# US Geological Survey
# West Virginia Water Science Center
# FALL PROTECTION PLAN

**Purpose:** The U.S. Geological Survey's written Fall Protection Plan was created to insure the safety and wellbeing of all West Virginia Water Science Center employees who are tasked with duties that require them to work in locations that are exposed to potential falls of four (4) feet or higher. This program is enforced under the authority of the Center Director and is based upon the requirements of 29CFR 1926 fall protection standards, as well as the USGS Field Safety Manual. Each employee exposed to a fall hazard greater than 4' shall be trained to recognize fall hazards and procedures to follow to minimize these hazards.

## Implementation of the Fall Protection Plan

- Employees are forbidden from accessing the roof of gage houses.
- The only exception to this rule are those gage houses that have been modified with either an approved guardrail system or with an anchor bolt to which a full-body harness is attached by use of a positioning lanyard.
- Gages that have approved fall arrest systems are listed in the Safety Section of SIMS under the fall protection JHA specific to those sites.
- Employees should determine in advance the proper fall arrest system for the site they are going to service to determine if they need to use a full-body harness and positioning lanyard.
- If working from a ladder only, no additional fall arrest systems are required.

## Duty To Have Fall Protection

- Employers are required to assess the workplace to determine if the walking/working surfaces on which employees are to work have the strength and structural integrity to safely support the worker. No employee shall be permitted to work on a surface that is not structurally sound. If an employee is exposed to a fall 4' or more from an unprotected edge one of the following **shall** be implemented: **Use of a ladder, Guardrail system, or personal fall arrest system consisting of a full-body harness and positioning lanyard**

- **Personal fall arrest must be used when installing a guardrail system, if such installation cannot safely be performed from a ladder.**

- Work shall be planned ahead to include fall protection measures to be implemented.

- All fall protection equipment shall be inspected prior to use daily to insure equipment is in good condition.

## Fall Protection Systems To Be Used

1. **Ladders**

When utilizing a ladder as a fall protection method the employee must insure the following:

- The Ladder to be utilized is in good repair, and inspected prior to each use to insure that all rungs and cleats are sound and in good working order.
- All ladders are operated in a location that is free from the possibility of contact with power lines.
- That all work can be performed safely from the ladder and that excessive reaching to the sides is avoided to prevent the ladder from tipping sideways.
- The ladder must extend a minimum of two (2) rungs above the edge of the roof line to insure a stable platform is created with the angle the ladder is set at.
- At no time will an employee step or stand on the top rung of a ladder.

2. **Guardrail System**

- When a guardrail system is used, a standard guardrail shall consist of toprails, and midrails.

- Toprail should be at least 42" and capable of withstanding, without failure, a force of at least 200 pounds applied within 2" of the top edge in any outward or downward direction, at any point along the top edge.

- Midrail shall have a vertical height of 21" and be capable of withstanding 150 pounds of force applied in any downward outward direction.

- Horizontal post should optimally be placed every 8'.

- Standard guardrail systems shall be provided with toe-boards on all open sides/ends **at locations where persons are required or permitted to pass or work under the elevated platform or where needed to prevent persons and material from falling from the elevated platform**. Toe-boards shall be at least 4" high.

- Guardrail surfaces shall not cause injury to employee from punctures or lacerations.

- Guardrails shall only be constructed from acceptable materials.

3. **Full-Body Harness and Positioning Lanyards**
    - Whenever it is necessary for an employee to work from a surface that is 4 feet or higher, and the surface does not have an approved guardrail system installed, the employee **shall** utilize a full-body harness and positioning lanyard that will be attached to the surface's anchor at all times.
    - The employee would access the surface from a ladder and while still on the ladder attach their positioning lanyard to the roof anchor and the other end to their full body harness's side D ring.
    - The employee would then transition from the ladder to the elevated surface.

**Fall Protection Equipment Inspection Procedures**

- All ladders, full- body harness, and positioning lanyards shall be inspected prior to each use to insure they are in good repair.
- Ladders must have sound cleats, and the rungs should be free from any damage. Damaged ladders should be taken out of service immediately and repaired or replaced.
- Full-body harnesses and positioning lanyards shall be inspected prior to each use to insure there is no fraying of materials, and that the rings are in good repair.

**Approved by** Mark R. Bennett **, Director** **DATE:** 4/16/14