

DON FALL PROTECTION GUIDE (May 2015)

SUMMARY OF MAJOR CHANGES, UPDATES AND IMPROVEENTS

GENERAL

1. Changed the title of the guide to DON Fall Protection guide;
2. Added Marine Corps information including applicability of instructions and requirements;
3. Removed referencing “Ashore Facilities” from the guide’s name;
4. Made various editorial and grammatical improvements throughout the guide;
5. Added new photos and pictures of equipment and applications throughout the guide.

CHAPTER 1: INTRODUCTION

1. Par. 1.2: Included information regarding the Navy and DON fall mishap statistics;
2. Par. 1.3: Added a note stating that for Fall Protection (FP) Program requirements for Afloat Units are prescribed in OPNAVINST 5100.19;
3. Par. 1.5: Stated that the DON FP Working Group shall serve as the technical policy advisor regarding the prevention of falls by providing tools, criteria and safe work practices. The FPWFG shall meet semi-annually;
4. Par. 1.5: Stated that the Technical Warrant Holder (TWH) for FP is NAVFAC. NAVSEA is the TWH for Shipboard and for aviation the TWHs are spread across various PMAs under NAVAIR.

CHAPTER 2: DEFINITIONS

1. Added 22 new definitions and clarified the verbiage of 3 exiting definitions.

CHAPTER 3: FALL PROTECTION PROGRAM

1. Added a note in the first paragraph stating that all documentation of the FP program shall be maintained and updated periodically as long as the Command or Activity has personnel working at heights and exposed to fall hazards;
2. Par. 3.3: Improved the verbiage in the FP Program Compliance checklist;
3. Stated that any deviation from the 4 –foot requirement has to be approved by the Command instead of the Competent Person;
4. Par 3.3, Line (39): Added verbiage that electrically rated harnesses shall meet ASTM F887 Standard.

CHAPTER 4: DUTIES AND RESPONSIBILITIES

1. Par. 4.1: Stated that the qualified person shall be able to calculate the actual personal energy absorber deployment distance and required clearance;
2. Par. 4.2: Deleted the statement that the CP will have only one task which is to monitor compliance with the FP and Prevention plan and rescue plan from the last bullet.

CHAPTER 5: WORKPLACE SURVEYS AND ASSESSMENT OF FALL HAZARDS

1. Paragraph 5.1: Stated the Command or Activity to which personnel exposed to fall hazards belong to is responsible of those activities which expose those personnel to the fall hazard. At locations that multiple commands may be exposed to the same fall hazard, the installation shall coordinate the survey efforts in order to save resources.
2. Par. 5.1: Deleted the statement that the owners of buildings and facilities are responsible for conducting the surveys.

CHAPTER 6: TRAINING

1. Par. 6.2, Training Matrix:
 - Clarified Contract management personnel to include Contracting Officer Technical Representative and Contract Assurance personnel;
 - Added the desired training objectives for the authorized rescuer and training mechanism and type;
 - Included a requirement for the QP and the fall protection program manager to receive a refresher training annually to stay current with the FP educational knowledge by attending applicable technical seminars or web based Training. ANSI Z359.2 recommends 8 hours of refresher/update training annually.

CHAPTER 7: FALL HAZARD PREVENTION AND CONTROLS

1. Fall Protection and Prevention Plan: Modified the verbiage in paragraph 7.2 “when visiting another Command or Activity, if no Plan addressing Fall-Hazards exist at the worksite being visited, then the employee or other team leader shall prepare an addendum to the plan” by requiring consultation with the CP.

CHAPTER 8: FALL PROTECTION SYSTEMS, CRITERIA AND DESIGN REQUIREMENTS

1. Par. 2.1.1.1, Guardrail:

Included a note stating the following: “When guardrails are used at hoisting areas, a minimum 6 feet of guardrail shall be erected on each side of the access point through which materials are hoisted;
2. Par. 8.2.1.2, Parapets: clarified why parapet height of 30 inches wide plus 18 inches wide equals minimum 48 inches will be adequate height for compliance with OSHA 42 inches height of railing.
3. Par. 8.2.1.3, Covers/Skylights and Hatches: Moved Covers and skylights requirements from Chapter 9 to this chapter and added criteria for skylights and hatches;
4. Par.8.2.3: Fall Arrest System:
 - Included warnings regarding end users using personal fall arrest systems and having body weight outside the capacity range of 130-310 lbs. and it is very important that health consideration be taken into account for workers weighing more than 310 pounds;
5. Par. 8.2.3.1: Added note 1 stating the 6 ft. free fall distance can be exceeded, if the proper energy absorbing lanyard is used;

6. Par. 8.2.3.: Included the following statement: Anchorages used for personal fall arrest shall be independent of any anchorage used to support or suspend platforms.
7. Par. 8.2.3.2(I)(b): Added criteria and requirements for Eye Bolts;
8. Par. 8.2.3(II)(a): Added photos of proper and wrong connections of the equipment;
9. Par. 8.2.3.2(II)(b)(11): Stated that the 12 ft. FF energy absorbing lanyard may also be used when the FF distance is less than 6 feet (When the anchorage is located above the dorsal D-ring);
10. Moved few paragraphs around to be located at the correct place;
11. Par. 8.2.3.2(II)(c.1)(4): Stated that the self-retracting lanyard shall be equipped with deployment indicator;
12. Par. 8.2.3.2(III)(a): Included information of the five new types of harnesses as prescribed by the ANSI Z339.11 standard; also included information about harness Integrated Equipment such as Vest, Suspension Seat, Extender, Dorsal or other specialized attachment elements;
13. Par 8.2.3.2(IV): Added criteria for hardware compatibility.
14. Par 8.2.4: Other Fall Protection Systems:
 - Par. 8.2.4.2: Included criteria and requirements for the rigid horizontal rail systems;
 - Par. 8.2.4.3: Corrected the criteria for the diameter of synthetic rope from 5/8 inches to 0.433 inches and changed the total fall distance for single anchor vertical lifeline using automatic fall arrester from 13 to 11 feet;
 - Par 8.2.4.5, Restraint System: Added the following:
 - For temporary certified restraint anchorages may be designed by a qualified person to withstand 400 pounds of force;
 - Clarified the length of the lanyard used in restraint system to be longer than 6 feet
 - Stated the two types of lanyards (adjustable and non-adjustable);
 - Par 8.2.4.8.1 Warning Line S system Requirements– Added the following “OSHA considers the use of a warning line system as a *De-Minimis* violation of the guardrail criteria”;
 - Moved “Other Engineered FP System from chapter 9 to paragraph 8.2.4.12;
 - Moved Ladder Cages info from chapter 9 to paragraph 8.2.4.1.3.

CHAPTER 9: FALL PROTECTION GUIDELINES FOR SPECIFIC WORK APPLICATIONS

1. Par. 9.12: Added best practices including equipment for climbing and working on wood poles.

CHAPTER 10: GUIDANCE FOR FALL RESCUE PROCEDURES

1. Par 10.3: Changed the responsibility for ensuring that there are pre-incident plans and rescue plans in place from the program manager to competent person for fall protection.
2. Par. 10.5: The competent person will prepare the rescue plan instead of the program manager. Deleted the end user or supervisor of end users preparing the plan;
3. Par. 10.5.a: Changed the program manager to competent person responsibility for reviewing and updating the pre-incident plan;
4. Par. 10.7: For personnel conducting rescue - changed the refresher training from annually to every two years (this is in compliance with ANSI Z359.2 standard);
5. Par. 10.11: Added more rescue equipment and systems that can be used when performing self-rescue or assisted rescue;

CHAPTER 11: INSPECTION, MAINTENANCE, STORAGE, AND CARE PROCEDURES for PERSONAL FALL PROTECTION EQUIPMENT

1. Par 11.1.3: Added lanyards and energy absorbers bearing the marking of ANSI Z359.1 (1992, R199) or ANSI Z359.1 (2007) shall not be used and shall be taken out of service. This is in addition to A10.14 standard;
2. Par. 11.1.5.b: Added verbiage stating that the competent person inspection of self-retracting devices shall be in accordance with the manufacturer's instructions and recommendations. Inspection shall be documented. Additionally, the factory authorized inspection table for self-retracting devices was updated;
3. Par. 11.2(f): Added verbiage stating to consult the manufacturer for marking on the equipment;
4. Added the following verbiage (questions) to the equipment inspection checklist:
 - Par 11.4.4: Is the strength of the snaphook's gate stamped with the number 3,600 lbs.?
 - Par 11.4.5: Is the harness used equipped with fall arrest indicator at the dorsal D-ring?
 - Par 11.4.7: Is the fall arrester used with single anchor vertical lifeline or climbing ladder fall arrest system the automatic type? Is the fall arrester used in positioning or restraint system the manual type (Rope adjuster)?
 - Par 11.4.8: required a professional engineer to design horizontal lifeline anchorages; added energy absorber, tensioner, turnbuckles and mobile attachment Device as components of the HLL instead of fall arrestor
 - Par 11.4.9: Replaced the verbiage "Are the written reports maintained?" with the following: Are the written fall protection and prevention plans and rescue plans maintained and updated?

12.0: TIE-OFF CONSIDERATIONS AND SELECTION OF SAFE ANCHORAGES

1. Par 12.1: added the following verbiage for keeping anchorages used during construction work, "provided they are installed and properly located for performing the maintenance task".

CHAPTER 13: RESPONSIBILITY FOR DESIGN, INSPECTION, CERTIFICATION, and RE-CERTIFICATION of ANCHORAGES

1. Par 13.2.e: Deleted "certified and non-certified anchorages", these definitions are already included in Chapter 2.

CHAPTER 14: FALL PREVENTION CONSIDERATIONS DURING PLANNING AND DESIGN PHASE

1. No change.

CHAPTER 15: GUIDANCE - FALL PROTECTION FOR AIRCRAFT MAINTENANCE AND INSPECTION WORK

1. General: All the paragraphs were re-arranged and moved to match the process for establishing and managing a fall protection program;
2. Par 15.3, Purpose: Added the following sentence: "The Naval Aviation, maintenance, inspection and aircraft wash-downs are considered maintenance tasks under the Naval Aviation Maintenance Program (NAMF)";
3. Par. 15.4, Applicable Standards/Regulations and Instructions: Included CNAF message as part of this paragraph;
4. Par 15.6.a: Changed the assigned fall protection program manager to E6 and above (instead of E7 and above) and Preferably Quality Assurance Representative with appropriate training per the requirements stated in Paragraph 15.8;
5. Par 15.6.c, Duties and Responsibilities: Added three notes to this paragraph:
 - The Competent Person is only required at the unit if personnel are using Personal Fall Arrest System (i.e. Harnesses and Lanyards
 - Installation safety offices maintain personnel trained to the Competent Person level and who are available to support aviation units by request;
 - With adequate education, training, and experience, the AVFPPM may also function as a Qualified Person or Competent Person.
6. Par 15.6.f, added the following: Exposed Personnel. Any person exposed to a fall hazard while performing aircraft maintenance and inspections. Exposed personnel shall receive unit level fall protection training from the Aviation FPPM. At a minimum training shall include: stands, ladders, over-wing maintenance and climbing aircraft.
7. Par15.7.a –Workplace surveys: The paragraph was reworded and the following sentence was added:
 - The workplace survey shall encompass the aircraft and all maintenance areas (i.e. hangars, wash racks, flight line) and different access equipment that may be available in each area.

8. Par 15.10: FP Systems and Equipment:
 - Modified the title of the paragraph to (1) Mobile Work Platforms and Mobile Man Lifts” and added the following info to the paragraph 15.10:
 - Additional compliance info: “and COMNAVAIRFORINST 4790.2B CH-1, dated 15 June 2013”.
 - New info: Mobile Work Platform (MWP) and Mobile Man Lift (MML) provide powered access from self-propelled elevating platforms which are approved as Ground Support Equipment. The MML was specifically procured for support to MV-22 but its operating range lends itself to support several aircraft of that size.
 - Included common Type of FP Options into this paragraph.

CHAPTER 16: FALL PROTECTION REQUIREMENTS FOR ARCHITECTS, ENGINEERS AND OTHER INSPECTORS CONDUCTING ROOF INVESTIGATION, ASSESSMENT AND INSPECTION WORK

1. Par 16.11: Included the following: “the CP shall train personnel on the use of FP equipment”.

Chapter 17.0: OTHER FALL PROTECTION MEASURES

1. No change.

Chapter 18.0: AMERICAN NATIONAL STANDARDS INSTITUTE, ANSI Z359 FP CODE/STANDARDS

1. Added the following info:
 - ANSI Z359.11 standard for harnesses and Z359.15 Standard for single anchor vertical lifeline were indicated as completed and published,
 - Included a new standard presently under development for rigid rail anchorage subsystem
 - The equipment/product requirements prescribed in the completed and published standards above, supersedes the requirements prescribed in ANSI Z359.1 (2007) standard, except the anchorage connector requirements from the Z359.1 standard are still applicable. Eventually, when the anchorage connector requirements in Z359.18 standard are published, it will supersede the anchorage connector requirements prescribed in Z359.1 (2007) standard.

CHAPTER 19.0: REFERENCES

1. Deleted OSHA Instruction Standard, 3.1 Interim FP compliance guidelines for residential construction, the standard was rescinded;

2. Referenced Marine Corps instructions in addition to ANSI A10.32 and ANSI A1264.1 standards;
3. Included information for accessing some of the ANSI standards.

APPENDIX A: COMPARISON AMONG VARIOUS OSHA STANDARDS, DON and EM-385 REQUIREMENTS

1. Included the following changes/updates of EM 385-1-1 (2014), Section 21 FP Requirements:
 - Every Contractor and USACE –owned/operated permanent facility is responsible for establishing, implementing and managing a fall protection program;
 - Commercial off the shelf engineered guardrail systems may be used instead of constructing a system with the materials above and shall be designed to meet the guardrail criteria;
 - Changed the maximum distance safety nets can be installed below the walking/working surface from 25 to 30 ft.
 - All FBHs shall be equipped w/suspension trauma preventers such as stirrups, relief steps or similar in order to provide short term relief from the effects of orthostatic intolerance.

APPENDIX B: CALCULATING TOTAL FALL DISTANCE AND CLEARANCE

1. Editorial Changes only

APPENDIX C: DISCUSSION, EXAMPLES/PROBLEMS AND SOLUTIONS TO FALL HAZARDS

1. Editorial changes only.

APPENDIX D: MAN OVERBOARD PLAN

1. No change

APPENDIX E: GUIDANCE DOCUMENT-DESIGN CONSIDERATIONS FOR MANAGEMENT OF FALL HAZARDS

1. Minor editorial changes only.

APPENDIX F: Fall Protection Training Course Syllabus for Competent Persons

- 1 Editorial Changes only.

APPENDIX G: HUMAN SYSTEM INTERFACE WITH PERSONAL FALL ARREST SYSTEM - (Medical Aspects)

1. New Appendix describes the impact fall forces on the human body when using personal fall arrest system on users weighing more than 310 lbs. and less than 130 lbs.