e.g., used for shielding)
- other paint with hazardous components or heavy metals

- All hazardous waste must be labeled as "Hazardous Waste" and list the components of the waste (e.g., "used paint thinner") on the label.
- All hazardous waste must be kept in closed containers.
- All hazardous waste must be transported by a licensed hazardous waste hauler to a disposal facility permitted by the U.S. Environmental Protection Agency (EPA) and approved by EH&S.
- When feasible, the contractor should be listed as the waste generator on hazardous waste manifests.

3.2 **Universal wastes:** Some hazardous wastes are less stringently regulated IF they are recycled. Examples of universal waste include unbroken fluorescent light lamps, unbroken mercury containing equipment, batteries (except alkaline) and unused pesticides. *Note:* If they are not recycled, universal wastes must be managed as hazardous waste. See *Policy 108c: Universal Waste.*

3.3 **Used oil** includes:

- hydraulic fluid
- motor oil
- grease
- clean-up materials, such as rags, contaminated with used oil

- All used oil shall be labeled "Used Oil" and must not be labeled "Hazardous Waste".
- Used oil shall be placed in secondary containment if it is stored in the vicinity of floor drains or could reasonably be expected to enter the sanitary or storm sewer if spilled.
- All used oil shall be transported to a recycling facility permitted by the EPA and approved by EH&S.

4.0 PROCEDURES

4.1 Prior to the start of each construction, renovation, and building maintenance project, NYULMC's project director or manager shall do the following:

- ensure appropriate language is included in the construction/maintenance contract(s) (see Appendix A)
- work with EH&S and the contractor(s) to develop a *Universal and Hazardous Waste Compliance Plan* (see Appendix B), and to determine which of NYULMC's EPA ID#s will be used on waste manifests
- obtain approval from EH&S for the *Compliance Plan*, distributes copies to pertinent contractors and EH&S, and incorporate a copy into the project file
- educate pertinent contractors and staff about the requirements of the *Compliance Plan*
- verify implementation of applicable compliance measures (e.g. training on the *Compliance Plan*, placement and labeling of appropriate waste containers)
- if waste shall be removed by contractors other than NYULMC's approved hazardous waste contractors:
  - obtain the names of and EPA ID numbers for all facilities that will be used for hazardous waste and used oil and forward this information to EH&S for approval

- obtain the names of all destination facilities that will be used for universal waste and forward this information to EH&S for approval

4.2 During a construction or renovation project, NYULMC's project director or manager shall inspect the project site daily to verify that hazardous waste, universal waste and used oil are being collected, labeled, stored, removed, transported and discarded properly.

4.3 During a construction, renovation, or building maintenance project, NYULMC's project director or manager shall do the following:

- ensure that EH&S receives copies of all manifests for hazardous waste and universal waste within 48 hours of the time the manifest is signed
- bring problems to the attention of the appropriate personnel and ensure they are resolved promptly

Related Safety Policies

Policy No. 108: Chemical Waste Minimization and Disposal Program

Policy No. 108c: Universal Waste

Policy No. 144: Lead Management Program

Appendix A Sample Contract Language
Appendix B Universal and Hazardous Waste Compliance Plan

Issue date 12/13
Replaces 09/06
Reviewed by J. Kang, Environmental Health and Safety
P. Aguilar, Building Services
R. Cohen, Facilities Operation
B. Everett, Real Estate and Housing
A. Holder, Environmental Services
P. Schwabacher, Facilities Management
NYUHC Environment of Care Committee

Revised: December 2013

Sample Contract Language

NYULMC requires that all outside contractors comply with all EPA regulations. NYULMC intends for the contractor to be fully responsible for all EPA compliance.

There are various types of contracts that may have EPA compliance issues. The following lists several types of contracts, with language for environmental issues. It is recommended this type of language be considered for inclusion when developing contracts, specifications, contract drawings, and scopes of work.

1. ELEVATOR MAINTENANCE

The work shall comply with all applicable local, state and federal environmental regulations, including, but not limited to the following:

- The on-site personnel must be familiar with the NYULMC Spill Prevention, Control and Countermeasures (SPCC) Plan, and be trained in procedures to follow in the event of an oil spill.
- All substance containers shall be labeled as to their contents and kept closed.
- Safety Data Sheets for all chemicals brought onto the premises shall be present at the location of work, such as the elevator motor rooms.
- All containers of used oil (hydraulic, motor, grease, etc.) must be clearly labeled with the words "Used Oil".
- If 55-gallons or more of used oil is to be transported at any time, the transporter must have an EPA identification number.
- It is the contractor's responsibility to collect and contain oily rags in covered, properly labeled containers. The contractor shall provide containers in all of the elevator motor rooms with gear-type elevators. The contractor is responsible for timely disposal of the rags.
- The contractor is prohibited from using or storing chlorinated solvents on NYULMC property.
- Any hazardous chemical waste (not used oil) must be labeled as "Hazardous Waste", and the components of the waste listed. Any hazardous waste maintained on site must be kept in a closed container. The waste must be properly disposed of through a licensed hazardous waste hauler, approved by NYULMC, at an EPA-permitted facility. The contractor shall be listed as the waste generator. A copy of the hazardous waste manifest must be supplied to the NYULMC project manager. Spent aerosol cans that once contained flammable or toxic solvent/propellant are considered hazardous waste.

2. HVAC MAINTENANCE

The work shall comply with all applicable local, state and federal environmental regulations, including, but not limited to the following:

- All technicians on NYULMC property who work with refrigerants must have Universal Certification, and a copy provided to the NYULMC project manager.
- Service records must indicate the amount and type of refrigerant added to the system, as well as a description of the type of service performed.

- All recovery and recycling equipment must be certified to meet EPA's minimum requirements.
- Hazardous materials or petroleum products stored in the vicinity of floor drains, or could reasonably be expected to enter the sanitary or storm sewer if spilled, must have secondary containment.
- All substance containers shall be labeled as to their contents and kept closed.
- Safety Data Sheets for all chemical substances brought onto the premises shall be present at the location of work.
- All containers of used oil must be clearly labeled with the words "Used Oil".
- If 55-gallons or more of used oil is to be transported at any time, the transporter must have an EPA identification number, and the NYULMC project manager provided with the information.
- Any hazardous waste (not used oil) must be labeled as "Hazardous Waste", and the components of the waste listed. The waste must be properly disposed of through a licensed hazardous waste hauler, approved by NYULMC, at an EPA-permitted facility. The contractor shall be listed as the waste generator. A copy of the hazardous waste manifest must be supplied to the NYULMC project manager.
- The contractor must remove all hazardous materials and petroleum products from the NYULMC project site at the conclusion of the project, unless specifically requested, in writing, to leave certain materials with the NYULMC project manager.

3. RENOVATION (PAINTING, CARPETING/FLOORING, DRYWALL, CEILING, PLUMBING, ETC.), ROOFING, METAL MAINTENANCE

The work shall comply with all applicable local, state and federal environmental regulations, including, but not limited to the following:

- All substance containers shall be labeled as to their contents, and containers kept closed.
- Safety Data Sheets for all chemical substances brought onto the premises shall be present at the location of work.
- Hazardous materials or petroleum products stored in the vicinity of floor drains, or that could reasonably be expected to enter the sanitary or storm sewer if spilled, must have secondary containment.
- All containers of used oil (hydraulic, motor, grease, etc.) must be clearly labeled with the words "Used Oil".
- The contractor is prohibited from using or storing chlorinated solvents on NYULMC property.
- The contractor is responsible for the proper storage, handling and removal from the NYULMC project site of all substances whose disposal may be regulated by the EPA, including but not limited to:
  - paints, paint wastes, lacquers, solvent thinners
  - any hazardous substances such as adhesives, contact cements, roofing products, mineral spirits, solvents, cleaners, etc.
  - oily or solvent-contaminated rags

- aerosol cans (spent or unspent)
- fluorescent light tubes
- light ballasts (collect PCB and non-PCB ballasts separately)
- batteries (except alkaline)

None of the above materials are to be disposed of as Construction and Demolition (C&D) waste, and should never be placed in the C&D dumpsters located on NYULMC property.

- Any hazardous waste (not used oil) must be labeled as "Hazardous Waste", and the components of the waste listed. The waste must be properly disposed of through a licensed hazardous waste hauler, approved by NYULMC, at an EPA-permitted facility. The contractor shall be listed as the waste generator. A copy of the hazardous waste manifest must be supplied to the NYULMC project manager.
- The contractor must remove all contract-related hazardous materials and petroleum products from the NYULMC project site at the conclusion of the project, unless specifically requested, in writing, to leave certain materials with the NYULMC project manager.

4. EMERGENCY GENERATOR MAINTENANCE

The work shall comply with all applicable local, state and federal environmental regulations, including, but not limited to the following:

- The on-site personnel must be familiar with the NYULMC Spill Prevention, Control and Countermeasures (SPCC) Plan, and trained in procedures to follow in the event of an oil or fuel spill.
- All substance containers shall be labeled as to their contents, and kept closed;
- Safety Data Sheets for all chemical substances brought onto the premises shall be present at the location of work.
- All containers of used oil (hydraulic, motor, grease, etc.) must be clearly labeled with the words "Used Oil".
- If 55-gallons or more of used oil is to be transported at any time, the transporter must have an EPA identification number.
- It is the contractor's responsibility to remove oily rags used on the premises in a timely manner.
- Waste batteries generated during the servicing of generators shall be handled and disposed of by the contractor as Universal Waste, according to the requirements of the New York State Department of Environmental Conservation.
- The contractor is prohibited from using or storing chlorinated solvents on NYULMC property.
- The contractor is prohibited from introducing used oil, sludge, cleaning products, or anything other than new fuel into the generator for burning.
- The contractor may not store chemical or petroleum products on NYULMC property. Any materials required for use on site must be brought to the site for service and removed immediately following service work.

Sample Contract Language

5. BUILDING CLEANING

The work shall comply with all applicable local, state and federal environmental regulations, including, but not limited to the following:

- All substance containers shall be labeled as to their contents.
- Safety Data Sheets for all chemical substances used on the premises shall be present at the location of work.
- Hazardous materials or petroleum products stored in the vicinity of floor drains, or that could reasonably be expected to enter the sanitary or storm sewer if spilled, must have secondary containment.
- The contractor is prohibited from using or storing chlorinated solvents on NYULMC property.
- The contractor is responsible for the proper storage and handling of all substances whose disposal may be regulated by the EPA, including but not limited to:
  - paints, paint wastes, lacquers, solvent thinners
  - any hazardous substances such as adhesives, contact cements, roofing products, mineral spirits, solvents, cleaners, etc.
  - oily or solvent-contaminated rags
  - aerosol cans (spent or unspent)
  - fluorescent light tubes
  - broken fluorescent light tubes (must be handled and disposed of as hazardous waste)
  - light ballasts (collect PCB and non-PCB ballasts separately)
  - batteries (except alkaline)

  Any of these materials encountered during the cleaning contractor's work shall be brought to the attention of Facilities Management, who will see to its proper disposal through EH&S. None of the above materials are to be disposed of as general building trash or Construction and Demolition (C&D) waste. Cleaning personnel assigned to NYULMC buildings shall attend special training provided by EH&S on the proper handling of the materials listed above.

6. WATER TREATMENT MAINTENANCE

The work shall comply with all applicable local, state and federal environmental regulations, including, but not limited to the following:

- All substance containers shall be labeled as to their contents.
- Safety Data Sheets for all chemical substances brought onto the premises shall be present at the location of work.
- Hazardous materials or petroleum products stored in the vicinity of floor drains, or that could reasonably be expected to enter the sanitary or storm sewer if spilled, must have secondary containment.
- The contractor must remove empty containers from the NYULMC property for proper disposal.

Sample Contract Language

7. RELAMPING

The work shall comply with all applicable local, state and federal environmental regulations, including, but not limited to the following:

- All used fluorescent bulbs shall be collected and stored in rigid containers, with tight fitting lids, and labeled "Universal Waste – Used Fluorescent Light Lamps", along with the date that the first tubes were placed in the container.
- All broken fluorescent light bulbs shall be handled, stored and disposed of as hazardous waste. Sealable containers shall be available on the project site for cleanup of any broken fluorescent tubes. All containers of broken tubes shall be labeled "Hazardous Waste – Broken Fluorescent Light Lamps".
- If more than 500 pounds of fluorescent tubes are transported at any one time, the transporter must have a hazardous waste transporter permit.
- All ballasts shall be collected. PCB and non-PCB ballasts shall be collected separately. Light ballasts not clearly labeled as "non-PCB" containing must be assumed to have PCBs. PCB containing ballasts shall be labeled as "hazardous waste – PCB containing ballasts", collected in sealable containers, and disposed of as hazardous waste.
- The ultimate destination facility for tubes and ballasts must meet the requirements of an EPA RCRA Treatment, Storage and Disposal Facility, and documentation of the facility provided to the NYULMC project manager.
- If a lamp-crusher is used on the NYULMC property, the bulbs must go to a mercury recycler, and documentation about the facility provided to the NYULMC project manager. Copies of waste manifests must be provided to NYULMC.

Universal and Hazardous Waste Compliance Plan

Location:	
NYUMC Project Coordinator:	**Project Start Date:**
Contractor Performing Work:	**Estimated Duration:**
Supervisor's Name:	**Telephone:**
Brief description of the project:	
Who will maintain SDS file? (Print name)	**Signature:** **Date:**
Who will train construction workers on proper waste disposal? (Print name)	**Signature:** **Date:**
Who will coordinate, manage & monitor waste storage & disposal? (Print name)	**Signature:** **Date:**
What Medical Center EPA ID# will be used on Waste Manifests?	
Who will sign waste manifests and forward them to the DEC? (Print name)	**Signature:** **Date:**
Who will ensure EH&S receives copies of all manifests? (Print name)	**Signature:** **Date:**
Who will maintain waste manifests? (Print name)	**Signature:** **Date:**
Compliance Plan prepared by: (Print name)	**Signature** **Date:**
Plan Approved by (EH&S): (Print name)	**Signature** **Date:**

Universal and Hazardous Waste Compliance Plan

Waste	Check if this waste will be generated	Disposal contractor	"Label" / Comments
Aerosol cans			Label: "Hazardous Waste – Aerosol Cans"
Asbestos			Coordinate with Environmental Health & Safety
Batteries (except alkaline)			Label: "Universal Waste – Used Batteries" * Cover both terminals of each battery (tape the terminals or package each battery in a separate bag).
CFCs			Use vendor with Universal Certification for CFCs
Computer equipment			Label: "Recyclable Waste – Computer Equipment" *
Degreasing solvents			Label: "Hazardous Waste – Used . . . (name(s) of solvent(s))"
Electronic equipment			Determine if it is hazardous waste
Fluorescent light bulbs			If unbroken, label: "Universal Waste - Used Lamps" * If broken, label: "Hazardous Waste - Broken Fluorescent Bulbs"
Light ballasts			PCB ballasts – Label: "Hazardous Waste – Contains PCBs" Non-PCB ballasts – Label: "non-PCB ballasts for disposal"
Oil-based paint			Label: "Hazardous Waste – Oil-based Paint"
Rags used with solvents			Determine if they are hazardous waste
Paint thinners			Label: "Hazardous Waste – Used Paint Thinner"
Thermostats			Label: "Universal Waste – Thermostat contains mercury" *
Transformers, capacitors (unless labeled non-PCB)			Label: "Hazardous Waste – contains PCBs"
Used oil and rags used with oil			Label: "Used Oil" Use secondary containment for oil if floor drains are present

* For Universal Wastes, date container with accumulation start date.
Other wastes / requirements:

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

To protect patients, visitors and employees from the potential hazards posed by hot work.

To comply with the Occupational Safety and Health Administration (OSHA) standard on Welding, Cutting, and Brazing (29 CFR 1910.252), and with New York City Fire Code and NFPA standards.

POLICY AND GENERAL INFORMATION

1.0 Application

This program applies to:

- All indoor and outdoor areas of all NYULMC facilities.
- All employees of NYU Hospitals Center and NYU School of Medicine. The primary departments and divisions impacted by the program are:
  - Facilities Operations and HJD Facilities Engineering (collectively Facilities)
  - Real Estate and Housing
  - RED+F Design and Construction
- All contractors and subcontractors.

2.0 Definition

Hot work means high energy work, such as cutting, welding, burning, grinding or similar operations, which produces, flames, sparks or slag.

Hot work permit (permit) means NYULMC's pre-numbered two-copy form that incorporates the information in Appendix A.

3.0 **Responsibilities**

3.1 **Environmental Health and Safety** (EH&S) is responsible for:

- Developing the Hot Work Program (the Program) and collaborating with others to implement and maintain it.
- Training relevant groups, including Facilities, Real Estate and Housing, and RED+F Design and Construction, on the requirements of the Program.
- Providing training on the use of fire extinguishers.
- Functioning as a consultant on an as needed basis for hot work safety issues.
- Evaluating the effectiveness of the Program and recommending changes as needed.

3.2 **Facilities** is responsible for:

- Managing the Program and the permitting process.

3.3 The **Vice Presidents** and **Directors** of **Facilities, Real Estate and Housing** and **RED+F Design** and **Construction** are responsible for compliance within their departments and divisions. Their responsibilities include, but are not limited to:

- Implementing the Program within their departments and divisions.
- Ensuring all requirements of this policy are followed.
- Ensuring all employees who are covered by the Program are trained on its requirements.
- Ensuring all hot work is identified and included in the Program.
- Ensuring contractors comply with this policy.

3.4 **Foremen, managers and project managers (PMs)** (e.g., design, construction, renovation, operations, and maintenance), are responsible for:

- Implementing and maintaining the Program on their projects.
- Ensuring their employees and contractors comply with this policy.

- Incorporating the requirements of the policy into the specifications for the work.
- Discussing training requirements, required safety equipment, and work area preparation with employees and contractors.

3.5 **Contractors** are responsible for:

- Complying with all provisions of OSHA 1926 subpart J, the New York City Fire Code and the requirements of this policy.
- Obtaining all required New York City Fire Department (FDNY) permits for compressed gas cylinders.
- Removing their cylinders from medical center property at the end of each work day if they have an FDNY usage-only permit.
- Providing proper storage cages for compressed gas cylinders if they have an FDNY storage and usage permit. Obtaining approval from the FDNY and NYULMC's Fire Safety Director for the location of these cages. Removing all cylinders from the construction area at the end of each day and properly transporting them to the storage cages.

3.6 **Workers who engage in hot work** are responsible for:

- Attending training on hot work.
- Requesting a hot work permit prior to conducting any hot work.
- Following the requirements of the permit.
- Notifying their supervisors of any pertinent problems.

4.0 Hot work procedures

4.1 When it has been determined that hot work must be done, personnel shall obtain a permit from Facilities and complete it before initiating the work. Appendix B provides instructions for completing the permit.

- For in-house work, the foreman shall initiate and complete the permit after inspecting the work area. The foreman shall:

- Complete Section 1 of the permit.
- Have the work area prepared for hot work and complete Section 2 of the permit.
- Assign a Fire Guard with the appropriate Certificate of Fitness issued by the New York City Fire Department and enter the name on the permit.
- Sign the permit indicating that the work area is ready for hot work.
- Have the appropriate manager sign and authorize the work.

- For work done by contractors, the PM shall initiate the permit.
  - The PM shall contact the appropriate Facilities manager.
  - The PM and contractor supervisor shall jointly complete and sign the permit following the steps listed above (under in-house work).

4.2 A completed and authorized permit shall be valid until:

- The end of the workers' work shift or the work is completed, whichever comes first; or
- The end of the foreman's or manager's shift; or
- There is an emergency involving or affecting the work area; or
- The time specified on the permit if before end of shift.

4.3 The hard copy of the signed permit shall be posted in the work area until the permit is no longer valid or the hot work is completed. The manager or PM keeps the soft copy.

4.4 If the hot work is in a confined space, the foreman, manager, or contractor shall conduct the pre-entry atmospheric test and complete the confined space entry permit as per Safety Policy 138: Confined Space Entry.

4.5 The foreman, manager, and/or PM shall inspect the work area periodically during the hot work to ensure that the conditions of the permit are being maintained.

4.6 The manager or PM shall debrief the employees or contractor who completed the hot work regarding any challenges encountered during the work. The results of the debriefing will be communicated to EH&S.

4.7 When the work is completed and prior to personnel leaving the work area, all systems shall be returned to their original condition. The Facilities manager shall check the work area and authorize systems to be put back into service.

4.8 The foreman or PM shall return the permit to the Facilities office.

- For in-house work, the foreman returns the hard copy to the office. The manager who signed the permit puts the two copies together.
- For work done by contractors, the contractor returns the hard copy to the PM. The PM puts the two copies together and returns them to Facilities.

4.9 Facilities managers shall forward permits for completed work to EH&S on a daily basis.

4.10 EH&S shall evaluate permits received to ensure compliance with this policy and make recommendations for changes as necessary.

5.0 Training

5.1 Managers and contractors shall train workers who perform hot work on the:

- Requirements of this policy
- Proper preparation of a work area
- Use of safety equipment
- Responsibilities of the Fire Guard
- Emergency procedures (such as fire and employee injury protocols)

5.2 EH&S will assist with training of employees, e.g., on the use of safety equipment.

5.3 Training shall be conducted:

- Before a worker is first assigned hot work tasks.

- Before a worker is assigned new hot work tasks.
- Whenever there is a change in procedures or new hazards are introduced.
- Whenever there are deviations from the requirements of the policy, or there are inadequacies in a worker's knowledge or use of these procedures.

5.4 Each department/division shall maintain training records for its employees.

- Records shall include the dates of training, subjects covered, names of employees trained and name and signature of the trainer.
- Records shall be maintained for 1 year past the last day of employment.
- Copies of records shall be provided to EH&S upon request.

6.0 **Program evaluation**

6.1 EH&S conducts an annual evaluation of the Program as part of the annual evaluation of NYUHC's Fire Prevention Management Plan.

Appendix A	Sample Hot Work Permit
Appendix B	Instructions for completing permit and conducting hot work

Issue date	04/12
Replaces	09/03
Reviewed by	J. Goldberg, Environmental Health and Safety R. Cohen, Facilities Operations B. Everett, Real Estate and Housing T. Howard, RED+F Construction R. Maffia, RED+F Construction D. Rubbo, HJD Engineering P. Schwabacher, Facilities Management NYUHC Environment of Care Committee

Sample Hot Work Permit

SECTION 1 (General)
Supervision, by signing and issuing this permit, certifies that all safety factors have been considered and addressed satisfactorily. When the hot work is completed, the two parts of the permit shall be sent to Environmental Health & Safety.
The permit becomes void: ▪ At the end of the workers' shift or when work is completed, whichever comes first. ▪ At the end of the foreman's or manager's work shift. ▪ If there is an emergency involving or affecting the work area. ▪ At the following Specified Time:
Work Area:
Equipment Requiring Work:
Work to be Done:

SECTION 2 (Work Area Preparation)	Yes	No	N/A
Is area clean of flammables/combustibles?			
Have requirements of other policies (e.g., lockout, confined space) been met?			
Are proper fire extinguishers in the work area?			
Is the ventilation shut-off or isolated?			
Is a water hose laid out and water running?			
Are fire-rated tarps or welding blankets needed to protect adjoining areas or personnel from sparks or flashes?			
Are penetrations in floors, walls, ceilings and shafts sealed?			
Are other precautions (e.g., PPE) in place?			
Have adjoining work area occupants been informed of work being done?			
Are smoke heads/fire alarm system disabled?			
Who is the Fire Guard?			

SECTION 3 (Authorization)	Date	Time
Foreman's Signature		
Manager's Signature		

Instructions for completing permit and conducting hot work

SECTION 1

When it is determined that hot work must be done, the foreman shall initiate the permit by completing Section 1. The SPECIFIED TIME (if any), WORK AREA (building, floor, room #) shall be filled in. The WORK TO BE DONE shall describe the work that workers will do in the work area (e.g., welding).

SECTION 2: Work Area Preparation

Work Area

The foreman shall verify that all flammable and combustible substances or materials within 35 feet of the hot work are removed. If flammable or combustible materials cannot be removed, they shall be adequately protected with welding blankets or other non-combustible materials.

Other policy requirements

Workers shall implement lockout/tagout procedures. If confined space entry is required, Safety Policy 138 shall be followed. If there is no equipment requiring lockout/tagout or a confined space entry involved, then N/A shall be checked.

Proper fire extinguisher and water hose

A **charged** 10lb. or greater ABC dry chemical fire extinguisher shall be immediately available during the entire hot work operation. Where possible, a hose with running water shall be available to reduce the possibility of sparks igniting other materials and causing a fire.

Ventilation

A smoke eater shall be used at the point of all burning and welding. Where possible, supply and return air systems shall be shut down so there is no transport of exhaust smoke or fumes to occupied areas.

Tarps and penetrations

Floor, wall and ceiling penetrations shall be sealed to reduce the possibility of sparks or slag entering an adjacent or lower area. Welding blankets and/or or fire-rated tarps shall be placed around the hot work area to reduce the possibility of sparks flying into adjoining areas, penetrations, or shafts. Welding screens shall be used to reduce the possible exposure of personnel to harmful light from welding, burning and cutting.

Instructions for completing permit and conducting hot work

Other precautions

Only cylinders stamped as having been hydrostatically tested within the last 5 years shall be allowed on NYULMC property. All cylinders shall be removed from NYULMC property upon completion of the work or expiration of hydrostatic test.

Compressed gas cylinders shall be secured in an upright position at all times. Cylinders shall be capped at all times when not in use.

For transportation between storage cages and the work area, compressed gas cylinders shall be capped and chained in an upright position in an approved hand truck. If cylinders must be transported by crane or otherwise picked overhead, they shall be rigged using a cradle designed for that purpose. They shall not be rigged directly with slings or straps or lifted by their caps or collars. Cylinders shall not be transported by an excavator bucket, carried over a shoulder or by hand, transported up or down stairs or dragged, rolled or slid.

Cylinders containing differing flammable gases shall be stored 20 feet apart at a minimum. Cylinders shall not be taken into a confined space. Under no circumstances shall a cylinder be heated to increase the pressure of the gas or the volume of liquid inside.

Flashback arrestors shall be installed at the torch side of each compressed gas line. Cylinder hoses and welding leads shall be properly connected and free of cuts, burns and other damage. Cylinder regulator gauges shall have a damage-free protective lens and the gauge shall be operational. Cylinders in use shall be checked daily for cracks and leaks.

Personnel engaged in hot work shall wear the proper personal protective equipment and clothing (e.g. burn jacket, gloves and welding helmet) based on the hazard assessments conducted in accordance with NYULMC Safety Policy 119 (Use and Selection of Personal Protective Equipment).

Where hot work requires the use of respiratory protection, the provision of NYULMC Safety Policy 109 (Respiratory Protection) shall be followed.

Prior to welding of any exotic metals (e.g. galvanized steel or stainless steel) a job hazard analysis is required to ensure compliance with OSHA 1926.353(c) and OSHA Subparts D and E.

Prior to performing any hot work on a tank or vessel that formerly housed a combustible, flammable or explosive gas or liquid, a job hazard analysis is required as is certification of proper purging and cleaning of the tank or vessel.

Personnel performing hot work at height shall do so from a stable work platform with guardrail protection (e.g. scaffold or aerial lift), not a ladder.

Personnel performing electric arc welding from a suspended scaffold shall comply with the requirement set forth in OSHA 1926.451(f)(17)(i) through (vi).

Instructions for completing permit and conducting hot work

Adjoining work area occupants

The manager or PM responsible for the hot work shall inform management of adjoining work areas of the work to be done. This shall be done well before the hot work will be performed, to give sufficient time to address any concerns the departments may have.

Fire watch and other workers

A Fire Guard shall be present at all times in the work area during hot work operations and for 30 minutes after the hot work has concluded. An additional inspection is required 60 minutes post conclusion of hot work. A written log of these inspections shall be kept by the Fire Guard. The sole responsibility of the Fire Guard during the hot work is the safety of the work area. The Fire Guard shall be trained to use a fire extinguisher. The Fire Guard shall move dry chemical extinguishers and water hoses as necessary to reduce the possibility of sparks causing a fire. The Fire Guard shall have a communication device to keep in contact with the manager or PM. The Fire Guard and other workers conducting the hot work shall have in their possession valid New York City Fire Department Certificate of Fitness and/or New York City Department of Buildings Welders license.

Fire alarm system

Appropriate smoke detector heads/fire alarm system shall be disabled prior to conducting hot work in accordance with Facilities procedures for disabling/enabling these systems.

SECTION 3

The foreman or PM shall sign, enter the date and time, and contact the Facilities manager for authorization to conduct the hot work. The hard copy of the permit remains at the work area; the manager or PM keeps the soft copy. After the work is completed or the permit is no longer valid, the hard copy is returned to the Facilities office and matched with the soft copy. Both copies are sent to Environmental Health & Safety on a daily basis.

EMERGENCY PROCEDURES

All hot work incidents, regardless of how minor, shall be immediately reported by the Fire Guard to the foreman, manager, or PM. If a fire occurs, the nearest fire alarm shall be pulled and a call place to the Communications Department (ext. 33-911 at main campus, ext. 3-911 at HJD) or NYC 911 from offsite locations. Communications shall inform FDNY about the nature of the fire. If an employee is injured, he/she should be taken to the Emergency Room for treatment.

POST HOT WORK PROCEDURES

The work area shall be returned to its original condition. The Facilities manager shall check and authorize the systems to be put back into service.

Policy: INSTALLATION AND TESTING OF NEW MEDICAL GAS OUTLETS/PIPING

APPLICATION

NYU Medical Center

PURPOSE

The purpose of the policy on installation and testing of new medical gas outlets/piping is to provide guidelines of the maintenance of safe and proper supply of necessary medical gases to the patients.

POLICY AND GENERAL INFORMATION

1.0 Facilities Management will locate nearest isolation valve, for purposes of determining shutdown requirements.

2.0 All medical air, nitrous oxide, and oxygen should be specified as copper with type "K" with silver brazed fittings. All other gases are lead-free soldered. Dry nitrogen shall be pumped into the system while brazing.

3.0 Specifications for medical gas outlets are as follows:

3.1 Manufactured by Hill Rom MEDAES (DISS)

All piping to be labeled at frequent intervals (no less than every 20 feet and at each change in direction and penetration through walls) as follows (all letters in white unless indicated) per NFPA99:

Carbon Dioxide	-	Gray
Nitrogen	-	Black
Oxygen	-	Green
Nitrous Oxide	-	Blue
Vacuum	-	White
Compressed Medical Air	-	Yellow/ Letters are black
Gas Evacuation	-	Purple

Issue Date	Replaces	Originator	Reviewed By	Reviewed By	Reviewed By
9/06	9/03	Alan Yood Sr. Dir. Env. Svc.	Richard Cohen V.P. F.M.		

Policy: INSTALLATION AND TESTING OF NEW MEDICAL GAS OUTLETS/PIPING

4.0 24-hour pressure test to be conducted by contractor and witnessed at start and finish by Facilities Management Supervisor and/or Plumbing Foreman or Project Manager. Documentation of findings to be kept in project folder. Pressure test will be at least 150 lb. psi, or double the operating pressure.

5.0 Following pressure testing, contractor is to purge lines with dry nitrogen in accordance with NFPA99 and to be sure no debris remains in piping.

6.0 Purity testing (of all lines affected) is conducted by the contractor and results are reviewed by Facilities Management with results filed in project folder.

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

To ensure adequate life safety protection:

- When a fire alarm, detection, or suppression system is out of service or impaired for more than 4 hours in a 24 hour period.
- Whenever Life Safety Code deficiencies cannot be immediately corrected (i.e., when the Joint Commission (TJC) requires a formal Plan for Improvement (PFI) in the hospital's Statement of Conditions).
- During periods of construction and renovation.

TABLE OF CONTENTS

POLICY AND GENERAL INFORMATION

1.0 Introduction

TJC requires that hospitals develop and implement an ILS policy. The policy must include written criteria for evaluating when and to what extent the hospital implements one or more of the following special measures to compensate for increased life safety risk.

1.1 Inspecting exits in affected areas on a daily basis.

1.2 Providing temporary but equivalent fire alarm and detection systems for use when a fire system is impaired.

1.3 Providing additional fire-fighting equipment.

1.4 Using temporary construction partitions that are smoke-tight and made of noncombustible or limited combustible material that will not contribute to the development or spread of fire.

1.5 Increasing surveillance of buildings, grounds, and equipment, giving special attention to construction areas and storage, excavation, and field offices.

1.6 Enforcing storage, housekeeping, and debris-removal practices that reduce the building's flammable and combustible fire load to the lowest feasible level.

1.7 Providing additional training to those who work in the hospital on the use of fire-fighting equipment.

1.8 Conducting one additional fire drill per shift per quarter in areas where life safety is compromised.

1.9 Inspecting and testing temporary systems monthly, and documenting the completion dates of the tests.

1.10 Conducting education to promote awareness of building deficiencies, construction hazards, and temporary measures implemented to maintain fire safety.

1.11 Training those who work in the hospital to compensate for impaired structural or compartmental fire safety features.

2.0 **Responsibilities**

2.1 **Environmental Health and Safety (EH&S)** is responsible for:

- Developing the ILS program (the Program).
- Training personnel to implement the Program.
- Issuing Construction Safety and ILS Permits that incorporate appropriate ILS measures.
- Issuing ILS Plans that incorporate appropriate ILS measures.
- Developing illustrated Interim Evacuation Plans.
- Conducting quality assurance (QA) inspections of construction and renovation projects to verify that appropriate ILS measures have been implemented.
- Periodically reporting the results of QA inspections to the Construction Safety Subcommittee of the Environment of Care Committee.

2.2 The **Vice Presidents** and **Directors** of **Facilities Operations, HJD Engineering, Information Technology, Real Estate** and **RED+F Design and Construction** are responsible for compliance within their departments and divisions. Their responsibilities include, but are not limited to:

- Ensuring the Program is implemented on all construction, renovation, and maintenance projects.
- Ensuring personnel who report to them:
  - Implement the required ILS measures.
  - Conduct regular inspections of their projects.
- Providing Security with current information on active projects (the Daily Security Site Inspection List) so security staff can inspect project sites daily.
- Designating an individual to summarize and report on Project Managers' inspections to the Environment of Care Committee.

2.3 **Managers and Project Managers (PMs)** (e.g., design, construction, renovation, operations, maintenance, and cable management) are responsible for implementing and maintaining the Program on their projects. The Managers' and PMs' responsibilities include, but are not limited to:

- Contacting the fire department, Security, and EH&S whenever a fire watch is needed.
- Requesting ILS risk assessments in accordance with this policy.
- Informing their contractors about the requirements of this policy.
- Obtaining Construction and/or Interim Life Safety Permits; ensuring they are posted at entrances to their projects; and ensuring contractors comply with the terms of the permits.
- Conducting regular inspections of their projects. As a rule, daily inspections are required unless otherwise specified in the Construction or Interim Life Safety Permit. A sample inspection checklist is included as Appendix B.
- Promptly correcting deficiencies found on their projects.

2.4 **Security** and **HJD Loss Prevention** are responsible for:

- Implementing a fire watch on request.
- Inspecting projects daily using the Daily Security Site Inspection List.
- Periodically reporting the results of daily inspections to the Environment of Care Committee or HJD Environment of Care Subcommittee.

2.5 **Department heads** are responsible for:

- Ensuring their department's space is free from life safety hazards.
- Ensuring their subordinates receive all training required by the Program.
- Resolving any life safety deficiencies within the department.

3.0 **Criteria for implementing a fire watch**

3.1 Whenever a fire alarm, detection, or suppression system will be out of service or impaired for more than 4 hours in a 24 hour period, personnel must evaluate the need for a fire watch.

3.2 If a fire watch is needed, NYULMC's engineers contact the NYC fire department.

3.3 As a rule, the Security department implements the fire watch. On occasion, the responsibility for establishing a fire watch is delegated to a contractor.

3.4 Risk assessments for common situations that could require a fire watch are summarized below.

- Situation: Putting a shield over one smoke detector for more than 4 hours to prevent false alarms from dust.
  - Fire watch required? No
  - Rationale: Other fire protection features, such as additional smoke detectors and sprinkler heads in the affected area, are not compromised.
- Situation: Covering all smoke detectors during a work shift for a controlled event, such as when contractors are working in an affected area. (Devices are operational after hours.)
  - Fire watch required? Yes, unless the Fire Safety Director determines that one is not needed.
  - Rationale: During a controlled event, PMs and/or contractors are managing the deficiency. If they are capable of monitoring the area continually, a fire watch would not be required.
- Situation: Scheduled event, such as working on, servicing, or upgrading the fire alarm or sprinkler system. E.g., shutting off a zone valve to the sprinkler system or disabling a fire alarm zone for more than 4 hours.
  - Fire watch required? Yes, unless the Fire Safety Director determines that one is not needed.
  - Rationale: During a scheduled event, PMs and/or contractors are managing the deficiency. If they are capable of monitoring the area continually, a fire watch would not be required.

- Situation: Unscheduled event, such as responding to a system failure. E.g., shutting off a zone valve to the sprinkler system or disabling a fire alarm zone for more than 4 hours.
  - Fire watch required? Yes

4.0 Criteria for selecting and implementing other ILS measures

4.1 NYULMC has conducted a risk assessment for routine in-house operations and maintenance (O&M) activities. Based on this assessment, ILS measures have been incorporated into the Standard Safety Precautions for such work (see Section 6.0). As a rule, no additional ILS risk assessment is needed for routine work and/or routine deficiencies.

4.2 Personnel evaluate the need to implement ILS measures whenever they identify conditions that could pose a threat to life safety. This includes:

- Whenever Life Safety Code deficiencies cannot be immediately corrected, (i.e., when a formal PFI is required by TJC).
- During periods of construction and renovation.

4.3 When such conditions arise, professionals from EH&S conduct a risk assessment.

- EH&S evaluates, using professional judgment on a case-by-case basis, the extent to which it is necessary to implement specific ILS and construction safety measures.
- Consideration is given to which measures will mitigate the risk effectively and use resources wisely.
- At the end of the process, EH&S issues the PM one or more of the following:
  - A Construction Safety or Interim Life Safety Permit. A sample permit is included as Appendix A.
  - An Interim Life Safety Plan.
  - An Interim Evacuation Plan.

5.0 Procedures

5.1 Fire watch

- Whenever a fire alarm, detection, or suppression system will be out of service or impaired for more than 4 hours in a 24 hour period, the PM submits a shutdown request. If a fire watch is needed (see Section 3), the PM asks NYULMC's engineers to contact the fire department, and asks the Security department (or a contracted service) to implement a fire watch.

5.2 Construction Safety/Interim Life Safety Permit

- Before initiating a construction, renovation, or non-routine maintenance project, the PM asks EH&S to issue a Construction Safety or Interim Life Safety Permit (the Permit).
- The PM informs contractors of the Permit requirements and pertinent Safety Policies (e.g., Construction Contractor Safety Requirements).
- PMs coordinate implementation of the Permit requirements (e.g. training on alternative exits, installation of temporary alarm system, provision of additional fire extinguishers, and informing affected departments).
- During the project, the PM:
  - Inspects the project site regularly (for sample inspection checklist, see Appendix B) and maintains documentation in the project file.
  - Arranges for daily testing if a temporary fire alarm system is installed.

5.3 Interim Life Safety and Interim Evacuation Plan

- When the following situations arise, the PM asks EH&S to approve an Interim Life Safety Plan. The plan may include an Interim Evacuation Plan. Each plan must be approved by NYULMC's Fire Safety Director.
  - TJC requires a formal PFI.
  - The width of an egress corridor in an inpatient area is reduced either to less than 4 feet or to the point where the corridor cannot accommodate common transport devices (e.g., stretchers or beds).

- The width of an egress corridor in a non-inpatient area is reduced to less than 3 feet.
- The planned work will obstruct or render temporarily render inaccessible part of the horizontal or vertical evacuation route(s) for an area or access to an exit stair or discharge or any other means of egress.

- EH&S and the PM coordinate implementation of the requirements of the Plan (e.g. informing affected departments and coordinating training on alternative evacuation plans).

6.0 Standard safety precautions for in-house operations and maintenance (O & M) activities

It generally is not necessary to conduct an ILS risk assessment for in-house O&M work. When small, routine O&M activities are undertaken, the PM, foreman, and supervisor ensure that the following personnel do the following:

6.1 Wear an employee ID badge above the waist with the picture facing front at all times.

6.2 Do not disturb any suspect asbestos containing material. Ask the supervisor/ foreman/manager to have EH&S coordinate testing and abatement (if needed).

6.3 If mold is observed, ask the supervisor/foreman/manager to have EH&S coordinate testing and provide recommendations.

6.4 If a heat gun will be used to remove paint, ask the supervisor/foreman/manager to have EH&S coordinate testing for lead based paint.

6.5 Set up the work area so as to contain dust and debris. Work in an enclosure, such as a room, or erect barriers around the work area.

6.6 Do not block exits from the floor or work area. Maintain egress corridor width of 4 feet in an inpatient area or 3 feet in any other area.

6.7 Do not block access to emergency equipment such as fire alarm pull stations, fire extinguishers, or emergency medical gas shutoff valves..

6.8 Run a HEPA-filtered air cleaner in the work area if the work will generate dust.

6.9 If an open flame will be used, obtain a **daily** Hot Work Permit from the supervisor/ foreman/manager and have it accessible.

6.10 Remove all gas cylinders from the work area at the end of each day.

6.11 Schedule the project to minimize the impact of noise and vibration.

6.12 Follow the medical center's tobacco-free workplace policy.

6.13 Remove flammable and combustible materials from the work area when the work is finished for the day.

6.14 Remove accumulated waste before leaving for the day.

Related Safety Policies

115: Fire Alarm System Testing and Maintenance

131: Fire Sprinkler/Standpipe System Impairment

120: Construction Contractor Safety Requirements

127: Fire Drills

143: Hot Work Permit

104: Tobacco Free Facilities

147: Penetration of Fire/Smoke Barrier

Appendix A	Sample Construction Safety/Interim Life Safety Permit
Appendix B	Sample Construction Site Inspection Checklist

Issue date	10/01/13
Replaces	10/12/12
Reviewed by	J. Goldberg, Environmental Health and Safety R. Cohen, Facilities Operations T. Fascianella, HJD Loss Prevention T. Howard, RED+F Construction R. Maffia, RED+F Construction D. Rubbo, HJD Engineering P. Schwabacher, Facilities Management R. Zick, Security NYUHC Environment of Care Committee

Revised: September 30, 2013

Sample Construction Safety/Interim Life Safety Permit

Reason for Permit: Construction Project	
Location:	
Project Coordinator:	Project Start Date:
Contractor Performing Work:	Project Completion:
Supervisor's Name:	Telephone:
Brief description of project: Demolition, abatement and renovation of existing space.	

The contractor shall comply with all federal, state and local laws, rules and regulations, and NYULMC Safety Policies.

The Project Manager will review this permit with the contractor to ensure that the following construction safety and interim life safety measures are implemented on this project and will conduct daily hazard surveillance inspections:

- The contractor shall comply with all requirements set forth in the site specific ICRA permit issued for this project.
- The project shall be planned and scheduled to minimize the impact of noise and vibration for patients and staff.
- Project Manager shall coordinate removal of all NYULMC supplies and equipment (e.g. chemicals, compressed gas cylinders, appliances, etc.) from the project space prior to the start of work.
- Contractor shall not disturb asbestos-containing materials. Abatement must be coordinated through Environmental Health and Safety (EH&S).
- All construction personnel shall wear NYULMC Security I.D. badges at all times.
- All means of egress shall be kept unobstructed at all times. Exits shall be inspected daily. Stairwell doors shall not be propped or otherwise kept open. Exit signs with directional arrows shall be installed within the work area to aid in worker evacuation. The contractor shall not store any tools, materials or equipment outside the work area (e.g. in corridors, stairwells, etc.).
- A mounted, 10lb. ABC dry chemical fire extinguisher with tag showing annual and monthly inspection record, is required for every 2,500 square feet of space. The distance between any 2 fire extinguishers shall not exceed 75 feet. A 10lb. ABC dry chemical extinguisher must also be immediately available by hot work or wherever flammable liquids or compressed gas cylinders are stored.
- Hot work to be performed requires issuance of a **daily** NYULMC Hot Work Permit. Contractor shall comply with all provisions of OSHA 1926 subpart J, the New York City Fire Code (including any storage and usage permit requirements), and NYULMC Safety Policy 143 (Hot Work). Compressed gas cylinders shall be removed from the job site at the end of each work day. All welding requires the use of an operable smoke-eater at the point of the welding. A dedicated fire guard shall be in place at all times during hot work.

Sample Construction Safety/Interim Life Safety Permit

- The project site shall be maintained under 0.02" of negative pressure at all times with air exhausted out of the building.
- The width of the corridor shall not be reduced to less than 4 feet nor can any established means of egress be changed or eliminated unless specifically authorized by NYULMC's Fire Safety Director along with issuance of Interim Life Safety and Interim Evacuation Plans.
- Temporary hard and soft construction partitions shall be smoke tight. Hard partitions shall be constructed of non-flammable material (drywall). Soft (plastic) partitions shall be fire retardant sheeting.
- All construction materials introduced into this site by the contractor (e.g. plywood, plastic sheeting, tarps, etc.) shall be fire-retardant or non-combustible. Inspect daily to verify that flammable and combustible load is maintained at the lowest level feasible.
- Shutdown of all existing utilities in the construction area(e.g. electric, HVAC, plumbing, etc.) shall be coordinated with NYULMC Facilities Operations. A temporary lighting and power system shall be installed by a licensed electrical contractor. If any contractors require tie-in of a temporary electrical panel, this work shall be done by NYULMC Facilities Operations. No work shall be performed on live systems unless pre-planned, specifically authorized by EH&S and Facilities Operations, and conducted in accordance with all NFPA 70e requirements. Live electrical panels shall be properly covered and locked at all times. All power tools and equipment shall be GFCI protected.
- Contractor shall arrange for shutdown of the fire alarm, detection and/or suppression systems if the possibility of an accidental activation exists due to planned work activities (see NYULMC Safety Policy 145). Sprinkler heads and piping and fire alarm speaker/strobes, pull stations and their associated wiring, shall be protected against physical damage. Any damage caused to these systems shall be immediately reported to both NYULMC Facilities Operations and the Project Manager.
- The Project Manager shall request that the NYULMC Security Department provide a fire watch if impairment of a fire detection, alarm or suppression system will last longer than 4 hours in a 24 hour period or will occur outside normal working hours. NYULMC Security Department shall be given advanced notice of all work to be performed after hours, work that needs to be performed in sensitive, controlled or restricted areas, and any work that may adversely affect patients, staff or the public.
- All work on the building's fire suppression systems shall be performed by a New York City licensed plumber or fire suppression contractor in accordance with the New York City Building Code and all Local Laws.
- The PM shall notify the contractor that smoking is completely prohibited on campus, indoors and out. Contractor shall post an adequate number of "No Smoking" signs to comply with NYC Fire Code Section 1401.1. PM shall inspect daily for cigarette butts and follow up on problems.
- Ground penetrating radar shall be used to ensure no striking of in-slab utilities.

Revised: October 12, 2012

Sample Construction Safety/Interim Life Safety Permit

- Penetrations in floors, walls and ceilings, uncovered or created during the course of the project, must be fire-stopped immediately utilizing NYULMC Facilities Operations approved STI brand fire-stopping products.
- Chemicals and products used are to be low or no VOC unless specifically approved by the EH&S. Flammable or combustible liquids, chemicals and products shall be stored in an approved fire safety cabinet. Material Safety Data Sheets (MSDSs) for all products shall be readily available on site.
- Debris containers shall be wiped down and capped with plastic prior to leaving the job site. Debris removal and material deliveries to the site shall be made via the service elevators at times when minimal interaction with patients and staff is expected.
- Construction personnel shall wear hard hats and use other personal protective equipment when the work calls for same.
- Construction personnel shall use the right size and type ladder for the work they are performing. A-frame ladders shall not be used in the closed position. Due to the potential electrical hazard metal ladders pose, only fiberglass or wood ladders shall be used. Ladders shall be inspected daily before use. Damaged ladders shall be thrown out. Workers shall not stand on the top 2 rungs of, stand backwards on or straddle, any ladder. Where the work does not allow 3 points of contact to be maintained on the ladder, another more stable work platform (e.g. bakers scaffold) shall be used.
- All construction personnel shall be protected against falls from height greater than 6 feet at all times utilizing the hierarchy of controls. Use of a fall arrest system is a last resort and shall only be implemented where no other practical means (e.g. guardrail, aerial lift, or scaffold) exists. A controlled access zone shall be established wherever the potential for falling persons, tools or materials exists. Workers at height shall tether their tools.
- The contractor shall properly handle, and dispose of, hazardous waste on site in accordance with the NYULMC Hazardous Waste from Contractors policy 108a. Typical waste encountered or created during the demolition project includes:
  - Fluorescent bulbs (mercury)
  - Lighting ballasts (PCBs)
  - Smoke detectors (radioactive isotopes)
  - Aerosol cans

Permit issued to: _____ Date: _____

Permit authorized by: _____ Date: _____

Contractor's competent person: _____ Date: _____

Revised: October 12, 2012

Construction Safety Inspection Checklist

Project Name: _____ PIM#:_____ SOM or HC:_____ Inspected by:_____

Bldg/Flr/Location: _____ Contractor: _____ Date (week of): _____

Project Manager: _____ VP/Sr. Director: _____ Inspection Type: _____ ICRA:_____

Category Deficiency	Deficient M T W Th F	Comments
Access control	☐ ☐ ☐ ☐ ☐	
Construction site unlocked and unattended	☐ ☐ ☐ ☐ ☐	
IT or electrical closets unlocked	☐ ☐ ☐ ☐ ☐	
Other		
Barriers	☐ ☐ ☐ ☐ ☐	
Entrance unzipped	☐ ☐ ☐ ☐ ☐	
Inadequate (e.g. unsealed, not fire-rated, uncovered vents)	☐ ☐ ☐ ☐ ☐	
Other		
Ceiling tiles	☐ ☐ ☐ ☐ ☐	
Damaged or missing	☐ ☐ ☐ ☐ ☐	
Other		
Compressed gas cylinders	☐ ☐ ☐ ☐ ☐	
Stored on site	☐ ☐ ☐ ☐ ☐	
Unsecured	☐ ☐ ☐ ☐ ☐	
Other		
Doors	☐ ☐ ☐ ☐ ☐	
Don't self close, latch or lock	☐ ☐ ☐ ☐ ☐	
Excess clearance (>3/4" under or >1/8" above/sides)	☐ ☐ ☐ ☐ ☐	
Propped open	☐ ☐ ☐ ☐ ☐	
Other		
Egress	☐ ☐ ☐ ☐ ☐	
Inadequate (<3' within; <4' outside)	☐ ☐ ☐ ☐ ☐	
Obstructed	☐ ☐ ☐ ☐ ☐	
Other (e.g. egress doors locked during work)		
Electrical hazards	☐ ☐ ☐ ☐ ☐	
Damaged electrical cords	☐ ☐ ☐ ☐ ☐	
Electrical cords on the ground	☐ ☐ ☐ ☐ ☐	
Electrical panels open	☐ ☐ ☐ ☐ ☐	
Exposed wiring	☐ ☐ ☐ ☐ ☐	
GFCI protection missing	☐ ☐ ☐ ☐ ☐	
Work on live electrical	☐ ☐ ☐ ☐ ☐	
Other		
Exit signs	☐ ☐ ☐ ☐ ☐	
Inadequate		
Fall protection	☐ ☐ ☐ ☐ ☐	
Improper use of ladders	☐ ☐ ☐ ☐ ☐	
Inadequate		
Fire detection/notification/suppression	☐ ☐ ☐ ☐ ☐	
Pull stations/speakers/strobes obstructed	☐ ☐ ☐ ☐ ☐	
Sprinkler system impaired	☐ ☐ ☐ ☐ ☐	
Other		
Fire extinguisher	☐ ☐ ☐ ☐ ☐	
Missing annual inspection	☐ ☐ ☐ ☐ ☐	
Missing monthly inspection	☐ ☐ ☐ ☐ ☐	
Not hung or hung at wrong height (<36" or >60")	☐ ☐ ☐ ☐ ☐	
Wrong size/type	☐ ☐ ☐ ☐ ☐	
Other (e.g. discharged, inadequate as per ILS permit)		
Flammables/Chemicals	☐ ☐ ☐ ☐ ☐	
Improper/excess storage	☐ ☐ ☐ ☐ ☐	
Products with VOCs, odor, or >1 NFPA rating	☐ ☐ ☐ ☐ ☐	
Other (e.g. cabinet required)		

Category	Deficiency	Deficient	Comments
HEPA filter		M T W Th F	
	Hose ripped	☐ ☐ ☐ ☐ ☐	
	Not in use	☐ ☐ ☐ ☐ ☐	
	Overloaded	☐ ☐ ☐ ☐ ☐	
	Other (e.g. exhaust point not sealed)	☐ ☐ ☐ ☐ ☐	
Hot Work		M T W Th F	
	Combustibles in vicinity	☐ ☐ ☐ ☐ ☐	
	Fire guard not present	☐ ☐ ☐ ☐ ☐	
	Smoke eater not used	☐ ☐ ☐ ☐ ☐	
Housekeeping		M T W Th F	
	Clutter	☐ ☐ ☐ ☐ ☐	
	Inadequate dust control	☐ ☐ ☐ ☐ ☐	
	Slip, trip, fall hazards	☐ ☐ ☐ ☐ ☐	
	Other (e.g. dusty clothing outside site)	☐ ☐ ☐ ☐ ☐	
ID badges		M T W Th F	
	Missing/not worn	☐ ☐ ☐ ☐ ☐	
Lighting		M T W Th F	
	Inadequate	☐ ☐ ☐ ☐ ☐	
	Missing or improperly assemled protective covers	☐ ☐ ☐ ☐ ☐	
	Other	☐ ☐ ☐ ☐ ☐	
MSDS		M T W Th F	
	Inadequate staff knowledge	☐ ☐ ☐ ☐ ☐	
	Missing MSDS/binder	☐ ☐ ☐ ☐ ☐	
	Other	☐ ☐ ☐ ☐ ☐	
Negative pressure		M T W Th F	
	Inadequate	☐ ☐ ☐ ☐ ☐	
Penetrations		M T W Th F	
	Created or existing	☐ ☐ ☐ ☐ ☐	
PPE		M T W Th F	
	Missing hard hats	☐ ☐ ☐ ☐ ☐	
	Missing safety glasses	☐ ☐ ☐ ☐ ☐	
	Other	☐ ☐ ☐ ☐ ☐	
Signs/permits		M T W Th F	
	Missing Hot Work permit	☐ ☐ ☐ ☐ ☐	
	Missing ICRA permit	☐ ☐ ☐ ☐ ☐	
	Missing ILS permit	☐ ☐ ☐ ☐ ☐	
	Missing Penetrations permit	☐ ☐ ☐ ☐ ☐	
	Missing Pre-Construction Validation permit	☐ ☐ ☐ ☐ ☐	
	Missing Warning Construction Site sign	☐ ☐ ☐ ☐ ☐	
	Other (e.g. missing ILS plan)	☐ ☐ ☐ ☐ ☐	
Smoking		M T W Th F	
	Evidence of smoking	☐ ☐ ☐ ☐ ☐	
Sticky mats		M T W Th F	
	Missing	☐ ☐ ☐ ☐ ☐	
	Saturated	☐ ☐ ☐ ☐ ☐	
Storage/Supplies		M T W Th F	
	Construction materials in unauthorized location	☐ ☐ ☐ ☐ ☐	
	Construction materials stockpiled	☐ ☐ ☐ ☐ ☐	
	Materials not fire-rated/non-combustible	☐ ☐ ☐ ☐ ☐	
	Non-construction materials unprotected in const. site	☐ ☐ ☐ ☐ ☐	
	Other	☐ ☐ ☐ ☐ ☐	
Waste		M T W Th F	
	Excess storage	☐ ☐ ☐ ☐ ☐	
	Not covered/moistened/wiped during transport	☐ ☐ ☐ ☐ ☐	
	Hazardous waste not properly managed	☐ ☐ ☐ ☐ ☐	
	Universal waste not properly managed	☐ ☐ ☐ ☐ ☐	
	Other	☐ ☐ ☐ ☐ ☐	
Other		M T W Th F	
	Food prep equipment in construction site	☐ ☐ ☐ ☐ ☐	
	Other	☐ ☐ ☐ ☐ ☐	

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

- To minimize the hazards associated with the use of ladders, scaffolds and aerial lifts.
- To comply with applicable federal, state and local laws and regulations, including the Occupational Safety and Health Administration (OSHA) standards 29 CFR 1910 subpart D and 29 CFR 1926 subparts L and X.

POLICY AND GENERAL INFORMATION

1.0 General Requirements

- Ladders shall be used in accordance with manufacturers' instructions, OSHA 1910 subpart D and OSHA 1926 subpart X.
- Scaffolding shall be erected, used and disassembled in accordance with manufacturers' instructions, OSHA 1926 subpart L and all NYC regulations.
- Aerial lifts shall be operated in accordance with manufacturers' instructions, OSHA 1926 subpart L and the American National Standards Institute (ANSI) standards A92.5 (boom supported elevating work platforms) and A92.6 (elevating work platforms).

2.0 Application

This policy applies to:

- all indoor and outdoor areas under the control of NYULMC, in all facilities owned or leased by NYU Hospitals Center or NYU School of Medicine
- all employees and contractor personnel of NYU Hospitals Center and NYU School of Medicine

3.0 Definitions

- **Aerial lift** is defined as any vehicle used to elevate personnel. Examples include scissor and boom supported lifts.
- **Competent person** means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

4.0 Responsibilities

4.1 **Environmental Health and Safety (EH&S)** is responsible for:

- developing the policy and updating it as needed
- responding promptly to questions and concerns about the use of these devices
- maintaining a list of consultants who can provide training and competent/qualified persons relative to these devices
- periodically evaluating the policy to determine if changes are needed

4.2 **Vice Presidents** and **Directors** are responsible for compliance within their departments/divisions.

4.3 **Foremen, managers and project managers (PMs)** are responsible for:

- ensuring personnel and contractors receive training on proper use of ladders, scaffolds and aerial lifts prior to use
- informing personnel about the requirements of this policy and enforcing policy requirements

4.4 **Personnel who work with ladders, scaffolds and aerial lifts** are responsible for:

- following the requirements of this policy
- attending user training
- reporting work hazards to the competent person or person in charge

5.0 Requirements for Ladders

5.1 All personnel who use ladders shall receive safety training. Training shall consist of recognition of hazards associated with ladder use, means of inspecting ladders, and safety precautions to be taken when using ladders.

5.2 Where the task to be performed does not allow the worker to maintain 3 points of contact on the ladder, a more stable and protected work platform shall be used.

5.3 Personnel shall use the right size and type of ladder for the work being performed. Only ladders with a Type 1 (250 lb. limit) or Type 1A (300 lb. limit) rating shall be used; personnel are not to exceed this ladder limit through a combination of body weight, tools, material and/or equipment. Due to the electrical hazard that metal ladders pose, only fiberglass or wood ladders shall be used.

5.4 Ladders shall be set up on a stable and level surface capable of supporting the anticipated load.

5.5 Personnel who use ladders shall inspect them prior to each use. Damaged ladders shall be removed from service immediately and tagged as such.

5.6 Ladders shall only be used by one user at a time unless specifically designed to support multiple workers simultaneously.

5.7 A ladder shall not be moved when a worker is on it.

5.8 Personnel shall face the ladder while ascending, descending and working from it.

5.9 Workers shall not stand on the top two steps or rungs of any ladder.

5.10 A-frame ladders shall not be used in the closed position. Workers shall not sit atop or straddle an A-frame ladder.

5.11 Extension ladders shall only be used with both sections joined together.

5.12 Extension ladders shall be set up at the proper 4 to 1 angle, extend 3 feet above the level they are servicing, and be properly secured at the top to prevent movement.

5.13 Ladders shall not be positioned at building perimeters, leading edges, or other locations which create a fall exposure for the worker (see Safety Policy 160, Fall Prevention and Protection Program).

5.14 Ladders shall not be positioned in front or around doors, unless the door is locked or a worker is present below to direct others.

6.0 Requirements for Scaffolds

6.1 All personnel, including erectors and dismantlers, shall be protected against falls from scaffolds at a height greater than 6 feet at all times in accordance with OSHA 1926 subpart M (not subpart L) and NYULMC's Fall Prevention and Protection Program.

6.2 All supported scaffolds, including mobile frame and Baker scaffolds, greater than 1 frame in height, require installation of a guardrail system (e.g. top rail, mid rail, toe board) at all working levels.

6.3 Baker scaffolds greater than 2 frames in height require installation of manufacturer supplied outriggers to prevent tipping.

6.4 The wheels on Baker and mobile frame scaffolds shall be locked when the scaffold is in use. Baker and mobile frame scaffolds shall not be moved with personnel on them.

6.5 Gaps between a supported scaffold and the building exceeding 14" require installation of an inner guardrail system on the scaffold for the benefit of the workers.

6.6 Each suspended scaffold user requires an independent vertical lifeline properly secured to a structural member or an anchor point rated for 5,000 lbs. Chafing protection shall be used wherever fall protection system components come into contact with sharp edges.

6.7 A controlled access zone shall be established below scaffold work areas where the potential for falling material, equipment or debris exists. All workers at height shall tether their tools.

6.8 All personnel who use a supported scaffold on a construction site, regardless of size, are required to have a valid 4 hour user card as required by the New York City Building Code.

6.9 All personnel who erect, modify or dismantle any supported scaffold in excess of 40 feet must have a valid 32 hour erector card as required by the New York City Building Code.

6.10 All personnel who work on a suspended scaffold must have a valid 16 hour training card as required by the New York City Department of Buildings (DoB), as well as a certificate of fitness from the DoB licensed special rigger by whom they are employed. All suspended scaffold operations must be supervised by a DoB registered rigging foreman who has both, a valid 32 hour training card, and a designated rigging foreman card issued by the DoB licensed special rigger by whom the foreman is employed.

6.11 Supported scaffolds in excess of 40 feet in height must be designed by a NYS registered design professional and approved by the DoB. Vertical netting attached to the scaffold must be fire-retardant and shown on the drawing to ensure that the "sail effect" of the netting is factored into the scaffold design.

6.12 Use of C hooks to support a suspended scaffold requires a letter from a NYS licensed Professional Engineer (PE) attesting to the integrity of the parapets from which they are to be hung. Use of outriggers to support a suspended scaffold requires PE drawings approved by the DoB.

6.13 Sidewalk bridges shall be constructed in accordance with the PE drawing. Where possible, the walkway beneath the bridge shall be closed to pedestrians while it is erected and dismantled. Where this is not possible, an adequate number of flag personnel shall be in place below to direct and stop pedestrians as necessary. No tools, material, equipment or debris shall be stored atop the sidewalk bridge unless

specifically permitted by the DoB or New York City Department of Transportation (DoT). The underside of the sidewalk bridge requires adequate lighting to comply with NYC local laws. This lighting shall be installed by a licensed electrical contractor. The width of the walkway beneath the bridge shall comply with the requirement set forth in the DoT permit. Where a permit is not required, the minimum walkway width shall be 5 feet. The walkway must be free of protrusions and other hazards to pedestrians. Sidewalk bridge posts installed beyond the curb line shall be protected against displacement by vehicles.

6.14 Prior to erecting a supported scaffold, an assessment of the surface on which it is to be set up shall be made in order to confirm that it can support the intended load.

6.15 Supported scaffold components shall be from a single manufacturer. Scaffold components must be free of damage (e.g. cracks, dents, excessive rust).

6.16 Scaffolds must be plumb and level.

6.17 Supported scaffold frames shall be joined together with the manufacturer's stacking pins (e.g. no bolts or wire used). The scaffold shall be properly tied back to the building at the locations indicated on the PE drawing.

6.18 Supported scaffold platforms shall be fully planked utilizing appropriate grade lumber. The planks must properly overhang the scaffold supports and be secured against displacement.

6.19 Proper means of accessing supported scaffolds (e.g. ladder, stair tower) shall be provided. Workers shall not climb on cross-bracing or scaffold framing unless the frame is specifically designed for that purpose in accordance with the OSHA 1926 subpart L and X regulations.

6.20 Scaffolds shall not be loaded in excess of the manufacturer's specifications or the limits set forth in the PE drawing. Working platforms shall only be erected and occupied where permitted by the PE drawing.

6.21 Supported scaffolds shall be inspected prior to use daily by a competent person. Suspended scaffolds shall be inspected prior to use daily by the designated rigging foreman. A written record of these inspections shall be maintained.

6.22 Supported scaffolds acceptable for use require a green tag posted at the base. Scaffolds under construction or not otherwise available for use require a red tag posted at the base.

7.0 Requirements for Aerial Lifts

7.1 All personnel are required to attend safety training prior to using an aerial lift.

7.2 Prior to using an aerial lift, an assessment of the area where the lift is to be set must be conducted to identify elevation changes, inclines, openings and other hazards, and to ensure that the surface can support the weight of the lift.

7.3 On aerial lifts that employ them, outriggers shall be fully extended at all times.

7.4 Aerial lifts shall not be moved with the work platform elevated.

7.5 Lifts shall not be loaded in excess of the limit indicated by the manufacturer. Aerial lifts are work platforms. They shall not be used as a means for personnel to access a higher level or as a hoisting device for materials or equipment.

7.6 Personnel using a boom supported aerial lift shall wear a full body harness with lanyard attached to a manufacturer-supplied anchor point at all times.

7.7 Personnel shall not climb on lift guard rails, use any items to increase the height of the work platform, or climb out of an aerial lift while it is elevated.

7.8 Aerial lifts shall not be operated where winds exceed the limit set forth by the manufacturer.

Related Safety Policies
120: Construction Contractor Safety Requirements
160: Fall Prevention and Protection Program

Issue date	09/13
Replaces	New
Reviewed by	S. Haney, Environmental Health and Safety R. Cohen, Facilities Operations R. Maffia, RED+F Construction P. Schwabacher, Facilities Management NYUHC Environment of Care Committee

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

To protect employees, patients, tenants, and visitors from exposure to lead.

To comply with regulations and guidelines promulgated by the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), and the New York City Department of Health and Mental Hygiene (NYC DOHM).

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POLICY AND GENERAL INFORMATION

1.0 Policy

In order to maximize safety, personnel shall presume that there is lead in the paint in NYULMC buildings constructed prior to 1978, and on painted metal surfaces (e.g., structural steel, tanks, fire escapes) in all NYULMC facilities. Lead also may be found in roofs, cornices, tank linings, electrical conduit, soft solder, and shielding for radiation protection.

NYULMC's Standard Safety Precautions for In-house Operations and Maintenance Activities (see Safety Policy 145, Section 6.0) incorporate appropriate controls for many common building maintenance activities involving presumed LBP, as long as the paint is in good condition. For example, the standard safety precautions are generally adequate for activities such as opening wall cavities, and preparing interior walls, ceilings, doors, door frames, windows, window frames and similar surfaces for painting.

Prior to initiating work where presumed LBP is not in good condition, or other work that will disturb presumed lead-containing material (see Section 2.0 of this policy), personnel shall obtain approval from Environmental Health and Safety (EH&S) for proposed work practices.

Contractors conducting lead abatement projects or performing renovation, repair, or painting projects that will disturb lead-based paint (LBP) in a child-occupied facility, shall possess current EPA Lead-Safe Contractor certification and use only EPA certified lead abatement workers.

2.0 Scope

This policy applies to all work that could create lead-containing dust, debris, fume, or waste. It includes, but is not limited to:

- Demolition or salvage of structures where lead or lead-containing material is present.
- Scraping, sanding, abrasive blasting, welding, cutting or torch burning of lead or lead-containing material.
- Installation of lead or lead-containing material (e.g., lead shielding).
- Mold casting in Radiation Oncology.
- Emergency clean-up of lead contamination.

- Disposal of lead-containing waste.

3.0 Application

This program applies to:

- All indoor and outdoor areas of all NYULMC facilities.
- All employees of NYU Hospitals Center and NYU School of Medicine.
- All contractors and subcontractors.

The primary departments and divisions impacted by the program are:

- Facilities Operations and HJD Facilities Engineering (collectively Facilities)
- Real Estate and Housing
- Radiation Oncology
- RED+F Design and Construction

4.0 Background

Lead has long been recognized as a serious health hazard to those exposed to high levels. In recent years the health effects of lower level exposures, particularly to young and unborn children, has received much attention. OSHA promulgated two standards (26 CFR 1910.1025 and 29 CFR 1926.62) to protect workers and their families from lead. The EPA has passed legislation to protect children from exposure to lead paint in housing and lead in drinking water. The NYC DOHM passed Local Law 1 of 2005, also aimed at protecting young children from lead paint poisoning.

This policy describes the program NYULMC has implemented to prevent lead exposures and comply with regulatory requirements.

5.0 Definitions

Certified refers to certification under the EPA's Lead-Safe Certification Program.

Child-occupied facility means a building, or a portion of a building, constructed prior to 1978 that is visited regularly by the same child, six years of age or under. Such facilities include, but are not limited to, residences, preschools and day care centers.

Lead abatement refers to activities that are undertaken with the intent of permanently eliminating LBP hazards.

LBP means paint which has a lead content greater than or equal to 1.0 mg/cm^2 or is greater than 0.5% lead by weight.

OSHA action level means an 8-hour time-weighted average exposure of 30 micrograms of lead per cubic meter of air.

OSHA permissible exposure limit (PEL) means an 8-hour time-weighted average exposure of 50 micrograms of lead per cubic meter of air.

6.0 Responsibilities

6.1 Environmental Health and Safety (EH&S) is responsible for:

- Developing the Program and collaborating with others to implement and maintain it.
- Coordinating lead investigations.
- Coordinating employee exposure assessments.
- Providing training to any employees who could be exposed to lead levels at or above OSHA's action level.
- Developing exposure control plans for any employees who could be exposed to lead levels at or above OSHA's PEL.
- Approving bid specifications and Health and Safety Plans (HASPs) for contractor work involving lead-containing material.
- Responding to spills of lead-containing material.
- Managing the disposal of lead-containing waste. Coordinating testing to determine if waste is regulated under the Resource Conservation and Recovery Act (RCRA).
- Maintaining documentation for lead investigations, employee exposure assessments, and lead waste disposal.
- Periodically evaluating the Program and updating it as needed.

6.2 **Vice Presidents** and **Directors** are responsible for compliance within their departments and divisions. Their responsibilities include, but are not limited to:

- Ensuring all their employees, contractors, and other vendors whose work could create lead-containing dust, debris, fume, or waste,are familiar with this policy and comply with it.
- Ensuring EH&S is notified of any activities under their direction that could create lead-containing dust, debris, fume, or waste.

6.3 The **RED+F Program Directors** and **Project Executives** are responsible for compliance with the Program on their projects.

6.4 **Managers** and **Project Managers (PMs)** (e.g., design, construction, renovation, operations, and maintenance) are responsible for implementing and maintaining the Program on their projects. Their responsibilities include, but are not limited to:

- Ensuring all personnel (e.g., employees, contractors, and other vendors) who are working on their projects and whose work could create lead-containing dust, debris, fume, or waste, are familiar with this policy and comply with it.
- Contacting EH&S in writing and requesting an evaluation of any work that could create lead-containing dust, debris, fume, or waste.
- Ensuring that any of their employees who could be exposed to lead levels at or above OSHA's action level receive training and medical surveillance.
- Implementing exposure control plans for any of their employees who could be exposed to lead levels at or above OSHA's PEL.
- Ensuring work in or immediately outside child-occupied facilities complies with Local Law 1 of 2005.
- If contracted work could create lead-containing dust, debris, fume, or waste, incorporating appropriate specifications into the bid documents (see Appendix A for sample specifications).
- Forwarding the contractor's HASP (see Section 7.5) to EH&S for approval. Ensuring the contractor implements the approved HASP.
- Arranging a secure location for collection of lead waste from their projects.

6.5 **Real Estate and Housing** is responsible for:

- Complying with all requirements for disclosure of LBP hazards in pre-1978 housing.
- Complying with all requirements of NYC Local Law 1 of 2005.

6.6 **Employee Health Services** is responsible for:

- Developing and implementing a medical surveillance program for lead, if required.
- Maintaining medical records.

6.7 **Employees** who have the potential to create lead-containing dust, debris, fume, or waste are responsible for:

- Requesting a lead investigation prior to conducting any work that could impact presumed lead-containing material.
  - *Note:* As noted in Section 1.0, NYULMC's Standard Safety Precautions for In-house Operations and Maintenance Activities incorporate appropriate controls for many common building maintenance activities involving presumed LBP, as long as the paint is in good condition.
- Implementing measures to control lead-containing dust, debris, fume, and waste.
- Participating in medical surveillance and training if they have the potential to be exposed to OSHA's action level for lead.
- Notifying their supervisors of potential exposures and of any pertinent problems.

6.8 **Contractors** who have the potential to create lead-containing dust, debris, fume, or waste are responsible for:

- Obtaining pre-approval from EH&S for a written Health and Safety Plan (HASP) for the work (see Section 7.5).
- Complying with Local Law 1 of 2005 when working in or immediately outside child-occupied facilities.

- Coordinating all removal of lead-containing waste with EH&S (see Safety Policy 108a).

7.0 Lead Control Program

7.1 Prohibited activities

Employees and contractors shall not use the following methods on surfaces coated with LBP or primer unless they have pre-approval in writing from EH&S for task-specific exposure controls.

- Torch cutting or open flame burning
- Dry sanding (unless the sander is equipped with HEPA vacuum)
- Open abrasive blasting
- Methylene chloride paint removal in indoor locations

7.2 Lead investigations

EH&S shall coordinate lead investigations on a case-by-case basis, generally in preparation for demolition, construction, renovation, or maintenance projects.

- The need for an investigation shall be based on the type, condition, and quantity of presumed lead-containing material, and the potential impact of the project on targeted areas.
  - Targeted areas include child-occupied facilities and pediatric and prenatal units.
- All surveys shall be conducted by EPA certified inspectors.

7.3 Hierarchy of controls

- Employees and contractors shall use engineering, work practice, and administrative controls, to minimize exposure to lead, to the extent that such controls are feasible. The recommended basic controls include use of:
  - Local exhaust ventilation

- Plastic sheeting or hard barriers to isolate the work area from adjoining areas
- Water misting and a scraper to remove peeling paint
- A HEPA vacuum or wet methods for cleanup of dust(all surfaces should be maintained as free as practicable of accumulations of dust and debris)
- Clean change areas for workers with separate storage facilities for work and street clothes
- Showers for workers where feasible

- Whenever all feasible engineering, work practices, and administrative controls that can be instituted are not sufficient to reduce worker exposure to below OSHA's PEL, personnel shall nonetheless use them to reduce worker exposure to the lowest feasible level and shall supplement them by the use of respiratory protection.

7.4 **Additional requirements for employees**

- **Exposure assessment**
  - If it is necessary for employees to do work that could create lead-containing dust, debris, fume, or waste, their manager shall ask EH&S to evaluate potential exposures.
    - Personal air monitoring shall be conducted on employees performing the work.
    - OSHA methods of sampling and analysis shall be used.
    - Employees shall be notified of the results.

- **Medical surveillance**
  - In the unlikely event that an exposure assessment indicates exposure to the OSHA action level, Employee Health Service will develop and implement a medical surveillance program in accordance with OSHA requirements.
    - Blood tests for lead shall be analyzed according to the schedule in the OSHA lead standard and within two weeks of the exposure incident.

- A medical exam shall be conducted annually if the blood lead levels are at or above 40 micrograms of lead per deciliter of blood; when the employee exhibits symptoms of lead poisoning; or when the employee requests medical advice about exposures to lead.
- Medical removal may be required if elevated blood lead levels persist.

- **Information and training**
  - In the unlikely event that an exposure assessment indicates exposure to the OSHA action level, the department/division shall work with EH&S to provide information and training in accordance with OSHA requirements. The information and training shall be provided annually and consist of:
    - The contents of the OSHA lead standard.
    - The nature of the activities that may result in exposures above the action level.
    - The engineering controls and work practices to be used.
    - Personal protective equipment requirements.
    - The purpose and description of the medical surveillance program.
- **Exposure control plan**
  - In the unlikely event that an exposure assessment indicates exposure to the OSHA PEL, the department/division shall work with EH&S to develop an exposure control plan.
  - Engineering, work practice, and administrative controls shall be the primary means for controlling lead dust and fume.
  - If engineering, work practice, and administrative controls do not reduce exposures below the PEL, respirators shall be used, consistent with Safety Policy 109, Respiratory Protection.
  - Other protective clothing (e.g., disposable full body suits with hoods and shoe; goggles) shall be used, consistent with Safety Policy 119, Personal Protective Equipment.

7.5 **Additional requirements for contractors**

- Sample specifications for repainting surfaces coated with LBP are included as Appendix A.
- Prior to commencing the work, the contractor shall establish and implement a written HASP or other submittal that incorporates the following elements unless contractor can document that airborne lead levels will not reach OSHA's action level.
  - A description of each activity in which lead is emitted, e.g. equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices.
  - A description of the specific means that will be employed to control airborne lead and, where engineering controls are required, engineering plans and studies used to determine methods selected for controlling exposure to lead.
  - A report of the technology considered in minimizing airborne lead.
  - Air monitoring data which documents the source of lead emissions.
  - A detailed schedule for implementation of the plan, including documentation such as copies of purchase orders for equipment, construction contracts, etc.
  - A work practice program which includes items required under paragraphs 29 CFR 1926.62(g), (h) and (i) and incorporates other relevant work practices.
  - An administrative control schedule required by 29 CFR 1926.62(e)(4), if applicable.
  - A description of arrangements made among contractors on multi-contractor sites with respect to informing affected employees of potential exposure to lead and with respect to responsibility for compliance with this section as set-forth in 29 CFR1926.16.
  - A description of procedures for collecting and discarding waste.
  - Other relevant information.

- Contractor shall notify NYULMC's PM prior to commencing any work covered by the HASP.

7.6 **Disposal of RCRA-regulated lead waste**

- EH&S coordinates testing to determine if waste that contains lead is RCRA-regulated.
- EH&S contracts with a permitted hazardous waste hauler for the transport and disposal of RCRA-regulated waste.
- The waste hauler transports the RCRA-regulated waste to an approved disposal facility.
- EH&S maintains and tracks waste manifests to ensure that waste is received by the disposal facility within the required time period.

8.0 **Recordkeeping**

8.1 Air monitoring and medical surveillance records shall be maintained for 40 years, or 20 years plus the duration of employment, whichever is longer.Training records shall be maintained for a minimum of one year following the last day of employment.

- EH&S maintains documentation for lead investigations and exposure monitoring.
- Employee Health Services maintains medical surveillance records.
- Real Estate and Housing maintains records for disclosure of LBP hazards in pre-1978 housing.
- Each department/division maintains its training records; EH&S may maintain copies.

9.0 **Access to records**

Training records and personal exposure monitoring records for employees are available to the employees, employee representatives, OSHA and NIOSH in accordance with 29 CFR 1910.20.

10.0 **Program evaluation**

EH&S shall evaluate the Lead Management Program as part of the annual evaluation of NYUHC's Hazardous Materials and Wastes Management Plan

Related Safety Policies

108a: Hazardous Waste from Contractors
109: Respiratory Protection
119: Personal Protective Equipment
120: Contractor Safety Requirements
138: Confined Space Entry
143: Hot Work
145: Interim Life Safety Program

Appendix A	Sample Specifications for Preparing Surfaces Coated with LBP

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Sample Specifications for Preparing Surfaced Painted with LBP

Qualifications

Trained and certified lead-abatement contractors and workers shall be used to perform the project. Each supervisor and worker assigned to the project must have EPA certification available at the project site. Contractors must possess an EPA Contractor Certification Number.

Training

a) The workers who remove paint shall be trained as required under the OSHA Lead in Construction standard 1926.62 and shall be certified by EPA as lead abatement workers as per EPA/HUD lead paint regulations.

b) The work shall be supervised by a trained competent person who is an EPA certified lead paint supervisor and is fully knowledgeable of general renovation techniques, including LBP abatement.

c) The supervisor shall be trained on engineering controls and good work practices relating to lead paint abatement and on the importance of adherence to these controls and practices.

Personnel protection

Any work that may produce lead airborne dust or fumes shall be conducted by trained workers using engineering controls and work practice controls to prevent exposure to lead dust and fume and wearing appropriate personal protective equipment (PPE).

a) Respiratory protection shall be worn by all individuals performing the work or in the work area who may be exposed to lead dust or fumes at all times during lead abatement activities.

b) Hand scraping of paint shall require half mask tight fitting respirators with N100 cartridges.

c) The contractor shall perform personal monitoring for lead exposure. The following are the minimum respiratory protection requirements based on air sample results:

   i. Air lead levels of 500 ug/m^3 or less: Half-mask air purifying (protection 10X) respirator with high efficiency filters; or half-mask supplied air respirator operated in demand (negative-pressure) mode.

   ii. Air lead levels between 500 ug/m^3 and 1,250 ug/m^3: Loose fitting hood or helmet (protection 25X) powered air purifying respirator with high efficiency filters; or hood or helmet supplied air respirator operated in continuous-flow mode (e.g., type CE abrasive blasting respirators operated in a continuous flow mode).

   iii. Air lead levels between 1250 ug/m^3 and ug/m^3: Full facepiece air purifying (protection 50X) respirator with high efficiency filters; tight fitting powered air purifying respirator with high efficiency filters; full facepiece supplied air respirator operated in demand mode; half-mask or full facepiece supplied air respirator operated

in a continuous-flow mode; or full facepiece self-contained breathing apparatus (SCBA) operated in demand mode.

iv. Air lead levels between 2500 ug/m^3 and 50,000 ug/m^3: Half-mask supplied air (protection 1,000X) respirator operated in pressure-demand or other positive pressure mode.

v. Air lead levels between 50,000 ug/m^3 and 100,000 ug/m^3: Full facepiece supplied air (protection 2,000X) respirator operated in pressure demand or other positive pressure mode (e.g., type CE abrasive blasting respirators operated in a positive pressure mode).

vi. Greater than 100,000 ug/m^3, unknown concentration or fire fighting: Full facepiece SCBA operated in pressure-demand or other positive pressure mode (protection over 2000X).

d) Only approved National Institute of Occupational Safety and Health (NIOSH) respirators shall be used. Respirators shall be properly fitted for all persons working at the site.

e) The manufacturer's instructions shall be followed for maintenance, proper fit, use of appropriate cartridges, cleaning, repair, replacement of defective parts, appropriate storage, and frequency of cartridge replacement for the specific respirator in use.

f) Respirators shall not be removed while in the work site or work area.

g) Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some coating or stripping products. Consult the Material Safety Data Sheets (MSDS) or the manufacturer and obtain the proper filters as necessary.

h) Individuals at the work site shall wear full body suits with hoods and shoe covers. A TYVEK or similar type of disposable suit may be worn. Disposable suits shall be used once, and properly discarded. Protective clothing, as described above, and other PPE shall be put on prior to entering the work site or work area. Protective clothing shall be worn in the work site or work area until it has been thoroughly cleaned as described in clean-up activities. Protective clothing shall be changed before leaving the work site or work area and non-disposable suits shall be laundered separately. An area other than the work site or work area shall be provided for persons to put on suits and other PPE and to store their street clothes.

i) Goggles with side shields shall be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the Material Safety Data Sheet (MSDS) for the product.

Paint removal methods

Abatement of lead-paint shall not employ the following methods:

- open flame burning

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- dry-sanding
- open abrasive blasting
- uncontained hydro-blasting
- methylene chloride for interior use

Removal of lead-paint shall employ only the following methods:

- nonflammable chemical strippers which do not contain methylene chloride, except that chemical strippers containing methylene chloride may be used for localized touch-up
- Manual scraping using a HEPA vacuum cleaner to collect dust
- Sander equipped with HEPA vacuum

Warning signs

a) Warning signs shall be posted at all approaches to the work area. The warning sign shall indicate a warning that the area is a lead work area. Lettering shall be at least 1" high and bold.

b) The work area shall be vacated of non-abatement personnel.

c) Tenant Notification: At least 3 days before removing, enclosing, or encapsulating lead paint, post caution signs immediately outside all entrances and exits to the work site. In emergency situations posting shall be done as soon as possible. Keep the caution signs posted until the lead abatement is completed. The caution signs shall meet the following specifications:

   i. the sign shall be at least 20" by 14", and state the date and place of the lead abatement project; and

   ii. the sign shall include the phrase "Caution, Lead Hazard, Keep Out" or "Warning, Lead Work Area, Keep Out" in bold lettering, at least two inches high.

Hygiene practices

a) Eating, drinking, smoking, and applying of cosmetics are not allowed in the work site or work area. Any person leaving the work site or work area shall rinse his or her mouth with potable water and wash hands and face thoroughly before eating, drinking or smoking.

b) Decontamination enclosure systems shall be installed/constructed outside the work area and/or at the entrance to the work area. The personal decontamination enclosure system shall be of sufficient size and dimensions to accommodate the largest anticipated work shift and shall be maintained to ensure all workers can properly use the system. A waste storage area shall be established. Decontamination enclosures shall be equipped with curtained doorways (air locks) and shall have lockable doors for off hours.

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c) All individuals shall wash or shower before leaving the work site or work area for the day.

d) A lavatory facility or potable water supply or a portable decontamination unit shall be provided and located at the work site or work area for the washing of hands and face and for clean-up activities.

Work procedures (exterior paint removal)

Before beginning to abate the lead-containing paint:

a) Seal all windows on the level of work and all levels below the work.

b) For all sealing and covering of windows and interior and exterior abatement work, use the following:

   i. Plastic sheeting, at least 6 mils thick or equivalent;

   ii. Polyethylene sheeting shall be sufficiently overlapped and all joints shall be fully sealed. Polyethylene sheeting shall be fire retardant and have a minimum thickness of 6-mil. Floor surfaces shall be contained with two (2) layers of reinforced, fire retardant 6-mil polyethylene sheeting.

   iii. Duct tape or equivalent waterproof tape spray adhesives; or other additional appropriate work practices to contain particulate lead or lead-containing liquids.

c) For removal of the lead paint by manual scraping the following precautions shall be followed:

   i. When water/liquid waste is produced by any abatement technique used, plastic sheeting at least 6 mils thick shall be placed on the ground, as close as possible to the building foundation, or on the floor when applicable. Sheeting placed on the ground or floor shall be raised at its edge and extended a sufficient distance to contain the liquid waste.

   ii. When non-liquid waste is produced by any abatement technique used, plastic sheeting at least 6 mils thick shall be placed on the ground, as close as possible to the building foundation, or on the floor when applicable. Sheeting placed on the ground or floor shall extend out from the foundation 3 feet per story being abated, with a minimum of 5 feet and a maximum of 20 feet.

   iii. Sheeting shall be secured at the foundations and along all edges and seams.

   iv. If the wind speed causes visible dust during an exterior abatement project producing dry waste, abatement shall not be continued or performed unless vertical shrouds are erected.

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Cleanup of work site

After completion of each day's work the site shall be completely cleaned by removing plastic sheeting and HEPA vacuuming surfaces:

Daily cleaning at end of shift

a) The dust and debris collection method shall be selected in conjunction with the paint removal method to assure the methods are compatible and can be integrated.

b) Dust and debris may be collected from the surface at the point of removal or from the general work area.

c) Debris shall be collected on a regular basis and shall not be left to accumulate in the work area during the course of removal. Collection of debris from ground covers and horizontal surfaces shall occur while the material is wet using acceptable means that are not destructive to the containment materials.

d) Deposit all lead waste, including sealing tape and plastic sheeting, in double plastic bags at least 4 mils thick or single bags 6 mils thick or equivalent, and seal the bags.

e) Before washing, vacuum-clean all surfaces in the work site including, walls, windows, window wells, and fire escape and scaffolding with a HEPA vacuum.

f) After vacuum-cleaning, wet wash all surfaces in the work site including walls, windows, window wells, scaffolding floors and the fire escape with a solution containing a phosphate-free detergent.

g) If visible residue remains after washing and allowing all surfaces to dry, vacuum all surfaces with HEPA vacuum.

h) Deposit all lead waste from clean-up, including mop heads, sponges, filters, and disposable clothing, in double plastic bags at least 4 mils thick or single bags 6 mils thick, and seal the bags.

Final clean-up

a) After removal of the paint, all surfaces shall be wet wiped and HEPA vacuumed.

b) A visual inspection shall be performed by the contractor lead abatement supervisor to confirm the absence of dust and/or debris and that abated surfaces are clean of residual paint.

c) The polyethylene sheeting shall be removed by folding inward so that residual dust and/or debris are within the polyethylene sheeting.

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d) A second visual inspection shall be performed by the contractor lead abatement supervisor to confirm the absence of dust and/or debris.

e) As a prerequisite to commencement of clearance air monitoring, a thorough visual inspection by the NYULMC Project Manager or his/her designee shall verify the absence of residual paint and dust/debris from the work area.

Air Monitoring/Sampling

a) Daily area air samples shall be collected on representative workers performing the work as well as in the vicinity, but outside the work area containment barriers to assure the action level is not exceeded outside containment.

b) Personal samples and area monitoring air samples shall be collected and analyzed in accordance with NIOSH method 7082 Lead by Flame Atomic Absorption Spectrophotometry (AAS) with 24-hour turnaround time by an ELAP certified laboratory (or other validated NIOSH method). The results of area air samples shall be posted daily at the beginning of the work shift.

Waste Disposal

a) Make arrangements, 1 month in advance of project start date, with NYULMC Environmental Health and Safety for waste disposal.

b) Place LBP chips, debris, and lead dust in double 4-mil or single 6-mil polyethylene bags or equivalent that are air-tight and puncture-resistant. Pieces of wood or other large items that do not fit into plastic bags shall be wrapped with double 4-mil or single 6-mil plastic sheeting and sealed.

c) Place all disposable cleaning materials, such as sponges, mop heads, filters, disposable clothing, and brooms in double 4-mil or single 6-mil plastic bags, or equivalent, and seal.

d) Remove plastic sheeting and tape from covered surfaces. Prior to removing the plastic sheeting, the sheeting shall be lightly misted in order to keep dust down and folded inward to form tight small bundles to bag for disposal. All plastic sheeting shall be placed in double 4-mil or single 6-mil thick plastic bags, or equivalent, and shall be sealed.

e) Bag and seal vacuum cleaner bags and filters in double 4-mil or single 6-mil thick plastic bags or equivalent.

f) Place all contaminated clothing or clothing covers used during abatement and cleanup in plastic bags for disposal prior to leaving equipment room, work site or work area.

g) Place solvent residues and residues from strippers in drums made from materials that cannot be dissolved or corroded by chemicals contained in those solvents and strippers. Solvents shall be tested to determine if they are hazardous. Solvents and caustic and acid waste shall not be stored in the same containers.

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h) Contain and properly dispose of all liquid waste, including lead dust contaminated wash water.

i) HEPA vacuum the exterior of all waste containers prior to removing the waste containers from the work site or area and wet wipe the containers to ensure that there is no residual contamination. Containers that have been cleaned shall be moved out of the work site or area into a designated storage area.

j) Carefully place the containers into the truck or dumpster used for disposal.

k) Ensure that all waste is transported in covered vehicles to an approved landfill.

Records

Contractor shall maintain accurate and complete records of items listed below for a minimum six years.

- Inspections and work reports.
- Complete description of the abatement work area and abatement surfaces.
- Complete records of any changes in work procedures.
- List of all trained and certified workers on the project.
- List of PPE used throughout the entire project.
- Activities by regulating agencies.
- Air monitoring and test results.
- Disposal, test results and disposition of waste.

Policy: Penetrations in fire/smoke barriers

PURPOSE

- To protect patients, employees, and visitors from potential hazards of fire and smoke.
- To identify, document, and repair penetrations in smoke and fire barriers promptly.
- To provide a quality assurance process so that as infrastructure is installed, penetrations in smoke and fire barriers are properly sealed.
- To describe the preventive maintenance and inspection procedures for identifying and repairing penetrations.
- To comply with NFPA 101, *The Life Safety Code* and Joint Commission standards.

POLICY AND GENERAL INFORMATION

Policy: Penetrations in fire/smoke barriers

1.0 Background information

Maintaining the integrity of smoke and fire barriers is a major component of the medical center's fire protection plan. If smoke and fire barriers are not maintained in accordance with their original fire rating, the level of protection provided to patients, staff, and visitors is compromised.

2.0 Policy

2.1 All employees and contractors' employees who engage in work which involves penetrations in smoke or fire barriers, including floors, ceilings, and walls, must:

- Attend training and obtain certification in fire stopping from Facilities Operations (main campus), Facilities Engineering (HJD campus), or IT before engaging in such work.
- Obtain a project-specific *Rated Wall/Slab Penetration Permit* before engaging in such work.
- Refer to Facilities Operations' (main campus) or Facilities Engineering's (HJD campus) latest set of smoke and fire barrier drawings for ratings of smoke and fire barriers. In the absence of adequate drawings, consult with the Fire Safety Director for information on ratings.
  - Drawings for several main campus buildings/floors are posted on the intranet at: http://redaf.med.nyu.edu/building-features-drawings
- Ensure that each penetration, created or observed, is properly sealed as soon as possible upon completion of work.
  - Either seal each penetration with a material that returns the barrier to its original rating, or report the penetration to the appropriate department (see Responsibilities section) for repair.

2.2 Any contractor failing to conform to this policy will be prohibited from working at NYULMC.

3.0 Scope

This policy covers every penetration in a smoke or fire barrier within an NYULMC facility, owned or leased, including penetrations that are new or existing, used or not

used, created for but not limited to utilities, conduits, duct work, pipe and cabling (telephone, data network, fiber-optics, security devices, motion detectors, surveillance cameras, card swipes, biomedical devices, nurse call, fire alarms, overhead page, audio visual equipment, telecom carriers, wireless and microwave communications, cable TV, and developmental wiring).

4.0 Definitions

Fire barrier: Any wall, floor, ceiling, or roof which has a fire-resistance rating. A fire barrier also restricts the movement of smoke.

Fire stopping: Any component or product installed to maintain or regain the fire resistance rating of a fire barrier that has a penetration. All fire stopping systems must be tested and listed by an accredited third party testing agency for their appropriate use.

Penetration: Any compromise of a required wall, floor, or ceiling's integrity and/or continuity. This breach of integrity and/or continuity may be the result of a hole made in the wall or slab to permit the installation of utilities or data services, or the disruption of an existing fire rated patch of a previous penetration due to work on the same wall or slab. Open junction boxes, pull boxes, conduit, and raceways are potential penetrations and are to be appropriately sealed or covered.

Smoke barrier: A barrier which divides a floor into smoke compartments. A smoke barrier may or may not have a fire rating. In newly constructed or renovated areas, smoke barriers have a fire resistance rating of at least one hour.

Smoke partition: Any construction designed to prevent passage of smoke. A smoke partition is not required to be fire rated.

5.0 Responsibilities

5.1 **Environmental Health and Safety** is responsible for:

- Developing the policy and updating it as needed.
- Conducting semi-annual QA inspections for penetrations on the main campus and distributing summary reports.
- Conducting a weekly QA inspection of one construction site on the main campus and distributing quarterly summary reports.

- Functioning as a consultant on an as-need basis to provide guidance on the fire code, the structural features of fire protection, and fire stopping materials.

5.2 **HJD Loss Prevention** is responsible for:

- Conducting semi-annual QA inspections for penetrations at the HJD campus and distributing summary reports.
- Conducting a weekly QA inspection of one construction site on the HJD campus and distributing quarterly summary reports.

5.3 **Facilities Operations** (main campus, superblock and 660 First Avenue)

5.3.1 The **Director of Engineering** is responsible for:

- Reviewing this program and all documentation at least annually
- Retaining a trained life safety professional at least once every 3 years to review and survey the wall, floors, and ceiling for penetrations as part of the Joint Commission (TJC) Statement of Conditions (SOC) requirement for hospital areas.
- Maintaining TJC electronic Plan for Improvement (ePFI) and documenting efforts to comply with the plan. Entering all penetrations that cannot be repaired within 45 days into the ePFI.
- Managing the penetrations maintenance program to document all penetrations that can be repaired within 45 days, including locations, date of discovery and correction.

5.3.2 The **Plant Operations Manager,** working under the direction of the Director of Engineering, is responsible for reviewing the program quarterly for compliance.

5.3.3 The **Building Systems Manager** is responsible for implementing the program on a day-to-day basis.

5.3.4 The **Carpentry and Paint Foremen** are responsible for inspections and repair/maintenance work. This includes:

- Coordinating annual inspections by their mechanics of all walls, above and below the ceiling line.
- Reporting all identified penetrations to the Building Systems Manager.
- Coordinating repair of all penetrations identified during their inspections.

5.4 **Facilities Management** (Clinical Cancer Center, Hassenfeld, and Columbus Infusion Center) and **Real Estate** (other leased properties) oversee the responsibilities listed in Section 5.3 at their facilities.

5.5 **HJD Facilities Engineering** (HJD campus)

5.4.1 The **Director of Facilities Engineering** is responsible for:

- Reviewing this program and all documentation at least annually
- Retaining a trained life safety professional at least once every 3 years to review and survey the wall, floors, and ceiling for penetrations as part of the Joint Commission (TJC) Statement of Conditions (SOC) requirement for hospital areas.
- Maintaining TJC electronic Plan for Improvement (ePFI) and documenting efforts to comply with the plan. Entering all penetrations that cannot be repaired within 45 days into the ePFI.
- Managing the penetrations maintenance program to document all penetrations that can be repaired within 45 days, including locations, date of discovery and correction.
- Retaining a consulting life safety specialist to conduct quarterly inspections of all walls, above and below the ceiling line.
- Retaining a certified fire stopping vendor to repair all penetrations identified during the quarterly inspections.
- Reviewing the program quarterly for compliance.

5.4.2 The **Operations Manager and Facility Coordinator** under the direction of the Director of Facilities Engineering is responsible for:

- Reporting all penetrations identified during quarterly inspections to the Director of Facilities Engineering.
- Coordinating repair of all penetration identified during quarterly inspections with the Building Supervisor and fire stopping vendor.

5.4.3 The **Building Supervisor** is responsible for:

- Implementing the program on a day-to-day basis.
- Report all identified penetrations to the Director of Facilities Engineering and the Operations Manager.
- Coordinating repair of all identified penetrations.
- Signing the penetrations permit after verifying, by inspection, that all penetrations have been properly sealed.

5.6 **Departments that coordinate work involving penetrations** are responsible for compliance with the policy. Their responsibilities include:

- Ensuring that every project manager is trained on and familiar with the requirements of this policy.
- Including the requirements of this policy in bid documents.
- Ensuring that contractors are appropriately trained and informed about the policy.
- Ensuring the policy is implemented and all requirements are followed.

5.7 **Project managers** are responsible for implementing the policy on their projects. There responsibilities include, but are not limited to:

- Ensuring that contractors and employees use appropriate materials to seal penetrations and restore barriers.
- Reporting on any new construction projects at the weekly construction coordination meeting.

- Conducting (or coordinating) daily inspections during the project duration and following up on identified issues.

6.0 **Ratings of smoke and fire barriers**

6.1 Facilities Operations (main campus) and Facilities Engineering (HJD campus) maintain drawings and information on the structural features of fire protection for medical center buildings.

- Drawings for several main campus buildings/floors are posted on the intranet at: http://redaf.med.nyu.edu/building-features-drawings

6.2 **Standard ratings for smoke and fire barriers:** The following general rules apply:

- Stairwells, pipe shafts, and elevator shafts have a **two hour** fire rating.
- Mechanical rooms and laboratories have at least a **one hour** fire rating.
- Smoke barriers used to divide floors into smoke compartments have at least **one-half hour fire rating.** Smoke barriers in newly constructed or renovated areas have **a one hour fire rating.** (All NYUHC patient floors are divided into at least two smoke compartments.)
- Exit corridors, in general, must be sealed to limit the spread of smoke.

7.0 **Materials and procedures:** Employees and contractors working in NYULMC facilities must seal penetrations in accordance with the following guidelines.

7.1 **Fire stopping**

- Provide and use penetration seal assemblies whose fire resistance ratings have been determined by testing (ASTM E-814) in the configurations required and which have fire resistance ratings at least as high as that of the fire-rated assembly in which they are to be installed.
- Comply with Underwriters Laboratories (UL) listed methods and procedures, such as those found in Hilti Fire Stopping Systems book *07270/07840 – Fire stopping.*

7.2 **Smoke stopping:** Use any caulking-gun type or poured joint sealant suitable for the application. Use only fully curing types where accessible in the finished work. For smoke partitions, rated fire stopping is not required.

- In all cases, use products which allow normal expansion and contraction movement of adjacent materials without failure of the penetration seal, and which emit no hazardous, combustible, or irritating by-products during installation or the curing period.
- For high-traffic openings, use materials specifically designed for retrofit, such as intumescent fire stop putty or pillows. Typical high-traffic openings include cable tray penetrations of walls and floor, openings for voice, data and communications cabling, and all sleeved cabling openings.
- When a penetration in a smoke or fire barrier is made in error or is too large to be sealed using fire stopping, repair it using the original materials of construction.
- Obtain approval from the project manager prior doing work that involves exceptions to these general rules.

8.0 **Training and certification in fire-stopping**

8.1 Personnel who do work involving penetrations must attend training about the building codes for smoke and fire barrier penetrations and know the appropriate seals and techniques for the repair/restoration of penetrations.

8.2 Employees and contractors working in NYULMC space must obtain certification by submitting evidence of training for applicable personnel to Facilities Operations, HJD Facilities Engineering, or IT.

8.3 Evidence may be a certificate or a roster of trained individuals from the manufacturer of the fire stopping material (or other authorized organization) verifying that all listed individuals have been trained in the UL approved methods of installing fire stopping material.

8.4 Training can be arranged through Facilities Operations (main campus) or HJD Facilities Engineering (HJD campus).

9.0 **Permits for rated wall/slab work:** The process for obtain, using, and closing out a permit is summarized in the *Penetrations Flow Chart* (see Appendix A).

9.1 **Construction and renovation projects:** A permit is issued as part of the Interim Life Safety Measures (ILSM) documentation and is good for the length of the project.

- The permit is good only for work within the project site.
- Periodic renewal of the permit is not required.
- Any project-related work that entails running cables, pipes, etc. outside the project site is subject to the rules in Section 8.2 (below).
- A drawing articulating the locations of all work where penetration of fire/smoke barriers may occur must be appended to the permit
- Final inspection and sign-off is performed at the project's completion.

9.2 **Other penetrations work**

- Employees and contractors must obtain a Rated Wall/Slab Penetrations Permit (a permit) (see Appendix B) to install infrastructure from Facilities Operations (main campus) or HJD Facilities Engineering (HJD campus) prior to beginning work.
- A request for a permit must include evidence of training for all personnel, and the following information: company name, cabling location (building, floor, and path of cable (from – to)), number of cable runs, and names/phone numbers of project managers.
- A drawing articulating the locations of all work where penetration of fire/smoke barriers may occur must be appended to the request for a permit.
- A request for a permit may be sent via email attachment, fax, or hard copy to Facilities Operations (main campus) or HJD Facilities Engineering (HJD campus). The approved permit is sent via the same mechanism that it was received.
- Facilities Operations (main campus) or HJD Facilities Engineering (HJD campus) will issue a permit within 2 business days (assuming certification requirements as described above have been met). If a permit is not issued, Facilities Operations or HJD Facilities Engineering will provide the requestor with a reason for not issuing a permit.

- Permits are issued in either daily or calendar week increments only. A permit can be renewed for additional weeks if the project extends beyond a one week period.
- Employees and contractors must follow the terms of the permit. Signature on the permit by the contractor or their appointed representative constitutes acceptance of these terms.
- Contractors are required to sign the Penetrations Log Book located in Facilities Operations (main campus) or HJD Facilities Engineering (HJD campus) every morning, prior to commencing work specified in the permit.
- At the end of the work week permitted, the sponsor department (Facilities Operations/Engineering/Construction or IT) updates the activities described on the permit to include any alterations in scheduled work or additional "small pulls or projects" that occurred.

9.3 **Close-out of permits**

- When installation is complete and rated wall/slab penetrations are sealed, the permit holder notifies the sponsor department (i.e.: Facilities Operations, HJD Facilities Engineering, or IT). The permit holder updates the permit to include any deviation from the original path and any other additions or alterations.
  - If the sponsor department is not Facilities Management, the department submits a Plant Maintenance Service Request (PMR) for the painters.
- A Facilities Operations (main campus) or HJD Facilities Engineering (HJD campus) painter mechanic inspects all rated wall/slab penetrations for completed fire stopping. The permit holder provides a representative to accompany the mechanic to familiarize him with the work to be inspected, and act as a guide to expedite the inspection.
- The mechanic performing the inspection signs the penetrations permit after verifying that all penetrations have been properly sealed.
- Final payment to a contractor is authorized only after the painter mechanic validates all penetrations have been properly sealed, or other arrangements have been made to fire stop the penetrations.

10.0 **Existing penetrations**

10.1 After using an existing penetration, an employee or contractor must:

- Seal and fire stop the penetration
  - if it is of a similar size and scope to one that the individual needed to make to accommodate the penetrating it, or
  - if the proper sealing of all pre-existing penetrations was included in the scope of work
- Report the penetration to the project manager if it is of a size and scope beyond the needs of the current job. Reporting of penetrations for in-house repair is generally confined to those found during small scale wiring projects.

10.2 If a contractor or employee does not either create or use, but observes a penetration in a fire wall or smoke barrier, the individual must either repair the penetration or to report it to the project manager who must report it to Facilities Operations (main campus) or HJD Facilities Engineering (HJD campus).

11.0 **Procedures for construction and renovation projects**

11.1 **Drawings** must indicate rated smoke and fire barriers.

11.2 **Bids and contracts**

- For every significant construction or renovation project, the project manager must inform all bidders of their responsibility to bring all rated fire walls and smoke barriers into code compliance.
- Bidders must be given the opportunity during the walk-through to examine these areas so as to bid accordingly.
- The project manager must provide bidders with any *penetration survey* drawings of the area.
- For those projects where areas may not be visible until after demolition begins, the project manager must:
  - include an allowance for any found penetrations beforehand;

- issue a change order to cover the additional work afterwards; or
- after discussions with the appropriate administration, transfer responsibility for repair to the Facilities Operations or HJD Facilities Engineering Paint Shop.

11.3 **Field quality control**

- Each project manager or his/her designee conducts daily Interim Life Safety (ILS) inspections, which include an inspection for penetrations. If deficiencies are identified, they are corrected as soon as possible.
- The project manager records penetrations on the inspection form and ensures that the general contractor, construction manager, or in-house paint or carpentry shop is aware of the problem. The project manager follows-up to ensure the repair work is completed.
  - Penetrations may be submitted to the contractor in the form of a punch list to be completed as work progresses.
- The project manager's ILS inspection records and documentation of corrective action are maintained in the project file.

11.4 **Final payment**

- Since contract language requires contractors to properly seal all penetrations, a failure to do so may result in withholding and/or reducing payment until such work is completed.
- Should the contractor fail to complete the work, the withheld monies may be used to cover the expense of hiring another contractor/vendor to rectify the work.

12.0 **Procedures for preventive maintenance and inspection (PMI)** (main campus)

12.1 The Building Systems Manager and the Carpentry and Paint Foreman coordinate and document inspections and repairs in accordance with the following general guidelines.

- Consulting life safety experts inspect all walls below the ceiling line at least once every three years. The Building Systems Manager maintains documentation of the inspections.

- The painters, carpenters, respective foreman, and the Building Systems Manager inspect all walls above and below the ceiling line at least annually. Access doors are used to gain access above the ceiling. The Building Systems Manager maintains documentation of the inspections.

- Contractors may be used to supplement in-house staff for repairs.

13.0 **Documentation:** Facilities Operations (main campus) and HJD Facilities Engineering (HJD campus) maintains documentation for identified penetrations.

13.1 **45 day list** (main campus): The Building Systems Manager or his designee maintains the 45 day list and related documentation, including logs created by Facilities Operations painter mechanics.

- Penetrations that can be reasonably repaired within 45 days are entered into a 45 day list of penetrations. They are not initially entered into the Joint Commission ePFI.

- If a penetration is not repaired after 30 days, it is entered into the Joint Commission ePFI.

13.2 **Joint Commission ePFI**

- Penetrations in smoke and fire barriers in patient care areas that are not repaired within 30 days of their discovery are entered into the NYU Hospitals Center Statement of Conditions (SOC), electronic Plan for Improvement (ePFI).

- Each penetration in the ePFI has a completion date of at least six (6) months within the date of reasonable notice of the penetration.

- The ePFI is available on the www.jointcommission.org web-site to authorized users.

14.0 Performance monitoring

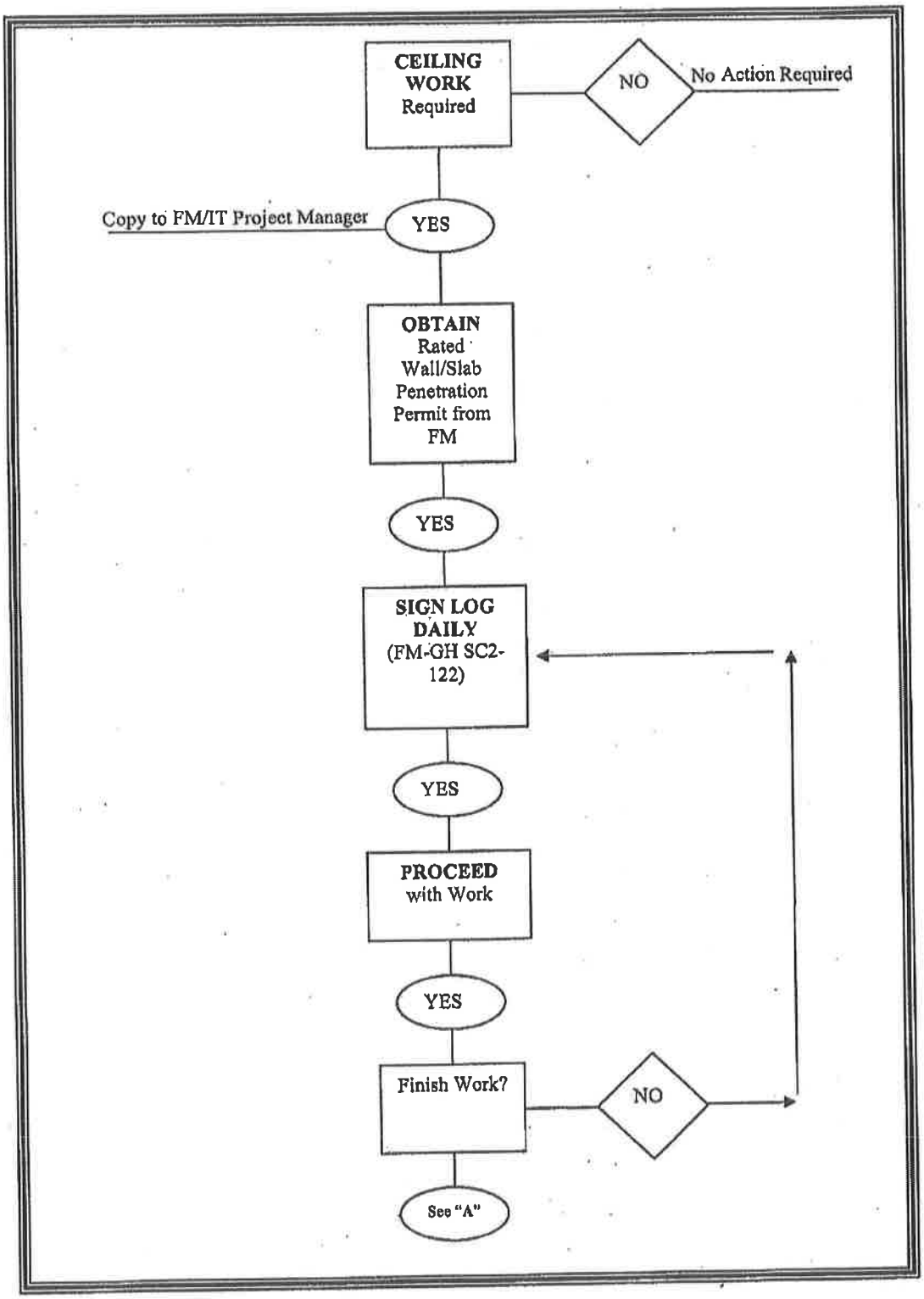
14.1 Environmental Health and Safety (main campus) and HJD Loss Prevention (HJD campus):

- Conduct semi-annual QA inspections of primary fire walls and smoke barriers and annual QA inspection of electrical and IT closets.
  - Communicates deficiencies promptly to the appropriate department (Facilities Operations, Facilities Construction, HJD Facilities Engineering, or IT).
  - Prepares and distributes semi-annual summary reports.
- Conducts a QA inspection of one construction site each week.
  - Communicates deficiencies promptly to the project manager.
  - Prepares and distributed quarterly summary reports.

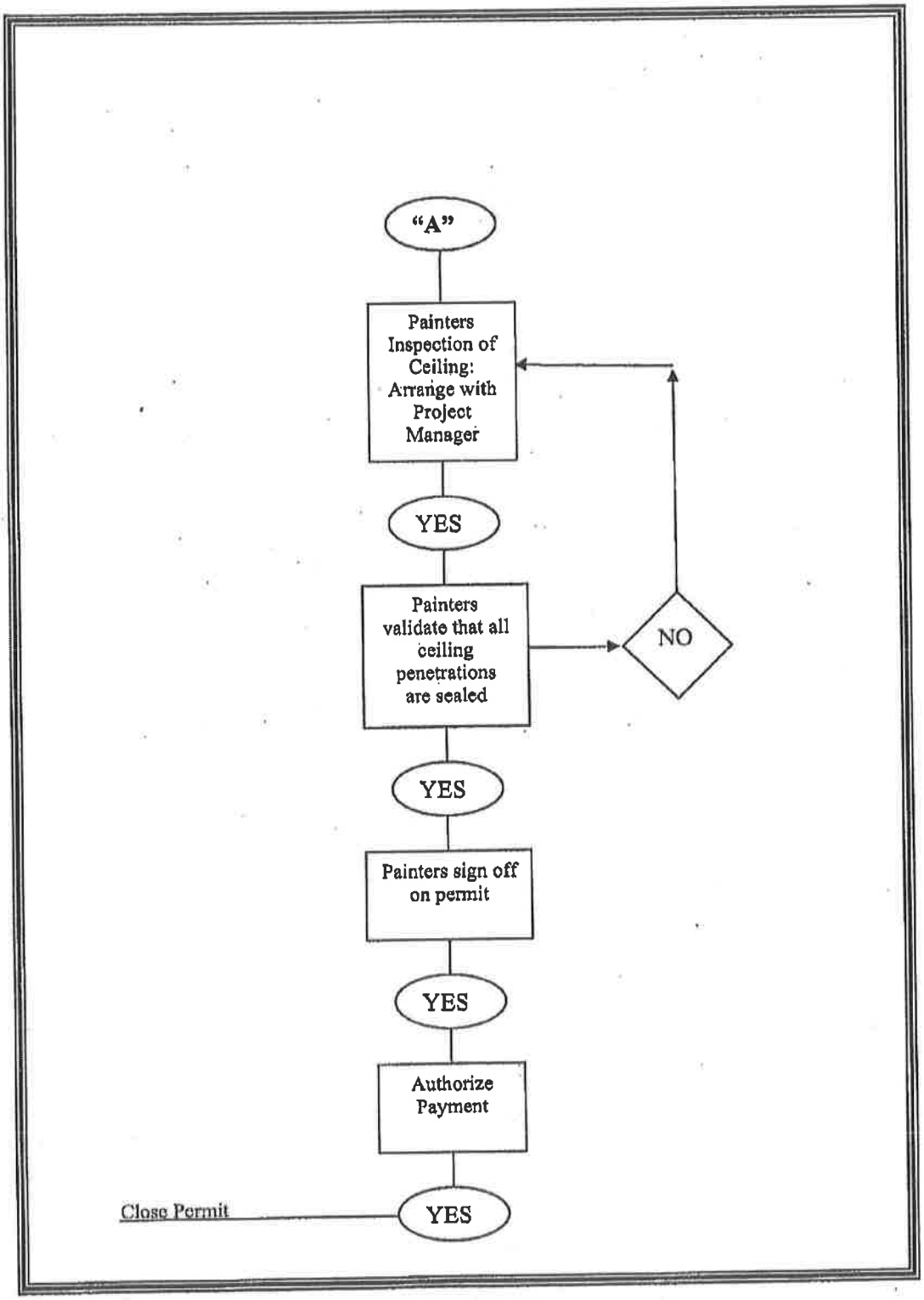
Appendix A	Penetrations Flow Chart
Appendix B	Rated Wall/Slab Penetrations Permit

Issue date	12/09
Replaces	9/06
Originator	J. Goldberg, Environmental Health and Safety
Reviewed by	B. Bjornstad, Environmental Health and Safety G. Griffin, Environmental Health and Safety R. Cohen, Facilities Operations B. Maffia, Facilities Construction B. Baulch, IT B. Zick, Security N.DeGregorio, HJD Engineering T. Fascianella, HJD Loss Prevention NYUHC Environment of Care Committee

Appendix A
Penetrations Flow Chart



Appendix A
Penetrations Flow Chart



Appendix B
Rated Wall/Slab Penetrations Permit

NYU Medical Center
Rated Wall/Slab Penetrations Permit*

Permit No._____

Date Start:_____ Date Stop: _____ (Not to exceed 7 calendar days)

1. Location:_____
2. If cabling, piping, or other extended linear work, please describe route in detail (provide drawings or additional sheets, as necessary. Please type in box below)
3. Person (s) doing the work is:

   NYU School of Medicine or NYU Hospital Center staff

   Contractor staff: Name of contractor:

   _____

5. Is Contractor Certified by Hospital for Fire stopping?

   Yes No

6. Contractor PM: _____

   Phone #: _____

7. NYULMC PM: _____
   Phone #: _____

8. Permit Issued by: _____ Date: ____

9. Fire stop Inspection by: _____

   Date:_____

10. All fire stopped penetrations authorized by this permit have been properly sealed.

    Yes No

11. Drawing showing location of work attached:

    Yes No

Failure to follow the above procedures shall result in the revocation of this permit and interruption of the work.

I CERTIFY THAT THE FOLLOWING SAFETY PRECAUTIONS WILL BE FOLLOWED:

A) All penetrations used in rated walls to run cable, pipe, conduit, ductwork, etc., will be fire stopped in accordance with UL approved materials and techniques. Materials shall be approved by the Building Systems Manager or designee.

B) New Penetrations shall be made by drilling or careful cutting to prevent unseen damage that may change the integrity of the wall.

C) New penetrations shall be used when doing new work. If an existing hole is used, the contractor is responsible for fire stopping the existing hole. Penetrations made but not used shall be repaired to meet UL requirements for the wall rating.

D) All staff or contractor personnel performing fire stopping shall be trained in such by the manufacturer or outside agency. The contractor shall provide to the Facilities Management Department a certificate or letter from the training agency listing names of trainees.

Contractor:_____

Signature:_____

Date:_____

This permit is valid for 7 calendar days from the date of issue. If the work exceeds that time, a new permit must be obtained from the Facilities Dept.

E) Contractor's validation that work is completed:

Contractor:_____

Signature:_____

Date:_____

UL System Used: _____

The work will not be considered complete until all items penetrations as outlined above have been properly sealed and verified.

APPLICATION

NYU Langone Medical Center

PURPOSE

- To prevent accidents resulting from unsafe operation of powered industrial trucks (PITs).
- To comply with the OSHA Powered Industrial Trucks standard (1910.178).

Table of Contents

POLICY AND GENERAL INFORMATION

1.0 Definitions

Operator means an individual who is competent to operate a PIT safely, as demonstrated by the successful completion of training and current certification.

PIT means a mobile, power-driven vehicle, such as a fork lift truck, platform lift truck, or motorized hand truck.

PIT program coordinator means a person who has the knowledge, training and experience needed to manage the PIT program within a department/division and to train and evaluate the performance of PIT operators.

2.0 Application

The primary departments and divisions impacted by the program are:

- Division of Laboratory Animal Resources (DLAR)
- Environmental Services
- Facilities Operations
- Food Services
- Receiving
- RED+F Construction

3.0 Responsibilities

3.1 **Environmental Health and Safety (EH&S)** is responsible for:

- Developing the Program and updating it as needed.
- Training PIT program coordinators on the requirements of the Program.
- Evaluating operating environments to determine if they are hazardous.
- Approving PITs for use in hazardous environments.
- Conducting annual audits to evaluate the effectiveness of the Program.

3.2 **Department/division heads** are responsible for compliance with the Program within their departments/divisions. Their responsibilities include, but are not limited to:

- Reporting all PITs to EH&S.
- Designating a manager, supervisor, or foreman as their PIT program coordinator.
- Ensuring that contractors comply with this policy.

3.3 **PIT program coordinators** are responsible for:

- Ensuring the Program is implemented within the department/division.
- Training and certifying PIT operators.
- Maintaining training, certification, and pre-operational inspection records.
- Conducting periodic inspections to verify that all requirements of this policy are followed.

3.4 **Supervisors and foremen** are responsible for:

- Ensuring operators receive required training and are certified prior to operating PITs.
- Ensuring that only individuals who have been trained and certified operate PITs.
- Ensuring operators are certified at least once every 3 years.
- Ensuring daily checklists are completed.
- Implementing corrective action in the event that an operator violates safe operating procedures.

3.5 **Operators** are responsible for:

- Completing initial training prior to operating a PIT.
- Completing refresher training as needed.

- Conducting a pre-operational inspection prior to using a PIT, and completing the daily checklist.
- Operating equipment safely and in accordance with the manufacturer's operating instructions.
- Reporting any defects or malfunctions to the supervisor or foreman immediately, and discontinuing use if the defect impairs the safe operation or use of the PIT.

4.0 Equipment selection

4.1 EH&S classifies each operating environment as hazardous or non-hazardous.

- Only PITs approved for hazardous locations shall be used in these areas.
- Any approved PIT may be used in a non-hazardous location.

4.2 Safety equipment

- High lift rider trucks shall be fitted with an overhead guard.
- Fork trucks shall have a vertical load backrest extension.
- Fork trucks shall have operable flashing lights and audible travel alarms.

5.0 Training and certification

5.1 EH&S trains PIT program coordinators on the requirements of the Program.

5.2 PIT program coordinators train operators.

- Trainees shall be supervised at all times during the training and evaluation.

5.3 **Curriculum**

- Training shall be specific to the type of PIT.
- Training shall consist of a combination of formal instruction and practical training.
- A sample training curriculum is included as Appendix A.

5.4 **Evaluation**

- The PIT program coordinator shall administer a performance driving test to each prospective operator.
- The operator shall locate and explain all operational controls, and demonstrate competency in operating the PIT.
- The PIT program coordinator shall re-evaluate each operator's performance at least once every three years.

5.5 **Certification**

- The PIT program coordinator shall prepare and maintain written certification for all operators.
- The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the name of the person performing the training and evaluation.
- The certification shall be valid up to three years, as long as safe operating techniques are met.

5.6 **Refresher training** in relevant topics shall be provided to the operator when:

- The operator has been observed to operate the PIT in an unsafe manner.
- The operator has been involved in an accident or near-miss incident.
- The operator has received an evaluation that reveals that the operator is not operating the PIT safely.
- The operator is assigned to drive a different type of PIT.
- A condition in the workplace changes in a manner that could affect safe operation of the PIT.

6.0 **Pre-operational inspection**

6.1 The operator shall examine the PIT before use for conditions that may adversely affect its operation, and verify that it is safe to operate.

- A sample checklist for Internal Combustion Engine Industrial Truck - Gas/LPG/Diesel Truck is included as Appendix B
- A sample checklist for Electric Industrial Truck is included as Appendix C.

7.0 Standard operating procedures

7.1 General

- PITs should only be operated on surfaces capable of handling the weight.
- Unauthorized personnel shall not be allowed to ride on PITs.
- Operators of sitdown PITs shall wear seat belts.
- Arms or legs shall not be placed between the uprights of the mast or outside the running lines of the PIT.
- No person shall be allowed to stand or pass under the elevated portion of any PIT, whether loaded or empty.
- There shall be sufficient headroom under overhead installations.
- Whenever a PIT is equipped with controls elevatable with the lifting carriage or forks for lifting, the following precautions shall be taken:
  - The platform shall be securely attached to the lifting carriage and/or forks.
  - Means shall be provided whereby personnel on the platform can shut off power to the PIT.
  - Protection from falling objects shall be provided.
- Whenever a PIT is left unattended:
  - It shall not obstruct fire aisles, access to stairways, or fire equipment.
  - The load engaging means shall be lowered.
  - The controls shall be neutralized.
  - The power shall be shut off.

- the brakes shall be set.
- the wheels shall be blocked if the PIT is parked on an incline.

7.2 **Fuel**

- Liquid fuels such as gasoline and diesel fuel shall be stored and handled in accordance with New York City Fire Code and NFPA 30, Flammable and Combustible Liquids Code.
- Liquid petroleum gas (LPG) shall be stored and handled in accordance with New York City Fire Code and NFPA 58, Storage and Handling of Liquefied Petroleum Gases.
- LPG and diesel powered PITS shall be refueled outdoors and kept outdoors when not in use.
- Fuels tanks shall not be filled while the engine is running. Spillage shall be avoided.
- Spillage of oil or fuel shall be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting the engine.
- No PIT shall be operated with a leak in the fuel system until the leak has been corrected.
- Open flames shall not be used for checking level of fuel in tanks or level of electrolytes in storage batteries.

7.3 **Batteries**

- A location shall be designated for charging batteries.
  - When handling corrosives or other hazardous materials, the location shall be within 25 feet of an eyewash/safety shower.
- PITs shall be properly positioned and brake applied before attempting to change or charge batteries.
- While charging batteries, acid shall be poured into water; water shall not be poured into acid.

- Reinstalled batteries shall be properly positioned and secured in the PIT.
- The battery (or compartment) cover(s) shall be open to dissipate heat. Vent caps shall function properly.
- Tools and other metallic objects shall be kept away from the top of uncovered batteries.

7.4 **Loading**

- Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling loads that cannot be centered.
- Only loads below the rated capacity of the PIT shall be handled.
- PITs equipped with attachments shall be operated as partially loaded PITs when not handling a load.
- A load engaging means shall be placed under the load as far as possible. The mast shall be carefully tilted backward to stabilize the load.
- Extreme care shall be used when tilting the load forward or backward, particularly when high tiering.

7.5 **Travelling**

- Stunt driving and horseplay is prohibited.
- A flagman shall escort PITs when they are operated indoors.
- PITs shall not be driven up to anyone standing in front of a bench or other fixed object.
- The operator shall slow down and sound the horn at cross aisles and other locations where vision is obstructed.
- If the load obstructs forward view, the operator shall travel with the load trailing.
- The operator shall look in the direction of, and keep a clear view of the path of travel.

- Grades shall be ascended and descended slowly.
- When ascending or descending grades in excess of 10 percent, loaded PITs shall be driven with the load upgrade.
- On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.
- Under all travel conditions the PIT shall be operated at a speed that permits it to be brought to a stop in a safe manner.
- The operator shall slow down for wet and slippery floors.
- Running over loose objects on the roadway surface shall be avoided.
- Dockboards and bridgeplates shall be properly secured before they are driven over. They shall be driven over carefully and slowly and their rated capacity never exceeded.
- Elevators shall be approached slowly and entered squarely after the elevator is properly leveled. Once on the elevator, the controls shall be neutralized, power shut off, and the brakes set.
  - Motorized hand trucks shall enter the elevator or other confined areas with load end forward.
- While negotiating turns, speed shall be reduced to a safe level and the hand steering wheel shall be turned in a smooth sweeping motion.

7.6 **Interaction with trucks**

- The brakes of highway trucks shall be set and wheel chocks placed under the rear wheels to prevent the trucks from rolling when they are boarded by PITs.
- Fixed jacks shall be used to support a semi-trailer that is not coupled to a tractor, to prevent up-ending during the loading and unloading.

7.7 **Alteration, maintenance and repair**

- A PIT shall not be altered without approval from the manufacturer.
- PITs shall be kept in clean condition, free of lint, excess oil, and grease.

- If a PIT is found to be in need of repair, defective, or in any way unsafe, it shall be taken out of service until it has been restored to safe operating condition.
  - All repairs to PITs shall be made by authorized personnel.
  - Repairs shall not be made in hazardous locations.
  - Repairs to the fuel or ignition systems that involve fire hazards shall be conducted only in locations designated for such repairs.
  - The battery shall be disconnected before repairs are made to the electrical system.

7.8 **Lighting**: If lighting in the operating area is less than 2 lumens per square foot (EH&S can evaluate lighting levels) auxiliary directional lighting shall be provided.

7.9 **Exhaust emissions:** If a PIT creates carbon monoxide gas, levels in the operating environment shall not exceed 50 parts per million (EH&S can evaluate carbon monoxide levels).

8.0 Recordkeeping

8.1 The PIT program coordinator maintains the certification of training records and daily checklists for each operator within the department/division.

9.0 Annual evaluation

9.1 EH&S conducts an annual evaluation of the program as part of the Annual Evaluation of the Safety Management Plan.

Issue date	4/12
Replaces	8/00
Reviewed by	J. Goldberg, Environmental Health and Safety R. Cohen, Facilities Management C. Pedersen, Facilities Management M. Raymond, DLAR A.Holder, Environmental Services J. Hufnal, Food Services K.Maral, Supply Chain Management

Sample Training Curriculum

1. Introduction
    a. Overview of the program
    b. Goal of the program: to provide a training program based on the trainee's prior knowledge, the types of PITs used in the workplace, and the hazards of the workplace.
    c. Course shall utilize video, group discussion and hands-on practice. Each operator shall obtain the knowledge and skills needed to do their job correctly and safely.
2. Types, features, and physics
    a. Familiarize each operator with the basic types and functions of PITs.
    b. Develop an understanding of the information shown on a data plate.
    c. Understand the critical truck measurements that affect safety.
    d. Understand the forces that cause tipovers, and the truck design considerations and safety ratings that help prevent them, including the "stability triangle."
3. Inspecting the PIT
    a. Understand the purpose and importance of pre-operational checkouts.
    b. Provide a basic understanding of areas covered during a pre-operational checkout.
    c. Familiarize each operator with a checklist for pre-operational checkouts, and what to do if a problem is discovered.
4. Driving the PIT
    a. Understand the elements of safe movement of a PIT.
    b. Understand the differences between an automobile and a PIT.
    c. Recognize the safety hazards associated with operating a PIT.
5. Load handling
    a. Understand the elements of load lifting safety.
    b. Understand the safe operating procedures for raising and lowering loads in aisles.
6. LPG for lift trucks
    a. Discuss LPG and its properties.
    b. Understand the elements and procedures of safely refueling internal combustion PITs.
    c. Describe tank components: service valve, surge valve, relief valve, etc.
    d. Discuss related safety issues.
7. Battery and charging.
    a. Understand the elements and procedures of safely changing and charging batteries.
    b. Discuss filling procedures and maintenance.
    c. Discuss related safety issues.
8. Safety concerns
    a. Review/reinforce potential of serious injury.
    b. Review/reinforce safety procedures in your facility.
9. Specific PIT and workplace training/hands-on
    a. Review features of specific PIT's to be operated.
    b. Review operating procedures of specific PIT's to be operated.
    c. Review safety concerns of specific PIT's to be operated.
    d. Review workplace conditions and safety concerns of areas where PIT's shall be operated.

Sample Training Curriculum

e. Learn/practice actual operation of specific PIT's to be operated and appropriate workplace conditions where PIT's shall be operated.
f. Demonstrate proficiency performing the PIT operator duties specific to the trainee's position and workplace conditions.

10. Certification of completion of the course

Sample Operator's Daily Checklist
Internal Combustion Engine Industrial Truck - Gas/LPG/Diesel Truck

Record of Fuel Added

Date		Operator		Fuel	
Truck#		Model#		Engine Oil	
Department		Serial#		Radiator Coolant	
Shift		Hour Meter		Hydraulic Oil	

Safety and Operational Checks (prior to each shift)

Have a **qualified** mechanic correct all problems.

Engine Off Checks	OK	Maintenance
Leaks – Fuel, Hydraulic Oil, Engine Oil or Radiator Coolant		
Tires – Condition and Pressure		
Forks, Top Clip Retaining Pin and Heel – Check Condition		
Load Backrest – Securely Attached		
Hydraulic Hoses, Mast Chains, Cables and Stops – Check Visually		
Overhead Guard – Attached		
Finger Guards – Attached		
Propane Tank (LP Gas Truck) – Rust Corrosion, Damage		
Safety Warnings – Attached (Refer to Parts Manual for Location)		
Battery – Check Water/Electrolyte Level and Charge		
All Engine Belts – Check Visually		
Hydraulic Fluid Level – Check Level		
Engine Oil Level – Dipstick		
Transmission Fluid Level – Dipstick		
Engine Air Cleaner – Squeeze Rubber Dirt Trap or Check the Restriction Alarm (if equipped)		
Fuel Sedimentor (Diesel)		
Radiator Coolant – Check Level		
Operator's Manual – In Container		
Nameplate – Attached and Information Matches Model, Serial Number and Attachments		
Seat Belt – Functioning Smoothly		
Hood Latch – Adjusted and Securely Fastened		
Brake Fluid – Check Level		

Sample Operator's Daily Checklist
Internal Combustion Engine Industrial Truck - Gas/LPG/Diesel Truck

Engine On Checks – Unusual Noises Must Be Investigated Immediately	OK	Maintenance
Accelerator or Direction Control Pedal – Functioning Smoothly		
Service Brake – Functioning Smoothly		
Parking Brake – Functioning Smoothly		
Steering Operation – Functioning Smoothly		
Drive Control – Forward/Reverse – Functioning Smoothly		
Tilt Control – Forward and Back – Functioning Smoothly		
Hoist and Lowering Control – Functioning Smoothly		
Attachment Control – Operation		
Horn and Lights – Functioning		
Cab (if equipped) – Heater, Defroster, Wipers – Functioning		
Gauges: Ammeter, Engine Oil Pressure, Hour Meter, Fuel Level, Temperature, Instrument Monitors – Functioning		

Sample Operator's Daily Checklist
Electric Industrial Truck

Record of Fluid Added

Date		Operator		Battery Water	
Truck#		Model#		Hydraulic Oil	
Department		Serial#			
Shift		Drive Hour Meter Reading		Hoist Hour Meter Reading	

Safety and Operational Checks (prior to each shift)

Have a **qualified** mechanic correct all problems.

Motor Off Checks	OK	Maintenance
Leaks – Hydraulic Oil, Battery		
Tires – Condition and Pressure		
Forks, Top Clip Retaining Pin and Heel -- Condition		
Load Backrest Extension – Attached		
Hydraulic Hoses, Mast Chains, Cables & Stops – Check Visually		
Finger Guards – Attached		
Overhead Guard – Attached		
Safety Warnings – Attached (Refer to Parts Manual for Location)		
Battery – Water/Electrolyte Level and Charge		
Hydraulic Fluid Level – Dipstick		
Transmission Fluid Level – Dipstick		
Operator's Manual in Container		
Capacity Plate Attached – Information Matches Model, Serial Number and Attachments		
Battery Restraint System – Adjust and Fasten		
Operator Protection Sitdown Truck - Seat Belt – Functioning Smoothly Man-up Truck – Fall protection/Restraining means - Functioning		
Brake Fluid – Check level		
Motor On Checks (Unusual Noises Must Be Investigated Immediately)	OK	Maintenance
Accelerator Linkage – Functioning Smoothly		
Parking Brake – Functioning Smoothly		
Service Brake – Functioning Smoothly		
Steering Operation – Functioning Smoothly		
Drive Control – Forward/Reverse – Functioning Smoothly		
Tilt Control – Forward and Back – Functioning Smoothly		

Revised: April 13, 2012

Sample Operator's Daily Checklist
Electric Industrial Truck

Hoist and Lowering Control – Functioning Smoothly		
Attachment Control – Operation		
Horn – Functioning		
Lights & Alarms (where present) – Functioning		
Hour Meter – Functioning		
Battery Discharge Indicator – Functioning		
Instrument Monitors – Functioning		

APPLICATION

NYU Langone Medical Center (NYULMC)

PURPOSE

- To support the health, safety, and welfare of faculty, staff, students, patients, and visitors.
- To reduce the risk of fire hazards.
- To comply with New York State and New York City regulations and Joint Commission standards.

POLICY AND GENERAL INFORMATION

1.0 Policy

- Use of tobacco products and smoking are prohibited:
  - inside all owned and leased medical center facilities
  - on roofs and grounds, including courtyards and gardens, of all owned and leased medical center facilities
  - in front and on the sidewalks of owned and leased medical center facilities
  - within 15 feet of any entrance to or exit from a medical center facility
- This policy applies to any substance which contains tobacco, including but not limited to cigarettes, cigars, pipe tobacco, powdered tobacco, and chewing tobacco, and any smoking devices, such as artificial, electronic cigarettes.
- This policy is in effect for all faculty, staff, students, patients, and visitors of medical center facilities.

2.0 Rationale

As a world-class, patient-centered, integrated academic medical center, NYULMC has implemented a tobacco-free policy. Tobacco use is the leading cause of preventable death, resulting in more than 5 million deaths per year worldwide [1]. In the United States, tobacco use leads to one in five deaths annually, costing an estimated $193 billion [2].

3.0 **Tobacco cessation program**

- The Tobacco Cessation Program is available to all NYULMC employees at no cost. The program is managed through the Joan and Joel Smilow Cardiac and Pulmonary Rehabilitation and Prevention Center of the Rusk Institute.
- All employees, patients, and visitors can call the NYU Hospitals Center Smokers' Quitline, 855- NYU-QUIT (698-7848), for additional information on tobacco cessation programs.

4.0 **Designated areas for tobacco use**

- Smoking may be permitted outside NYULMC facilities only in specifically designated areas that comply with state and city regulations, and have been approved by NYULMC senior leadership.
- At the superblock, tobacco use is allowed on 30th Street, east of the School of Medicine entrance, up to the FDR Drive service road.

5.0 **Procedure**

- All faculty and staff are asked to help maintain this policy by courteously informing anyone who appears to be unaware of the tobacco free facility policy.
- If any employee is found using tobacco products, (s)he shall be subject to disciplinary action up to and including termination.
- If a patient or visitor is found using tobacco products in a patient care area, the patient/visitor shall be reminded of the policy and tobacco products shall be removed from the patient care area. The tobacco products may be given to family to take home or inventoried as personal property and locked on the unit. If necessary, Security may be called to perform a property search.
- Additional information regarding this policy is available through Employee Relations at 212-404-3857.

References:

1. World Health Organization. WHO Report on the Global Tobacco Epidemic, 2009.Geneva: World Health Organization, 2008 [accessed 2011 May].

2. Centers for Disease Control and Prevention. Smoking - Attributable Mortality, Years of Potential Life Lost, and Productivity Losses United States, 2000-2004. Morbidity and Mortality Weekly Report 2008;57(45):1226–8 [accessed 2011 May].

Issue date	11/13
Replaces	06/11
Reviewed by	J. Goldberg, Environmental Health and Safety A. Mola, Care Transitions S. Munson, Clinical Quality and Effectiveness R. Zick, Security K. Glassman, Nursing N. Sanchez, Human Resources A. Bender, HJD Human Resources M. Simon, Regulatory NYUHC Environment of Care Committee

Exhibit A

List of Drawings dated November 9, 2015

Attachment 1 - Contract Documents List

NYULMC CELLARS REBUILD - GREASE TRAP REPLACEMENT PROJECT

562 First Avenue, New York, NY 10016

Dwg No.	Drawings	Issued for Bid
	ELECTRICAL	
E-100.00	TISCH CELLAR WEST ELECTRICAL PLAN	11.09.15
E-101.00	TISCH CELLAR EAST ELECTRICAL PLAN	11.09.15
E-700.00	ELECTRICAL SCHEDULES SHEET NO. 2	11.09.15

Exhibit B

Owner's Debris Removal Requirements

NYU Langone Medical Center

DEBRIS REMOVAL REQUIREMENTS

All construction areas and affected adjacent areas must be left broom clean at the end of each day. All debris must be taken down to the Loading Dock before the end of the work day. The containers must be covered and not overfilled to the point where there is a possibility of any contents spilling out as they pass through the hospital, the elevators or as they sit in the Loading Dock area. All debris containers must be empties and brought back to the construction site by 9:00 AM the next morning.

Exhibit C

Owner's Rated Wall/Slab Penetrations Permit

NYU Langone MEDICAL CENTER

Rated Wall/Slab Penetrations Permit

Permit No._____

Date Start:_____ Date Stop: _____ (Not to exceed 31 calendar days)

1. Location:_____

2. If cabling, piping, or other extended linear work, please describe route in detail (provide drawings or additional sheets, as necessary. (Please type in box below work being performed)

Work:

_____

_____

Project name: _____

3. Person (s) doing the work is:

☐NYU School of Medicine or NYU Hospital Center staff

☐Contractor staff: Name of contractor:

_____

4. Contractor PM: _____

Phone #: _____

5. NYULMC PM: _____

Phone #: _____

6. Permit Issued by: _____ Date: _____

7. Is the Contractor/ In-house staff HILTI Certified by the hospital for Firestopping?
☐Yes ☐No

Name and HILTI Cert #: _____

8. Penetration Blue Vest Issued: ☐Yes ☐No

*Return date:_____

9. Fire stop Inspection by: _____ Date:_____

10. All fire stopped penetrations authorized by this permit have been properly sealed.

☐Yes ☐No

Comments:

_____

_____

_____

11. Drawing showing location of work attached:

☐Yes ☐No

Failure to follow the above procedures shall result in the revocation of this permit and interruption of the work.

I CERTIFY THAT THE FOLLOWING SAFETY PRECAUTIONS WILL BE FOLLOWED:

A) All penetrations used in rated walls to run cable, pipe, conduit, ductwork, etc., will be fire stopped in accordance with UL approved materials and techniques. Materials shall be approved by the Building Systems Manager or designee.

B) New Penetrations shall be made by drilling or careful cutting to prevent unseen damage that may change the integrity of the wall.

ALL DEBRIS ABOVE THE CEILING MUST BE REMOVED BY THE CONTRACTOR.

C) New penetrations shall be used when doing new work. If an existing hole is used, the contractor is responsible for fire stopping the existing hole. Penetrations made but not used shall be repaired to meet UL requirements for the wall rating.

If any existing penetrations are found, Facilities Operations must be notified before ANY work commences.

D) All staff or contractor personnel performing fire stopping shall be trained in such by the manufacturer or outside agency. The contractor shall provide to the Facilities Operations Department a certificate or letter from the training agency listing names of trainees.

Contractor:_____

Signature:_____Date:_____

This permit is valid for 31 calendar days from the date of issue. If the work exceeds that time, a new permit must be obtained from the Facilities Operations Department.

E) Contractor's validation that work is officially completed:

Contractor:_____

Signature:_____

Date:_____

UL System Used: _____

12. 30 Day Re-Inspection: _____ Date: _____

The work will NOT be considered complete until all penetrations as outlined above have been properly sealed and verified.

Exhibit D

Owner's List of Approved Subcontractors

Exhibit E

Division of Work and General Conditions Breakdown

Division of Work

NYU Langone MEDICAL CENTER

CONTRACTOR:
PROJECT:
LOCATION:

LINE	SPEC SECTION	DESCRIPTION	$
		Breakdown	
		SUB TOTAL	$
		OVERHEAD	$
		PROFIT	$
		INSURANCE	$
	Notes:		
	1. From General Conditions Worksheet		

GENERAL CONDITIONS

NYU Langone MEDICAL CENTER

CONTRACTOR:
PROJECT:
LOCATION:

ITEM	DESCRIPTION	UNIT COST ($)[1]	QUANTITY	EXTENDED COST	NOTES
1	PROJECT EXECUTIVE				
2	PROJECT MANAGER				
3	SUPERINTENDENT				
4	MEP SUPERINTENDENT				
5	ADMINISTRATIVE ASSISTANT				
6	ACCOUNTING				
7	ESTIMATING & VALUE ENGINEERING				
8	SECRETARY/CLERK				
9	PERMITS & FEES				
10	LOCAL TRAVEL EXPENSES				
11	TRAVEL EXPENSES SUPER				
12	TRAVEL EXP. PROJ. MNGR.				
13	PRINTING AND REPRODUCTION				
14	POSTAGE & MESSENGER				
15	CONSTRUCTION SIGNS				
16	TEMPORARY PROTECTION OF FINISHED WORK				
17	TEMPORARY PARTITIONS				
18	TEMPORARY POWER & LIGHTING				
19	NEGATIVE AIR MACHINES (2-6 AC/HR)				
20	SITE ENTRANCE MATS (Sticky Mats)				
21	FIRE STOPPING (NOT TO BE IN TRADE COSTS)				
22	FIELD OFFICE				
23	FIELD TELEPHONES, FAX				
24	CLEANING - PROGRESS (Site Labor)				
25	CLEANING - FINAL				
26	RUBBISH REMOVAL (Mini Containers)				
27	SCAFFOLD/SIDEWALK BRIDGE				
28	HOISTS				
29	TOOLS & EQUIPMENT				
30	CUT & PATCH				
31	SITE SAFETY, FIRST AID				
32	FIRE EXTINGUISHER				
33	EQUIPMENT RENTAL				
34	SITE SECURITY				
35	SITE PROGRESS PHOTOS				
36	OTHER GENERAL CONDITIONS[2]				
37					
38	**TOTAL GENERAL CONDITIONS**				
39					
40	Notes				
41	1. Include only those items that apply to this project. For all others input "N/A".				
42	2. Describe in "NOTES" column				
43	3. Must be filled out entirely. Incomplete worksheet will disqualify your bid.				
44					
45					

Exhibit F

Contractor's and Subcontractors' Labor Rate Schedules

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MEDICAL CENTER

Trade Labor Rates

Fill in rates for the labor titles below to include full compensation for all wages, benefits, contributions, payroll taxes and other compensation or cost payable to the workers or on account of their employment by the Contractor in connection with the Work. These rates are to be exclusive of Contractor's overhead and profit.

Labor Title	Straight Time Hourly Rate	Premium Hourly Rate	Overtime Hourly Rate
Superintendent			
Apprentice Laborer			
Laborer			
Laborer Foreman			
Apprentice Carpenter			
Carpenter			
Carpenter Foreman			
Apprentice Bricklayer			
Bricklayer			
Bricklayer Foreman			
Truck & Driver			

Subcontractor Hourly Labor Rate Schedule

Fill in rates for the labor titles below to include full compensation for all wages, benefits, contributions, payroll taxes and other compensation or cost payable to the workers or on account of their employment by the Subcontractor in connection with the Work. These rates are to be exclusive of Subcontractor's overhead and profit.

Labor Title	Straight Time Apprentice	Straight Time Journeyman	Straight Time Foreman	Premium Time Apprentice	Premium Time Journeyman	Premium Time Foreman	Overtime Apprentice	Overtime Journeyman	Overtime Foreman
Demolition									
Concrete									
Mason									
Waterproofing									
Iron Worker									
Carpenter									
Lath & Acoustics									
Tile Setter									
Flooring									
Paint and Wallcovering									
Taper									
Insulation									
Fireproofing									
Plumbing									
Sprinkler									
HVAC Mechanic									
Sheet Metal/ Ductwork									
Piping/Steam Fitter									
Electrical									
Tel/data									
Ornamental Metal Glass									
Ceramic Tile & Stone									
Teamsters									

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Subcontractor Hourly Labor Rate Schedule

Fill in rates for the labor titles below to include full compensation for all wages, benefits, contributions, payroll taxes and other compensation or cost payable to the workers or on account of their employment by the Subcontractor in connection with the Work. These rates are to be exclusive of Subcontractor's overhead and profit.

Labor Title	Straight Time Apprentice	Straight Time Journeyman	Straight Time Foreman	Premium Time Apprentice	Premium Time Journeyman	Premium Time Foreman	Overtime Apprentice	Overtime Journeyman	Overtime Foreman
Electrical									