

Northeast Utilities Contractor Safety and Health Work Rules

Appendix H

I. Introduction

1. These Work Rules govern the safety and health aspects of the way that Contractors and their subcontractors and agents perform work at NU facilities, properties or work sites.

These Work Rules convey NU's minimum expectations regarding safety and health practices and may exceed the requirements of federal, state and local regulatory agencies.

These Work Rules are in addition to any safety and health procedures, policies, guidance, and/or work instructions of the Contractor. Failure to comply with any portion of these Work Rules is a breach of contract, and is just cause for placement in a probationary program and/or expulsion from NU properties and/or termination of the contract.

2. Contractors are required to inform their employees, subcontractors, and agents of these Work Rules prior to the start of work and to ensure compliance with the Work Rules.

3. All Contractors and their employees are responsible for ensuring safety and health compliance. This includes adherence to the following:

- a) State, federal, and local safety and health requirements that are in effect or that may take effect during the work;
- b) Guidance and work instructions;
- c) Site-specific rules and/or addenda.

It is the responsibility of the Contractor to enforce these safety requirements with her/his own personnel as well as with personnel of sub-contractors who he/she engages for performing the requested work action. Compliance with these safety requirements does not (1) relieve or diminish the responsibility of the Contractor to perform the work in a manner that complies with applicable Federal, State and local laws, rules, regulations and/or requirements and with all applicable provisions of the Contractor's contract with NU regarding the work (the "Contract"), nor (2) relieve the Contractor from liability to NU or others for negligent or improper performance of the work, as provided in the Contract.

4. Each Contractor is and shall remain an independent Contractor as to all work performed under the contract. Nothing herein shall relieve Contractors of their sole responsibility for the safety of their employees and their work performance. As such, NU expects them to take appropriate action to ensure that safety and health requirements are adhered to.

5. Neither compliance with these Work Rules nor NU's approval of any actions or procedures of the Contractor shall relieve the Contractor of its obligation to always use due care in performing work and to take any additional precautions necessary to prevent injury, adverse effects to the public, and/or property damage. The Contractor shall ensure safe work practices, protect their employees and monitor the project's safety and health effects during the work.

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7. Safety Statistics - Contractors, subcontractors, and other Contractor representatives must maintain work site records of man-hours worked and of all injuries and illnesses occurring and reported at the work site, specifically identifying those that meet the Occupational Safety and Health Administration (OSHA) definition of "recordable." Particularly for large or long-duration projects, NU shall be provided with copies of such work site injury and work-hour records at the completion of the job.

NU's focus on evaluating Contractor safety performance, as demonstrated by work site injury and illness statistics, indicates to Contractors that satisfactory performance extends far beyond pre-bid and pre-job submittals and discussions. Such statistics can also be used to measure the effectiveness of Contractor safety programs and the Contractor's performance of the work.

8. The Contractor shall assign or designate a competent person as required in 29 CFR 1926.20(b)(2) and defined in 29 CFR 1926.32(f) to each construction site. The competent person is 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. Contractors will document such designation and shall maintain such documentation upon the work site and make it available to NU representatives at their request.

Safety-related communication between the Contractor and NU should be made through Contractor's competent person and NU's designated representative.

Contractor's competent person shall take appropriate corrective actions for safety violations committed by personnel of Contractor or its sub-contractors. However, if the NU designated representative notes safety violations either as to personnel or equipment, the NU designated representative will be empowered to halt work progress at the Contractor's expense until such time that the unsafe condition has been corrected.

Penalty for Non-Conformance

Any Contractor or sub-contractor who fails to take the necessary safety corrective measures to conform to these safety requirements shall be brought to the attention of the Director of Procurement, Director of NU Safety and the Executive Health & Safety Committee with a recommendation for one or more of the following remedies with regard to the contractor:

1. Suspension of work in progress.
2. Termination of any and all active contracts.
3. Removal of the contractor from NU's approved contractor list.

II. General Safety and Health Rules

1. Planning and Forethought – The Contractor shall exercise planning and forethought regarding all work. As a minimum, this requires the Contractor to apply the same planning and management skills to the safety aspects of the job as to the bid preparation, work assignment, job scheduling, and other productivity and quality aspects.

To facilitate this planning process, Contractors are required to complete a Safe Work Plan for each phase of the job which they have bid. A sample Safe Work Plan must be submitted for evaluation as a part of the bid and prior to work commencing. Safe Work Plans for each phase of the work must be submitted to NU.

These plans will include: project specific work rules which will be followed, a list of JHA's which identify the hazards that could be expected, actions to be taken to eliminate or control exposures to these hazards, emergency contacts, and employee signatures to ensure the plan has been properly communicated to all employees on the project.

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In some cases, this may also require that a Contractor develop a site specific safety plan for the work and/or assign a person with full-time or collateral safety oversight responsibilities.

2. Emergency Response/Medical – Prior to the start of work, Contractors must coordinate their emergency response/E-911 protocol plans with NU. This may include preferred means of reporting and responding to medical, security emergencies, evacuation alarms and routes, available medical treatment facilities, etc. Periodic drills should be conducted to practice and improve the plans. Contractors shall be equipped with their own first aid kits Contractors and are responsible for arranging for transportation for their employees to receive medical attention for minor injuries.

3. Pre-job Safety Briefings – High risk Contractors (Civil, Line, Electrical, Test, Vegetation Management, General Construction, etc.) must conduct documented pre-job safety discussions (commonly known as toolbox discussions, tailboard discussions, etc.) with all workers that will be involved in the job at the start of each shift, when the scope of work changes, and/or before new work assignments. These discussions must cover the actual and potential hazards of the job, safety considerations, the specific PPE requirements, NU site specific safety requirements, and all other precautions required to prevent injury or damage and to protect the environment.

All other contractors (Low risk) shall perform a similar Pre-job safety briefing, but it need not be documented.

Contractors shall maintain such documentation upon the work site and make it available to NU representatives at their request.

4. Training – Contractors shall have training and certification records, licenses, and other such documentation for their employees that are pertinent to the work to be performed either on site or available within twenty-four hours and subject to review by NU, upon formal request. *Failure to produce training records within such time may be considered breach of the contract and shall entitle NU, at its option, to terminate such contract without further liability on its part.*

A. NU Safety Orientation Review

Contractors shall provide a review of the NU Contractor Safety and Health Work Rules (and applicable addendums) to all personnel and all subcontractors prior to commencing work activities. The review shall be documented (Appendix E Northeast Utilities Contractor Safety Awareness of the pre-qualification questionnaire).

B. OSHA 10 Hour Training (effective 3/31/11)

All Vegetation Management, General Construction, Civil, Line, Electrical and Test contractor Supervisors with greater than 6 employees under their routine direct supervision shall have at a minimum a 10-hour OSHA training certificate (General Industry, Construction or Transmission & Distribution [T&D]). Contractors under other contract types may be required to have training at the discretion of NU.

5. Inspection and Maintenance Records – Inspection, maintenance, repair, and certification records of cranes, hoists, personnel lifts, scaffolds, excavations, etc., are subject to NU review and must be readily available, upon formal request.

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6. Alcohol, Controlled Substances, and Weapons – No alcoholic beverages, beverages labeled as non-alcoholic, controlled substances (other than prescribed drugs), or weapons are allowed on NU facilities, properties or work sites, including parking lots, nor shall any worker under the influence of alcohol and/or drugs be allowed on NU facilities, properties, or work sites. The sale or use of alcohol and/or controlled substances on NU facilities, properties, or work sites is strictly prohibited. All Contractor and sub-contractor personnel reporting for work in an unfit condition to safely perform assigned work functions shall be immediately dismissed from the work site.

7. Regulatory Inspections – Contractors shall promptly inform the NU liaison of any and all inspections, visits, observations, audits, or inquiries of any kind (telephone, electronic, in-person, etc.) (collectively “Inspections”) affecting or pertaining in any way to the Contractors’ work under the contract by any federal, state or local agency, and the reasons therefore. Contractors shall keep the NU liaison updated on the status of any regulatory matters arising out of such Inspections, including but not limited to safety, health citations and/or violations.

III. Specific Safety and Health Rules

1. Trenching and Excavating – No trenching or excavation work may begin until the Contractor has designated a competent person to oversee the work and has informed NU of the name(s) of the competent person(s) and the basis for such determination. Contractors are to assume the soil is Type C unless they prove otherwise with appropriate engineering tests. Contractor is responsible for contacting the appropriate “Call Before You Dig” or “Dig Safe” agency the requisite number of days (typically 2 to 3 business days) prior to the planned start of any excavation. An active “Call Before You Dig” or “Dig Safe” clearance is required before any mechanical excavation work. All unattended trenches and excavations shall be guarded to prevent inadvertent falls.

Work areas shall be cleaned up at the end of each day or more often if conditions warrant. Excess backfill material shall be removed promptly and transported to designated facilities in accordance with NU Environmental Materials Handling Guidelines. All street surfaces and sidewalks swept clean at the end of each day.

2. Scaffolding – No scaffolding work may begin until the Contractor has designated a competent person to oversee the work and has informed NU of the name(s) of the competent person(s) and the basis for such determination. 100% fall protection or restraint is required at all times during erection, maintenance, use and dismantling of the scaffold whenever the fall hazard is six (6) feet or greater unless the competent person possesses documentation clearly describing why using 100% fall protection or restraint is not feasible or creates greater hazards. The documentation shall also describe the methods that will be implemented to achieve as close to 100% fall protection or restraint as possible. Scaffold components may not be used for fall protection or restraint anchorage unless Contractor similarly possesses documentation by a “qualified person” as defined by OSHA 29CFR 1926.450 validating the suitability of the components for such use. All documentation must be readily available for review by NU. In addition, from the time scaffold erection is begun until scaffold dismantling is completed, the competent person shall inspect all scaffolding and associated components at least once each work shift prior to their use and shall affix signs, tags, or equivalent means to conspicuously mark whether the scaffolding is or is not safe to use. Transfer of responsibility for the maintenance and inspection of the scaffolding must be coordinated and clearly noted among NU and other parties involved.

3. Fall Protection – NU Transmission (includes NSTAR Transmission) - 100% fall protection is required for all workers exposed to fall hazards of four (4) feet or greater from structures that support overhead electrical lines (e.g., poles, towers, structures), six (6) feet or greater, in other construction activities, and lesser heights with the potential for serious injury, unless the competent person possesses documentation clearly describing why using 100% fall protection or restraint is not feasible or creates greater hazards. The documentation shall also describe the methods that will be implemented to achieve as close to 100% fall protection or restraint as possible.

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NU Electric Distribution Operating Companies do not require 100% fall protection for workers exposed to fall hazards of four (4) feet or greater from structures that support overhead electrical lines (e.g., poles, towers, structures). The NU Electric Distribution Companies require employees who climb structures and who are exposed to fall hazards of four (4) feet or greater from structures that support overhead electrical lines (e.g., poles, towers, structures) to be Qualified Climbers. An employee who is a qualified climber must be trained as required by paragraph OSHA 29 CFR 1910.269(a)(2)(i) and (a)(2)(ii) before the employee can be allowed to climb.

4. Housekeeping – Contractors shall keep the job site neat, clean, and free of debris, trash, and hazards. Contractor shall store all materials in a neat and orderly fashion. At a minimum, the Contractor shall police the work area at the end of each shift.

5. Hot Work – Hot work is any work that involves the use of burning or welding equipment, brazing equipment, explosives, open flames, grinders, and any other activity that produces a flame, spark, or excessive heat. Hot work shall be coordinated with the NU liaison in advance. Hot work requires the Contractor to conduct a hazard assessment and take appropriate actions to prevent the ignition of combustible and flammable materials, including but not limited to the use of welding tarps, fire watches, and the ready availability of fire extinguishers rated for the specific nature of the anticipated fire hazard(s).

6. Smoking – Smoking is prohibited in and within 25 feet of all NU facilities, within 25 feet of flammable materials, and in other areas designated as such.

7. Lifting and Hoisting – Contractors must certify that all operators of mobile equipment such as cranes, derricks, boom lifts, etc., have been trained and certified on the proper operation of the equipment. Non-operators, such as Signal Persons, shall also be trained and have proper certifications. Copies of this training and certification shall be maintained on the project by the Contractor and provided to NU upon request. Mobile crane operators must be qualified on each specific crane (type & rating) they are assigned to operate through a testing and qualification procedure.

The Contractor shall not move loads suspended from mobile equipment without the load being secured to prevent swinging. Tag lines shall be used on all loads except when there is a danger of the equipment, load, or tag line making contact with energized parts. Swing load radius must be kept clear during moving of suspended loads. Lifting devices and hardware (slings, chain, shackles, etc.) shall be rated and properly connected for the application. Load charts shall be available and no load may be lifted until its weight has been determined.

8. Guarding of Holes and Openings – The Contractor shall guard or place appropriate barricades around temporary openings in floors, walls, excavations, etc., to prevent inadvertent entry. Covers over excavations or floor holes shall be of sufficient strength, conspicuously marked to indicate the hazard and the danger of removal, and secured to prevent inadvertent movement or removal whenever feasible.

9. Ladders – Only ladders constructed of fiberglass may be used in and around electrical equipment, including substations. Ladders are to be properly positioned. Straight and extension ladders are to be tied off at the top and bottom or footed by another person. Step ladders may be used only in the fully open position with the spreader brackets locked in place. No person may stand or sit on the steps or platforms on which standing or sitting is prohibited.

10. Tools and Equipment – Contractors are responsible for providing proper tools and equipment. Except in rare or emergency situations, NU will not provide or lend tools or equipment, including personal protective equipment (PPE). Tools and equipment shall be maintained in safe condition and used as designed and without removing, defeating, or otherwise compromising guards or other safety devices.

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11. Walks and Roadways – When working on NU facilities, properties, or work sites, Contractors shall not hinder or obstruct the normal flow of vehicular or pedestrian traffic without prior coordination with the NU Liaison. In such cases, appropriate actions must be taken to alert traffic of the hazard and/or control the flow of traffic to ensure safety. In such cases, Contractor shall provide approved lights, barriers, signs, warning devices, signal persons, and/or other precautions appropriate to the situation.

12. Lock out/Tag out – Work at NU facilities may require the use of a lock out/tag out system. The Contractor is to coordinate lock out/tag out with the NU liaison. In some cases, the Contractor may be required to comply with NU's lock out/tag out requirements.

13. Confined Space Entry (including Enclosed Space Entry) – Contractor is to consider all confined spaces as permit-required confined spaces until informed otherwise by NU or until Contractor conducts a written hazard assessment that documents otherwise. The Contractor is to coordinate all entries into confined spaces (whether permit-required confined spaces, non-permit confined spaces, or enclosed areas) with the NU liaison, the local facilities/building supervisor, and other work groups to ensure each other's activities will not affect the safety or health of any person.

14. Personal Protective Equipment (PPE) – As a minimum, most physical work requires the use of safety glasses (including side shields) meeting the ANSI Z87 standard, safety shoes meeting the ASTM F 2413-05 international standard, and head protection shall be ANSI Z89.1 Type I class E&G. Contractors shall comply with local NU PPE requirements for the location or the type of work. Determining any additional PPE requirements is the responsibility of the Contractor. The Contractor's PPE hazard assessment certifications are subject to review by NU.

15. Barriers, Warnings, Signs, and Signage Credibility – Work areas, whether indoors or outdoors, restricted to entry by authorized persons shall be clearly marked and delineated. Unless otherwise permitted, such marking shall consist of conspicuous rope or tape barrier with appropriate DANGER, CAUTION, or other appropriate signs that (1) note the nature of the hazard and (2) provide guidance to the reader. When the signs or barriers are not available or their use is not practicable, such as for a momentary hazard exposure, the Contractor shall post employees to prevent others from being exposed to the hazard(s).

All Traffic Control Plans and activities shall conform to the Occupational Safety and Health Administration (OSHA) revised construction industry safety standards (1926.200) and Part VI of either the 1988 Edition of the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), with 1993 revisions (Revision 3) or the Millennium Edition of the FHWA MUTCD (Millennium Edition), instead of the American National Standards Institute (ANSI) D6.1-1971, Manual on Uniform Traffic Control Devices for Streets and Highways (1971 MUTCD). The placement of orange cones or signs alone is generally not considered adequate. Detours, whether for vehicular or pedestrian traffic, shall be clearly marked along the entire route. Signs, barriers, and similar markings shall be checked and maintained throughout the work period of need and shall be removed promptly when the need has ended.

16. Communications with NU Personnel – Planned work activities which may affect NU personnel or disrupt their work shall be coordinated with the NU liaison and communicated to such personnel far enough in advance to allow for coordination, accommodations, or resolution of conflicts.

17. Asbestos, Lead, and Other Hazardous Substances – Asbestos, lead, and other hazardous substances may exist on or at NU facilities, properties and work sites. NU will inform the Contractor of the known presence, location, and quantity of such substances in or adjacent to areas in which the Contractor is expected to work, and the Contractor shall so inform its employees, bring to NU's attention any suspect or questionable substances that may be encountered during the course of work, and take appropriate precautions.

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18. Nail Guns and Powder-Actuated Tools – Nail guns, Hilti Guns, powder activated nail gun and similar tools shall be used in such a manner to ensure the projected fastener cannot miss or penetrate the intended surface and strike an unintended person or object, including but not limited to the fastener becoming an airborne projectile. Precautions include but are not limited to directing the line of fire away from other persons, including passersby, preventing access to the opposite sides of nailing surfaces (e.g. walls) and preventing access closer than 20 feet to Hilti or powder activated nail i.e., gun use. Powder actuated tools shall require the use of a Hot Work Permit in the area of natural gas, propane or LNG facilities (see Rule #5)

19. Flame Resistant (FR) Clothing/Arc Flash Protection – The wearing of flame resistant clothing is required in certain locations (e.g., substations, energized distribution primary zone) and while performing certain electrical or natural gas activities. The Contractor is to consult with the NU liaison to determine the specific requirements for FR Clothing, including arc flash protection. All FR clothing shall meet ASTM F1506 or ASTM F1959 and OSHA 29 CFR 1910.269 for electrical work. All FR clothing shall meet NFPA 2112 and 2113 for affected natural gas, propane or LNG work activities.

20. Electrical Awareness – Low and high voltage electrical lines and equipment exist throughout the NU system. The Contractor must provide, to all persons working under a contract, or ensure they have received, electrical awareness training appropriate to the work they will be performing. The intent of the training is to ensure persons understand the hazards of electricity and the actions they must take to prevent inadvertent contact.

Persons may enter a substation or switchyard only if they have: (1) attended a pre-entry safety training class and are escorted by an approved escort; (2) received a pre-entry safety briefing appropriate to the work they will be performing and are escorted by an approved escort; or (3) completed unescorted access training and been granted unescorted access privileges by appropriate NU personnel.

21. Hazard Communication – All Contractor-supplied hazardous materials and chemicals must be approved by NU prior to entry and use on NU facilities, properties or work sites. All Material Safety Data Sheets or Safety Data Sheets and associated instruction/warning sheets must be provided to NU far enough in advance of the time of intended use to allow for NU review, or the materials/chemicals may not enter NU property. Contractor must also have a copy of its Hazard Communication program available. All containers used to handle chemicals, fluids, or hazardous material must be labeled. Minimum label requirements are product name, manufacturer or distributor, and hazard warning and shall meet OSHA and/or the United Nations Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

22. Event Reporting - Contractors shall report to the NU liaison all workplace hazards, unsafe conditions, and safety and environmental concerns, regardless of cause. NU also requires Contractor management to:

- immediately (no later than 24 hours of occurrence) inform NU and analyze all occupational injuries, illnesses, vehicle accidents and other safety-related or environmental incidents (e.g., near-misses, fires, spills);
- identify their causes and actions taken to prevent recurrence in a written report; and, provide copies of all injury reports and analysis to NU.

Contractors also must inform the NU liaison immediately about safety, health, or environmental inspections or other inquiries by governmental authorities, deviations from governmental or site requirements, and damage to property or equipment.