

PROCEDURE 1 - Fall Protection

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Synopsis

This procedure is promulgated to reduce the potential of fall hazards associated with work on unguarded horizontal and vertical work surfaces (e.g., radar pedestals, towers, river gauges, roofs). This procedure applies to all NWS facilities and work locations where fall protection is required and to all NWS employees who use fall protection in the performance of their jobs. This procedure excludes portable ladders (See procedure #14, Walking-Working Surfaces).

Initial Implementation Requirements:

- **Analyze Site Operations versus Requirements of the Procedure**
 - Identify locations where employee(s) climb at elevations 6 feet or greater (1.3.2)
 - Identify personnel impacted by this procedure. (1.3.9)
 - Conduct Inspection of Fall Arrest System components. (1.3.7a,b)
- **Develop/Obtain Documentation/Information required for Site**
 - Document evaluation of locations with work area above 6 feet including the need for rescue equipment and emergency procedures. (1.3.2)
 - Document information relevant to Structure Climbing/Descending Emergencies (Attachment C)
 - Develop Emergency Response Agreements (ERA) with Local Emergency Response Organizations (1.3.2a), if required
- **Designate Person to Administer the Fall Protection Procedure Requirements**
- **Provide Local Training of Site Personnel**
 - Fall Protection and Rescue Training/Certification of Climbers. (1.3.9)
 - Safety Observer Training. (1.3.2b)
- **Inventory Material/Equipment (Procure as required)**
 - Fall Protection Systems (1.5.2b, 1.3.1)
 - Communication Devices (1.5.2b, 1.3.2b)
 - Hard Hats (1.5.2b, 1.3.2j)
 - Postings/Signs (1.5.2b, 1.3.4c)
 - Fall Object Protection (1.5.2b, 1.3.4)
 - Barricades (1.5.2b, 1.3.4b)

Recurring and Annual Task Requirements:

- **Perform Inspection/Assessment/Testing**
 - Evaluate all activities/locations for any changes in the fall protection requirements. (1.3.2)
 - Perform Inspection of Fall Arrest System components prior to each use. (1.3.7a)
 - Review Climbing Incidents that caused Equipment Stress Loading (1.3.7c)
 - Conduct Annual Equipment Inspections. (1.3.7b, Attachment B)
- **Review/Update Documentation/Information required for Site**
 - Update information relevant to Structure Climbing/Descending Emergencies. (Attachment C)
 - Update Emergency Response Agreements (ERA) with Local Emergency Response Organizations. (1.3.2a)

- Maintain Personnel Training Records. *(1.3.9c)*
- **Provide Recertification of Site Personnel**
 - Recertification of Climbers with rescue responsibilities. *(1.3.9b)*
- **Provide Re-training of Site Personnel (as required)**
 - Re-training of Climbers. *(1.3.9e)*
- **Replace/Recalibrate/Maintain Material/Equipment (as required)**
 - Fall Protection Systems *(1.5.2b, 1.3.1)*
 - Communication Devices *(1.5.2b, 1.3.2b)*
 - Hard Hats *(1.5.2b, 1.3.2j)*
 - Postings/Signs *(1.5.2b, 1.3.4c)*
 - Fall Object Protection *(1.5.2b, 1.3.4)*

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Fall Protection Checklist

| Requirements | Reference | YES | NO | N/A | Comments |
|--|------------------|------------|-----------|------------|-----------------|
| Is initial and annual review of this procedure conducted and documented? | 1.4.2 | | | | |
| Are Fall Protection Systems used when work is being performed on towers, river gauges and other elevated structures where potential fall distance is 6 feet or more? | 1.3.1a | | | | |
| Has recommended coordination with the local emergency response organization(s) been conducted prior to the commencement of work to determine rescue ability within 30 minutes? | 1.3.2a Note | | | | |
| Have Emergency Response Agreements (ERA) been prepared and updated, as recommended in paragraph 1.3.2a? | 1.3.2a | | | | |
| Does a Safety Observer accompany the person performing the work requiring personal fall arrest and restraint systems? | 1.3.2b | | | | |
| Does the Safety Observer have immediate access to a reliable communication device for contacting the local emergency response organization should an accident occur? | 1.3.2b | | | | |
| Are only full body harnesses, with compatible components, being utilized for personal fall arrest systems? | 1.3.2d | | | | |
| Has a Safety Observer been trained in emergency notification, CPR/First Aid, and in use of rescue equipment/operations if local emergency organization is not available within 30 minutes? | 1.3.2b,c | | | | |
| Are vertical lifelines being used by NWS personnel for fall arrest purposes, when available? | 1.3.2g | | | | |
| Are fall restraint systems used by employees working on the elevated flat or sloped surfaces? | 1.3.2i | | | | |
| Are ladder safety systems being used if installed? | 1.3.2h | | | | |
| Do employees use hard hats when climbing? | 1.3.2j | | | | |

| Requirements | Reference | YES | NO | N/A | Comments |
|---|----------------|-----|----|-----|----------|
| Are all employees who perform work on roofs, etc., protected from falling or tripping by using appropriate fall protection systems? | 1.3.3 | | | | |
| Is falling object protection being used when work is being performed at an elevated work area 6 feet or more above a lower level? | 1.3.4 | | | | |
| When work is performed at elevated work-sites, is the area enclosed with barricades, if required, to protect station personnel and other workers? | 1.3.4b | | | | |
| Are signs warning of the hazards of falling materials, posted where applicable according to this procedure? | 1.3.4c | | | | |
| Do contractors at this facility who use scaffolds and similar platforms, comply with this procedure? | 1.3.6 | | | | |
| Are fall arrest systems inspected by the user prior to each use and also annually? | 1.3.7a,b | | | | |
| Are fall arrest system components removed from service and destroyed after being subjected to loading from a fall? | 1.3.7a,c | | | | |
| Are harnesses and lanyards maintained and stored according to this procedure? | 1.3.8 | | | | |
| Have all employees required to climb, work on or descend structures been trained in fall protection and rescue? | 1.3.9a | | | | |
| Have previously trained active climbers with rescue duties been recertified every three years (nominal)? | 1.3.9b | | | | |
| Have all employees who use restraint system only received initial fall protection training? | 1.3.9b NOTE | | | | |
| Has re-training been provided to all affected employees, as required? | 1.3.9e | | | | |

1 FALL PROTECTION

1.1 Purpose and Scope

As part of its goal to provide a safe and healthful workplace, the National Weather Service (NWS) is promulgating this procedure to reduce the potential of fall hazards associated with work on unguarded horizontal and vertical work surfaces (e.g., radar pedestals, towers, river gauges, and roofs). This procedure applies to all NWS facilities and work locations where fall protection is required and to all NWS employees who use fall protection in the performance of their jobs. This procedure excludes portable ladders (See Procedure #14, Walking-Working Surfaces, NWSM 50-1115).

1.2 Definitions

Anchorage. A secure point of attachment for personal fall arrest equipment (e.g., lifelines, lanyards or deceleration devices), capable of supporting impact loading of 5,000 pounds per attached employee or shall be designed and installed under the supervision of the Qualified Person. If designed, it must be part of a complete personal fall arrest system that maintains a safety factor of at least two while limiting maximum arresting force on an employee to 1800 pounds.

Body Belt. A strap that a worker can secure around his/her waist and to which a lanyard or device for positioning can be attached. **The use of body belts as part of a personal fall arrest system is prohibited.** Body belts can be used only as part of positioning systems.

Carabiner. A trapezoid or oval shaped connector with a normally closed gate that may be opened by turning of the closing/locking mechanism and applying pressure on the gate that automatically closes when pressure is released. NWS employees should use only steel auto-locking carabiners.

Competent Person. Person who (1) is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees and (2) has authority to take prompt corrective measures to eliminate or protect against those hazards. The scope of competency varies. A person may be competent in one discipline and not another. The NWS Fall Protection and Rescue initial or re-certification courses give attendees the knowledge and ability to be Competent Tower Climbers and Competent Tower Rescuers.

Connector. A device which is used to connect part of the personal arrest system, positioning or restraint systems together. It may be an independent component such as carabiner or it may be an integral component of body harness (D-rings) or lanyard (snap-hooks).

Construction Work. Construction, installation, alteration, and/or repair of facilities and/or ancillary equipment.

Environmental Hazards. Environmental issues such as, but not limited to ice, high winds, presence of contaminants on structures that could cause the employee to loose his/her grip or footing when working at heights.

Fall Restraint System. A system designed to prevent the worker from reaching an area in which a free fall could occur (e.g., roof work). Thus, no free fall is possible.

Field Office. A Field Office may include the following: Weather Forecast Office (WFO), River Forecast Center (RFC), Weather Service Office (WSO), and a Data Collection Office (DCO).

Full Body Harness. A design of multiple adjustable straps that can be secured around the body, having multiple D-rings as means for attaching carabiners, lanyards or other devices suitable for fall arrest, work positioning or restraint. The back (dorsal) D-ring is used for fall arrest or restraint, the front D-ring is used for work positioning or ladder climbing, and side D-rings are used for restraint and for work positioning.

Guardrail system. A vertical barrier erected along exposed edges of walking/working surfaces to prevent falls of persons to lower levels or the ground. A standard guardrail consists of top rail, mid rail, and posts, and shall have a vertical height of 42 inches plus or minus three (3) inches from the upper surface of top rail to floor, platform, runway, or ramp level. Nominal height of mid rail shall be at least 21 inches.

Guarded Roof Edge. A roof edge that is guarded by a parapet or similar structure with a minimum height of 39 inches.

Horizontal Lifeline. A component consisting of a flexible line for connection to anchorages at both ends to stretch horizontally and which serves as a means for connecting other components of a personal fall arrest system to the anchorage. Horizontal lifelines and their anchorage strength must be designed only by a Qualified Person (Professional Engineers are often used as qualified personnel).

Ladder Safety (Climbing) Systems. A fall arrest system that safeguards a worker while climbing or descending structures such as fixed ladders, small towers, poles. It consists of either a flexible steel cable or a rigid rail, mounting brackets, and a safety sleeve. The safety sleeve attached to the vertical cable/rail and worker's harness automatically follows the worker's movement and locks onto the cable/rail when a fall occurs.

Low-Sloped Roof. A roof having a slope less than four vertical inches in twelve horizontal inches.

Maintenance. Making or keeping a structure, equipment, fixture or foundation (substrates) in proper condition in a routine, scheduled or anticipated fashion.

Opening. A gap or void 30 inches (76 cm) or more high and 18 inches (48cm) or more wide, in a wall or partition, through which employees can fall to a lower level.

Operating Unit. For the purpose of this procedure, Operating Unit includes the National Centers for Environmental Prediction (NCEP), National Data Buoy Center (NDBC), NWS Training Center (NWSTC), National Reconditioning Center (NRC), Radar Operations Center (ROC), and the Sterling Field Support Center (SFSC).

Personal Fall Arrest System. A system used to arrest a worker in a fall from a working level. It consists of an anchorage, connectors, a full body harness, shock absorbing lanyard and may include deceleration device, lifeline, or suitable combinations of these. **As of January 1, 1998, the use of a body belt for fall arrest is prohibited.**

Positioning Device System. A system that holds and sustains the worker on an elevated vertical surface and allows him/her to work with both hands free and limits the free fall to two feet. It consists of a full body harness, connecting assembly (e.g., positioning lanyard), connectors, and anchorage.

Positioning Lanyard. A flexible line of webbing with connectors (snap-hooks) on both ends that connect to a worker harness's side D-rings. It must be rigged such that a worker cannot free fall more than two feet.

Qualified Person. One with a recognized degree, professional certificate, or professional standing, or who by extensive knowledge, training and experience has successfully demonstrated the ability to solve or resolve problems related to the subject matter of the work or the project.

Rope Grab. A mobile or static deceleration device attached to a vertical rope lifeline that automatically by friction locks onto the rope so as to arrest the fall of an employee.

Safety Net. A fall protection system that uses nets to stop falling persons before they would contact a lower level or obstruction.

Self-Retracting Lifeline. A connecting means that automatically adjust its length as the user moves towards and away from the anchorage. The self-retracting lifeline housing typically contains a spring loaded drum on which line (made of rope, wire rope and webbing) is wound and unwound. The device has a mechanism that locks the drum if the user falls.

Snap-hook. A connector having a hook-shaped body with a normally closed gate that opens by depressing an opening/locking mechanism and automatically closes when pressure is released. NWS employees shall use only self-closing and self-locking snap-hooks when used for fall protection.

Shock (Energy) Absorber. A component that is designed to dissipate kinetic energy and limits forces imposed on a worker during fall arrest to 900 pounds.

Shock Absorbing Lanyard. A flexible line of webbing, cable, or rope that has an integral shock absorber and connectors at each end for connecting a worker's harness to a lifeline or anchorage.

Steep Roof. A roof having a slope greater than four vertical inches to twelve horizontal inches.

Station Manager. For the purpose of this procedure, the Station Manager shall be either the NWS Regional Director; Directors of Centers under NCEP (Aviation Weather Center, NP6; Storm Prediction Center, NP7; and Tropical Prediction Center, NP8); Directors of the NDBC, NWSTC, and Chiefs of NRC, ROC and SFSC facilities; or Meteorologist in Charge (MIC), Hydrologist in Charge (HIC), or Official in Charge (OIC).

Unguarded Roof Edge. Any side or edge of the roof where there is no wall or guardrail system at least 39 inches high.

Vertical Lifeline. A component consisting of a flexible line for connection to an anchorage at one end to hang vertically and which serves as a means for connecting other components of a personal fall arrest system to the anchorage. The lifeline shall have a nominal breaking strength of 5,000 pounds.

Warning Line System. A system of ropes, wires, or safety chains to warn and keep workers away from a fall hazard. The distance between the warning and the hazard will depend on type of work.

Work Positioning System. Any system or combination of components that holds a worker in position for hands-free operations.

Work Positioning Assembly. A system designed for work positioning. Typically consists of a positioning lanyard connected to positioning D-rings of a harness.

Y Lanyard (100% Tie-Off). Two-legged lanyard with an integral shock absorber, which allows worker to be tied off to one anchorage point all the time even when moving from one location to another. Each leg is terminated by a connector (snap-hook or carabiner) and a center connector (usually snap-hook) attaches to a back (dorsal) D-ring of a worker's harness.

1.3 Procedure

1.3.1 General. Fall protection systems (e.g., guardrails, railings, safety nets, personal restraint and fall arrest systems, positioning systems, temporary scaffolding) are required under the following conditions:

- a. When potential fall distance is six feet or more (e.g., radar pedestals, towers, river gauges, unguarded roofs on Upper Air Buildings).
- b. When potential fall distance is 6 feet or less under particularly hazardous circumstances (e.g., working over objects or equipment imposing an impalement hazard).

NOTE: Fall protection equipment is not required for the HVAC fixed ladder inside WFO buildings. Personnel climbing the HVAC fixed ladder should still exercise caution and abide by the rules in section 14.3.6, paragraphs l and m (NWSM 50-1115).

1.3.2 Fall Protection Safe Work Practices.

A Fall Protection Program Leader (Competent Climber) shall be designated at each field station to administer the fall protection program as required by this procedure. An effective fall protection program starts with preplanning which includes identifying locations, equipment, techniques, the people, and emergency response. All locations with work areas above six feet (towers, river gages, etc.) shall be assessed for fall hazards including environmental hazards such as ice, rain, etc. Fall hazards can be controlled by using appropriate fall protection solutions. The hierarchy of Fall Protection should be applied to any fall hazards in order to identify the best solution for a specific situation. In order of best to worst these solutions are:

- Hazard Elimination (engineering controls)
 - Traditional Fall Protection (guardrails, covers, barriers)
 - Fall restraint (roof restraint systems)
 - Fall Arrest System (towers, vertical structures)
 - Work procedures (used in construction industry and shall not be used at NWS facilities).
- a. Prior to conducting work on towers, river gauges or similar structures, coordination with the local emergency response organization(s) should be conducted to determine the ability of the organization(s) to respond to the emergency and provide a rescue within 30 minutes.

NOTE: The coordination is intended to familiarize emergency response personnel with the fall protection equipment used by the NWS personnel, the structures the NWS personnel climb/descend, and the types of operations conducted. Familiarity with NWS operations and equipment will allow emergency response personnel to conduct the safest rescue operations possible. Emergency Response Agreement(s) are recommended to be prepared and updated in accordance with NWS Procedure #23, NWSM 50-1115. Information relevant to structure climbing/descending emergencies should be documented as a part of this procedure (see attachment C) and the site Occupant Emergency Plan, NWS Procedure #5, Attachment A (NWSM 50-1115).

- b. A safety observer must accompany the person involved in any work that requires the use of personal fall arrest or restraint system (e.g., climbing towers, descending river gauges). The safety observer must be trained in summoning the assistance of a local emergency response organization in case an accident occurs and must have immediate access to a reliable communication device (telephone, cellular phone, two-way radio, etc.). The safety observer will also be responsible for checking with a WFO if lightning is expected to affect the area within a 15-mile radius of a tower or other elevated structure.
- c. When a local emergency response organization is not available within the 30 minute response time, a safety observer trained in use of rescue equipment and rescue operations must be present. Appropriate rescue equipment shall be readily available in case an emergency rescue is required. In addition, the safety observer must be trained in CPR/First Aid.

NOTE: A minimum number of rescue equipment kits for towers under and over 100 feet in elevation have been provided to the NWS regions. Additional rescue equipment kits will be stocked at the National Logistics Supply Center (NLSC) and available for ordering.

- d. The use of body belts for personal fall arrest systems is prohibited. Only full body harnesses and compatible components, including all connectors, shall be utilized for the personal fall arrest system.

NOTE: Fall protection equipment and rescue kits that are no longer used for climbing (and have not been subjected to stress loading in a fall) due to change in personnel's responsibilities or personnel leaving the NWS shall be turned in to the site Safety or Environmental/Safety Focal Point. Weather Service Headquarters (WSH) will issue a call for collecting surplus equipment as appropriate.

- e. Lanyards used as part of a personal fall arrest system shall have a maximum length of six feet and shall be equipped with integral shock absorbers. These lanyards shall be attached to the rear (dorsal) D-ring of a full body harness and shall be free of knots.
- f. Before starting to work on an elevated surface, a climber shall connect to a work positioning system upon reaching the work area (e.g., performing maintenance above azimuth housing).

- g. Vertical lifelines should be used by NWS personnel for fall arrest purposes, when available. Each employee shall be attached to a separate lifeline. Horizontal lifelines, when used, must be designed only by a Qualified Person (Note: Professional Engineers are often used as qualified personnel).
- h. In the absence of vertical lifelines or ladder safety systems, NWS employees shall use Y lanyards with integral shock absorbers connected to a back (dorsal) D-ring of a full body harness when climbing towers and similar structures.
- i. While working on elevated flat or sloped structures, NWS employees shall use a fall restraint system. The length of the restraint system shall be adjusted to allow work while preventing free fall from the structure (e.g., wind profiler).
- j. While climbing, NWS employees shall wear hard hats that provide top and side impact protection and have three-point chin straps.
- k. Requirements for guarding of walking/working surfaces (e.g., floors, platforms, wall openings, etc.) shall be followed in accordance with Section 14, Walking/Working Surfaces (NWSM 50-1115).

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| <p>NOTE: Components of the complete fall arrest system provided to NWS climbers were selected by Qualified personnel and all components are compatible and should be used exclusively for fall arrest. Fall protection components made by different manufacturers or, if not properly sized, may not be compatible. Manufacturers, vendors or qualified personnel must be consulted to verify compatibility.</p> |
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1.3.3 Roof Access

- a. A fall protection system is required for work performed on low-sloped roofs with a ground-to-eave height greater than six feet. This does not apply at points of access such as stairways, ladders and ramps or when persons are on the roof only to inspect, investigate or estimate roof level conditions. A fall protection system shall consist of one or more of the following:
 - (1) Guardrails.
 - (2) Safety nets.
 - (3) Personal fall arrest system.
 - (4) Warning lines.
 - (5) Work-positioning or work-restraint devices such as locking rope grabs and static lanyards that are designed to restrict motion within or at the work area.
- b. On roofs that are 50 feet or less in width, a monitoring system alone (*i.e.*, without a warning line) can be used. OSHA allows the use of a safety monitoring system alone because of the limited roof area in which work could be performed.
- c. For all work on steep roofs, a fall protection system shall be used as defined in paragraph 1.3.3a.

1.3.4 Falling Object Protection

- a. Falling object protection such as toeboards, paneling, screening and guardrails shall be utilized when work is performed at an elevated work area six feet or more above a lower level. No material or equipment shall be stored within four feet of the working edge.
- b. To protect other employees and workers on the site, the area below the elevated work site shall be completely enclosed with barricades not less than six feet back from the projected edge of the work above.
- c. Signs warning of the hazard of falling materials shall be posted, when necessary. For NEXRAD towers, these signs shall carry warnings about falling ice and shall be posted outside of ice falling area, where appropriate.

1.3.5 Aerial Lifts. Employees being lifted in aerial buckets shall wear a full body harness and be anchored to certified anchor points inside the bucket, connected by a lanyard adjusted as short as possible.

1.3.6 Scaffolds. Suspended scaffolds or similar platforms used by NWS employees or contractors shall comply with the pertinent requirements of 29 CFR 1926, Subpart L, "Scaffolds."

1.3.7 Inspection and Testing of NWS Fall Arrest and Rescue Equipment Components.

- a. Fall arrest system components shall be inspected by the user before each use (see Attachment A: Pre-use Inspection Guide). Each rivet shall be examined to be certain that it is secure. All fall protection hardware including buckles, D-rings, snap-hooks, and webbing shall be examined. Defective equipment shall be removed from service and returned to the Safety or Environmental/Safety Focal Point for disposal. The following components are available for replacement at NLSC:
 - (1) Harnesses (ASN 060-P-4, 060-P-5, 060-P-6, 060-P-7, 060-P-8)
 - (2) Y Lanyard (ASN 060-P-9)
 - (3) Positioning Lanyard (ASN 060-P-10)
 - (4) Carabiners (ASN 060-P-22, 060-P-12)
 - (5) Rescue Equipment Kits
 - i Towers below 100 feet (ASN 060-K-3)
 - ii Towers above 100 feet (ASN 060-K-4)
- b. The Safety or Environmental/Safety Focal Point shall ensure that annual inspection of fall arrest system components and rescue kits system components is conducted and an inspection log is kept (see Attachments A and B).
- c. Equipment subjected to stress loading in a fall shall be destroyed after a review of the fall has been completed.
- d. Personal fall arrest system components and rescue kits issued to NWS climbers with rescue responsibilities will be inspected during re-certification courses every three years by the instructors with student participation. Pre-use inspection and annual inspections of fall protection equipment components at field offices are required. If inspections indicate that any fall protection equipment or equipment

components need to be replaced, field personnel can order replacement equipment or equipment components from the National Logistics Support Center.

NOTE: Self-retracting Lifelines purchased by the WFO personnel shall be inspected every two years, per manufacturer's recommendation and by manufacturer's approved vendor.

1.3.8 Maintenance and Storage

- a. Washing harnesses and lanyards in soapy water is the best way to remove loose debris, followed by rinsing with fresh water. Drying in a cool area away from ultra-violet (UV) light is recommended. Always make sure labels are legible. Do not use industrial solvents on synthetic materials. Do not oil moving parts unless instructed by manufacturer.
- b. Synthetic material should be kept away from bright sunlight and UV light during storage and maintained in a cool dry place. Fading of dyed synthetic color is an indicator to signify UV exposure which may be damaging.

1.3.9 Training

- a. Fall protection/rescue training shall be provided for all NWS employees required to climb, work on and descend structures in performance of their job duties. Training shall be provided by a competent person as defined in 29 CFR 1926.503 (a)(2).
- b. Fall Protection/rescue training re-certification for the climbers who do not need to perform rescue (rescue is provided by fire department or rescue squad) is not required. For personnel who need to conduct rescue in addition to climbing, the recertification period is three years (nominal). At least one currently certified climber with rescue responsibilities should be at the offices where local emergency response organizations are not available to provide rescue within 30 minutes.

NOTE: The three-year recertification period is nominal to account for changes in course schedule and personnel availability from year to year. For example, for a three-year recertification cycle, a climber with rescue duties certified in March 2014 would require recertification before the end of FY17, not necessarily in March 2017.

- c. A written certification shall be generated by the training/recertification organization that contains the name of the employee trained, the date of the training and the subject of the certification for each individual successfully completing the training. Training records shall be maintained by the site safety or environmental/safety focal point or his/her designee.
- d. Training shall consist of, but not be limited to, the following:
 - (1) Recognition of the hazards related to falls.
 - (2) Procedures to be followed to minimize hazards related to falls.
 - (3) Successful demonstration of the ability to use fall protection equipment by trainees.

- (4) Procedures for inspection of equipment such as harnesses and lanyards.
- (5) Rescue techniques.
- e. Re-training shall be required when:
 - (1) Changes in the workplace render previous training obsolete.
 - (2) Changes in the types of fall protection systems or equipment to be used render previous training obsolete.
 - (3) Affected employees fail to retain the requisite knowledge of skill provided by the training.
- f. Recertification shall include, but not be limited to, the following:
 - (1) Classroom review of fall protection/rescue techniques taught during initial training.
 - (2) Successful demonstration of proficiency in application of fall protection and rescue techniques by each participant.
 - (3) Comprehensive inspections of fall arrest system and rescue kit components conducted by instructors with student participation. If the inspection indicates that the equipment should be replaced, an instructor will provide a written statement to the student and to NWS headquarters environmental/safety staff.

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| <p>NOTE: Contractors and employees that work on communication towers should also review OSHA Compliance (CPL) Directive 02-01-36 dated 3/26/02. This has direct application in placement of NOAA Weather Radio antennas on this type of tower.</p> |
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1.4 Responsibilities

1.4.1 Regional or Operating Unit Environmental/Safety Coordinators

- a. Will monitor and promote compliance with the requirements of this procedure at field offices or Operating Unit facilities.
- b. Will ensure that applicable procedures are implemented at regional headquarters or Operating Unit facilities.

1.4.2 Station Manager

- a. Will review or delegate review of this procedure on an annual basis to ensure that facility is complying with its requirements. Confirmation of this review shall be forwarded to the Regional or Operating Unit Environmental/Safety Coordinator.
- b. Will have oversight over the implementation of this procedure, and ensure that the requirements of this procedure are followed by individuals at the NWS facility.

- c. Will ensure that initial and periodic inventory of fall protection systems, communication devices, postings/signs, hard hats, barricades and other safety equipment is accomplished and adequate stock is maintained.

1.4.3 NWS Headquarters (NWSH)

- a. The NWS Safety Office will provide assistance to Regional Headquarters, Operating Units, and field personnel to ensure that NWS facilities comply with requirements of this procedure.
- b. NWSH will coordinate with NOAA SECO, as necessary, regarding compliance issues related to this procedure.

1.4.4 Safety or Environmental/Safety Focal Point

Will ensure that any responsibilities delegated to them by the Station Manager are implemented in accordance with the requirements of this procedure.

1.4.5 Employees

- a. Individual employees affected by this procedure are required to read, understand and comply with the requirements of this procedure.
- b. Report unsafe or unhealthful conditions and practices to their supervisor or safety or environmental/safety focal point.

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| NOTE: Reference NWS PD 50-11 for complete list of responsibilities http://www.nws.noaa.gov/directives/sym/pd05011curr.pdf |
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1.5 References

Incorporated References. The following list of references is incorporated as a whole or in part into this procedure. These references can provide additional explanation or guidance for the implementation of this procedure.

1.5.1 American National Standards Institute, ANSI Z359.1-1992, "Safety Requirements for Personal Fall Arrest Systems."

1.5.2 National Weather Service, NWS Occupational Safety and Health Procedure 23, "Emergency Response Agreements."

1.5.3 National Weather Service, NWS Occupational Safety and Health Procedure 5, "Occupant Emergency Plan."

1.5.4 American National Standard Institute, ANSI 10.32-2004, "Fall Protection for the Construction and Demolition Industry."

1.5.5 U.S. Department of Labor, Occupational Safety and Health Administration, Compliance Directive CPL 02-01-36, "Interim Inspection Procedures during communication tower construction activities."

1.5.6 U.S. Department of Labor, Occupational Safety and Health Administration, 29 CFR 1910.28, "Scaffolds."

1.5.7 U.S. Department of Labor, Occupational Safety and Health Administration, 29 CFR 1910.66, Appendix C, "Fall Arrest Systems."

1.5.8 U.S. Department of Labor, Occupational Safety and Health Administration, 29 CFR 1910.145, “Signs and Tags.”

1.5.9 U.S. Department of Labor, Occupational Safety and Health Administration, 29 CFR 1926.104, “Safety Belts, Lifelines, and Lanyards.”

1.5.10 U.S. Department of Labor, Occupational Safety and Health Administration, 29 CFR 1926.500, Subpart M - “Fall Protection.”

1.5.11 U.S. Department of Labor, Occupational Safety and Health Administration, 29 CFR 1926 Subpart L, “Scaffolding.”

1.6 Attachments

Attachment A. Pre-Use Inspection Guide, Fall Protection Equipment.

Attachment B. Annual Inspection Log, Fall Protection Equipment.

Attachment C. Structure Climbing/Descending Emergencies.

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**ATTACHMENT A
Pre-Use Inspection Guide
Fall Protection Equipment**

WEBBINGS - Harnesses/Lanyards

Expected Service Lifetime: As long as the equipment is not used on daily basis and it is still usable (not stressed, stitching not broken or frayed, no UV damage, etc.) it will last well beyond five years.*

Recommended Check: Look for cuts, wear burns, stitching problems, UV damage, chemical attack and/or ingrained dirt or oil.

ROPES - Lifelines/Lanyards

Expected Service Lifetime: As long as the equipment is not used on daily basis and it is still usable (not stressed, stitching not broken or frayed, no UV damage, etc.) it will last well beyond five years.*

Recommended Check: Check termination splices, wear points, ingrained dirt, kinks and broken wires in cables and thimbles, cuts, wear in ropes, UV damage and/or chemical attack.

HARDWARE - Snap Hooks/D-Rings and Ladder Climbing Devices

Expected Service Lifetime: As long as the equipment is not used on daily basis and it is still usable, it will last well beyond five years.*

Recommended Check: Cracks, distortions, wear points, sticking of gate, functioning of gate and keeper latch.
Self-retracting Lifelines purchased by the WFO personnel shall be inspected every two years, per manufacturer's recommendation and by manufacturer's approved vendor.

NOTE: If fall occurs, remove all equipment involved from service.

* Harnesses/lanyards and hardware issued to NWS climbers during initial fall protection/rescue training class will be inspected by the instructor during re-certification course for climbers with assigned rescue roles (every three years). If inspection indicates any of these components should be replaced, the NWS headquarters environmental/safety staff should be informed. All NWS climbers are required to conduct pre-use and annual inspections of fall protection equipment components and replace them, as necessary.

**Full Body Harness
Inspection Checklist**

Harness Model/Name: _____

ID/Serial Number: _____

Comments: _____

| General Factors | Accepted/Rejected | Supportive Details/Comments |
|---|--------------------------|--|
| 1) Hardware: includes D-rings, buckles, keepers and back pads. Inspect for damage, distortion, sharp edges, burrs, cracks and corrosion. | Accepted Rejected | |
| 2) Webbing: Inspect for cuts, burns, tears, abrasions, frays, excessive soiling, and discoloration. | Accepted Rejected | |
| 3) Stitching: Inspect for pulled or cut stitches. | Accepted Rejected | |
| 4) Labels: Inspect, and make certain all labels are securely held in place and are legible. | Accepted Rejected | |
| 5) Other: | Accepted Rejected | |
| 6) Other: | Accepted Rejected | |
| 7) Overall Disposition: | Accepted Rejected | Inspected by: Date Inspected: |

**Lanyards
Inspection Checklist**

Lanyards Model/Name: _____

ID/Serial Number: _____

Comments: _____

| General Factors | Accepted/Rejected | Supportive Details/Comments |
|--|--------------------------|--|
| 1) Hardware: (includes snap hooks, carabiners, adjusters, keepers, thimbles, and D-rings). Inspect for damage, distortion, sharp edges, burrs, cracks, corrosion, and proper operation. | Accepted Rejected | |
| 2) Webbing: Inspect for cuts, burns, tears, abrasions, frays, excessive soiling, and discoloration. | Accepted Rejected | |
| 3) Stitching: Inspect for pulled or cut stitches. | Accepted Rejected | |
| 4) Labels: Inspect and make certain all labels are securely held in place and are legible. | Accepted Rejected | |
| 5) Synthetic Rope: Inspect for pulled or cut yarns, burns, abrasions, knots, excessive soiling, and discoloration. | Accepted Rejected | |
| 6) Energy Absorbing Component: Inspect for elongation, tears, and excessive soiling. | Accepted Rejected | |
| 7) Overall Disposition: | Accepted Rejected | Inspected by: Date Inspected: |

**Snap Hooks/Carabiners
Inspection Checklist**

Hook/Carabiner Model/Name: _____

ID/Serial Number: _____

Comments: _____

| General Factors | Accepted/Rejected | Supportive Details/Comments |
|---|--------------------------|--|
| 1) Physical Damage: Inspect for cracks, sharp edges, burrs, deformities and locking operations. | Accepted Rejected | |
| 2) Excessive Corrosion: Inspect for corrosion, which affects the operation and/or the strength. | Accepted Rejected | |
| 3) Markings: Inspect and make sure certain marking(s) are legible. | Accepted Rejected | |
| 4) Other: | Accepted Rejected | |
| 5) Other: | Accepted Rejected | |
| 6) Other: | Accepted Rejected | |
| 7) Overall Disposition: | Accepted Rejected | Inspected by: Date Inspected: |

ATTACHMENT B
Annual Inspection Log
Fall Protection Equipment
(To be used with Attachment A)

| Component | Date | Pass/Fail | Comments |
|------------------|-------------|------------------|-----------------|
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Inspector

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**ATTACHMENT C
Structure Climbing/Descending Emergencies**

List structures maintained by site personnel (tower, river gauge, etc.):

| No. | Structure Type | Location (address, if applicable) | Emergency Response Organization* (if available within 30-minute response time) |
|-----|----------------|-----------------------------------|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Emergency Response Organization(s):

Name _____ Phone Number _____

Name _____ Phone Number _____

(Attach Emergency Response Agreement, if available)

* - N/A. If no Emergency Response Organization available within 30-minute response time, additional personnel trained in rescue operations and equipped with rescue and first aid kit must accompany the climber(s).

Include the following information in this document:

- a. If an emergency rescue is required, the telephone numbers should be called in the order that they are listed first, second, and third.
- b. A detailed map of the work site with any information that will help find the location, landmarks, etc. Written directions that can be read over the telephone to a police/fire department dispatcher or ambulance driver, describing how to get from their facility to the work site.
- c. A map with the route marked from the work site to the nearest hospital that someone can use to drive an employee with injuries.

- d. Detailed location of the closest first aid kit. To ensure minimal time lost looking for a first aid kit during an emergency, a kit should be removed from the vehicle and brought to the vicinity of the work site.
- e. Description of communication method that will be used between the suspended worker and rescue team.