



HEAVY EQUIPMENT AND OFF-ROAD UTILITY VEHICLE SAFETY TRAINING HANDBOOK

February 2016
Corresponding U.S. Fish and Wildlife Service Manual Chapters: **321 FW 1, Authorization, Training, and Safety Requirements, and Part 243, Motor Vehicle and Equipment Operator Program**
Originating Office: **Division of Information Technology Management**
(Amended by Decision Memorandum, "Approval of Revisions to ~350 Directives to Remove Gender-Specific Pronouns," 6/22/2022)

HEAVY EQUIPMENT AND OFF-ROAD UTILITY VEHICLE SAFETY TRAINING HANDBOOK

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INTRODUCTION:

The U.S. Fish and Wildlife Service (Service) is a land management agency responsible for more than 100 million acres and over 10,000 employees. Because the Service accomplishes a wide variety of operational tasks to support mission goals, it is extremely important that we provide a consistent and effective safety training program for both heavy equipment and Off-Road Utility Vehicle (ORUV) operations.

The Service has been proactive in the area of heavy equipment safety training since 1979 when we first established a training policy for heavy equipment operators. We designed the training program to meet policy standards and to integrate with mission goals. We have refined this program throughout the years to reflect changes in technology and field practices (see Appendix C. HEAVY EQUIPMENT SAFETY TRAINING HISTORY). In 2011, we established safety training for ORUVs to meet policy standards and address specific field operations.

We use full-time, part-time, seasonal, and volunteer operators to accomplish projects “on the ground” that have a wide range of experience levels. This range of personnel creates the challenge of providing adequate and timely training to operators located throughout the country. To accomplish this task, we use a cadre of experienced heavy equipment and ORUV operators who have received instructor training and other resources to deliver this training in the field. The instructors are provided logistical support and training materials from the Regional Heavy Equipment Coordinators who also manage the “in-the-field” classroom and operation segments of the program. The National Conservation Training Center (NCTC) in Shepherdstown, WV provides program administration, Web-based pre-class training, and Web-based refresher training. In 2010 the Service established the requirement for employees to successfully complete a refresher training program every 3 years for each type of equipment they operate.

Any person who operates Service-owned, leased, rented, or borrowed heavy equipment (regardless of job series) must take 8 hours of safety training for each type of equipment before they operate it. The training must be entered in the Department’s learning management system (i.e., DOI Learn). This training includes completion of the Web-based, Service-approved, pre-class study; 4 hours of classroom instruction; and, at minimum, 1 hour of equipment operation to demonstrate their ability to apply the safe heavy equipment operating procedures for the terrain and conditions in their area. The operator must demonstrate, through written exams and a pass/fail instructor evaluation, the knowledge and skills listed below. In addition, any person who operates Service-owned, leased, rented, or borrowed ORUVs (regardless of job series) must complete the minimum 6-hour field safety course. After completing the minimum 6-hour field training, the operator must demonstrate, through written exams and a pass/fail instructor evaluation, the knowledge and skills relevant to ORUV operation.

Following are the skills they must demonstrate:

- Familiarization with the operator’s manual
- Proper methods of fueling, maintenance, and lubrication as required by the manufacturer
- Pre-start procedures, which include proper safety checks
- Starting and warming up the machine
- Proper operational procedures, which include use of all controls

- Demonstration of travel maneuvers necessary for the types of terrain they will encounter
- Proper hook-up of equipment and attachments that may be used with the machine
- Operation of the equipment with various attachments
- Proper shut-down procedures
- Proper transportation and load securement procedures as defined in 243 FW 5
- Proper use of personal protective equipment as defined in 241 FW 3
- Service policy as it pertains to heavy equipment (See Appendix B. REFERENCES):
 - 321 FW 1 *Authorization, Training, and Safety Requirements*
 - 243 FW 1 *Safe Operation of Motor Vehicles and Motor Equipment*
 - 243 FW 2 *Special Purpose Trucks*
 - 243 FW 3 *Heavy Duty Motor Equipment*
 - 243 FW 4 *Powered Industrial Trucks*
 - 243 FW 5 *Towing, Cargo Carrying, and Load Securement*
 - 243 FW 6 *Off-Road Utility Vehicles*
 - 241 FW 3 *Personal Protective Equipment*
 - 242 FW 3 *Noise Control and Hearing Loss Prevention*

DESCRIPTIONS OF HEAVY EQUIPMENT AND ORUVs

Currently there are 11 types of heavy equipment and 4 types of ORUVs for which the Service has developed a safety training program. They are:

Heavy Equipment

- Motor grader,
- Self-propelled scraper pan,
- Skid steer,
- Agricultural tractor,
- Crawler dozer,
- Crawler loader,
- Wheeled loader,

- Powered industrial trucks (forklift) Classes 1-7,
- Excavator,
- Backhoe/loader, and
- Specialty tracked equipment.

ORUVs

- All-Terrain Vehicle (ATV),
- Utility Terrain Vehicle (UTV), tracked or wheeled,
- Snowmobile, and
- Amphibious vehicle.

HEAVY EQUIPMENT/ORUV OPERATOR..... CHAPTER 1

1.1 Definition: As described in 321 FW 1, a heavy equipment operator is:

- An employee or volunteer who operates heavy duty equipment and whose operator duties are specifically mentioned in their position description or Volunteer Services Agreement (Optional Form (OF) 301A), or
- An individual identified in a Service written agreement (e.g., Memorandum of Understanding) who operates Service heavy equipment.

1.2 What is heavy equipment? Table 1-2 in 321 FW 1.4 gives examples of heavy equipment:

Equipment Examples

(a) Crawler-dozers and crawler-loaders

(b) Four-wheel-drive loaders, articulating or straight frame

(c) Motor graders, articulating or straight frame

(d) Draglines

(e) Power excavators

(f) Motor cranes

(g) Agricultural tractors that are:

- Self-propelled,
- 2/4 wheel or track driven,
- More than 20 engine horsepower (HP),
- Designed to furnish power to agricultural/forestry/construction/industrial tools or attachments, and
- Manufactured with a Roll Over Protective Structure (ROPS), and defined in 29 CFR 1928.51(b)(1).

(h) Amphibious/soft-tracked equipment (wheeled or tracked) over 1,900 pounds curb weight including:

- Weasels
- Thiokols
- Roligons
- Marsh Masters

- SnowCats
- Muskegs
- Gyro-Tracs
- Geo-Boys
- Hydro-Axes

- (i) Self-propelled scraper pans
- (j) Industrial tractors and front-end loaders/backhoes
- (k) Skid steers
- (l) Forklifts (classes 1-7)

Industrial-powered lift trucks and specialized equipment other than that listed above require a training program that meets the same standards as those in 321 FW 1. Contact your Regional Heavy Equipment Coordinator to develop a program to meet those needs.

1.3 What are ORUVs? 321 FW 1.4 gives examples of ORUVs. ORUVs include:

- (a) All-terrain vehicles (ATVs). ATVs are off-highway vehicles that have a seat that the operator straddles, handlebars for steering control, and are specifically designed to travel on four low pressure tires (ANSI/SVIA 1-2010). ATVs include vehicles that are manufactured for use by a single operator and:
 - (i) No passenger, or
 - (ii) One passenger (called 2+ seating);
- (b) Utility terrain vehicles (multi-tired or tracked), commonly called UTVs, with a gross vehicle weight of 3,750 pounds or less (ANSI/ROHVA1-2014) (e.g., Gator, Mule, Ranger). This does not include electric golf carts (ANSI/NGCMA Z130.1) or personal transportation vehicles (ANSI/NGCMA Z135) (e.g., Cushman, CarryAll, E-Z-Go);
- (c) Amphibious vehicles (wheeled or tracked) with a curb weight of 1,900 pounds or less (e.g., an Argo);
- (d) Snowmobiles; and
- (e) Off-road motorcycles.

This standard includes all heavy equipment and ORUVs that are Service-owned, leased, rented, or borrowed and are operated by Service employees or volunteers.

1.4 What training is required? 321 FW 1 identifies the training required for all types of heavy equipment and ORUVs, and describes the supervisor's responsibility to document the type and extent of training for each operator using FWS Form 3-2267 (See [FORMS](#)).

- The Service does not offer training for motor cranes. Operators of that type of equipment must be licensed by the State for crane certification, or, if State licensing is not required, must have successfully completed a nationwide crane certification program meeting Federal [OSHA regulations at 29 CFR 1926 Subpart CC Appendix C](#) and ASME/ANSI B30.5-2000 standards. Equipment manufactured as draglines will maintain the functionality of a dragline. If you use a dragline for craning operations, the operator and equipment must meet the standards cited above. Dragline operators must complete a manufacturer-offered safety training program that includes, at a minimum, the requirements for heavy equipment safety training described in 321 FW 1.
- Completion of the Specialty Tracked Equipment Safety Training (STEST) course is specific to amphibious equipment or equipment for forestry applications. Additional training is required for operation of other types of specialty tracked equipment. The Regional Heavy Equipment Coordinator determines if there is a unique difference in safe operation of a specific type of equipment compared to the type of equipment the employee originally completed STEST on.

For example: A student completes the 8-hour STEST for an amphibious type of equipment (e.g., a Marsh Master). Before operating a specialty tracked piece of equipment for a forestry application (e.g., a Geo-Boy/Gyro-Trac/Fecon), he/she/they/they would need to contact the Regional Heavy Equipment Coordinator to arrange 4 hours of additional training. The additional training includes:

- 4 hours of instruction, (3 hours classroom and 1 hour of operation) provided by a Service Heavy Equipment Safety Instructor.
- If a backhoe is an attachment for a skid steer, crawler dozer, or an agricultural tractor, then the student must complete the Service's *Backhoe/Loader Safety Training Course* in addition to the safety training course for that equipment.
- Amphibious excavator operators must complete the Service's *Excavator Safety Training Course* in addition to a manufacturer-provided operator training for that type of equipment.

ORUVs include ATVs, UTVs that are tracked or wheeled, snowmobiles, and amphibious vehicles. You must complete the minimum 6-hour field training on each specific type of equipment prior to operating it.

Note: We prefer you use a method of teaching that combines ATV and UTV training as the operations are similar. If the courses are taught separately, the employee will only receive a certificate for the type of equipment they were trained to operate.

1.5 What determines proficiency for an operator of heavy equipment and specialty tracked equipment?

- (a) Service policy (321 FW 1, Authorization, Training, and Safety Requirements) states that before operators may operate heavy equipment for the Service, they must complete the 8-hour Heavy Equipment Safety Training program (or approved equivalent), which includes 3 hours of pre-class work, 4 hours of classroom work, and 1 hour of operation time.
- (b) Supervisors are responsible for the safety of operators and accurate documentation of the operator's proficiency by recording it on FWS Form 3-2267.
- (c) We encourage supervisors to develop a means of documenting the employee's progression of proficiency before allowing him/her/them to operate independently on projects with a high risk factor for accidents (examples of high risk operations include, but are not limited to, slope

operations, drop offs, operating in wildland fire applications, etc.). Supervisors can assist employees to gain proficiency in several ways. Examples include, but are not limited to, pairing new operators with senior operators and having them attend Maintenance Action Team (MAT) projects.

- (d) The operator must be able to perform common tasks and be knowledgeable of all instruments, equipment controls, and equipment limitations/restrictions to operate in varying terrains and environmental conditions they typically encounter. The operator must be able to react instinctively in an emergency situation should the need arise. Proficiency can only be achieved by time in the seat operating in various situations. We cannot measure it only by the amount of time they spend, but we must consider the quality as well when factoring in the operator's ability to comprehend the limitations of each type of machine being operated and their own limitations.

1.6 How do you sign up for the training?

First, contact your supervisor for authorization to attend training. Then contact your Regional Heavy Equipment Coordinator to enroll in the program. He/she/they/they will advise you how to register for the program and complete the Web-based, pre-class training requirement through DOI Learn. After completing the pre-class assignment, the Regional Heavy Equipment Coordinator will coordinate your participation in the classroom and operational segments of the program at a field location that will best meet your schedule and that of your Region. The Coordinator will issue your Certificate of Completion after you have successfully completed the program and your training has been documented. See APPENDIX A. HEAVY EQUIPMENT SAFETY TRAINING FLOWCHART.

1.7 Is refresher training required?

For heavy equipment:

Operators must take the Web-based refresher training every 3 years after completing the initial Service-approved training described in 321 FW 1. Successful completion of the online refresher course and its final exam are required to receive credit and a certificate. This refresher training is based on risk management and covers all 11 categories of heavy equipment. The Regional Heavy Equipment Coordinator coordinates the Web-based refresher training program. This program requires an additional component of supervised equipment operation for those employees who have not operated the type of equipment on which they were trained within the past 3 years, and for those employees who have exhibited a deficiency in their competency to operate the equipment. The operator's supervisor and the Regional Heavy Equipment Coordinator determine if the operator needs to successfully complete an operational requirement.

OSHA requires that in addition to the refresher training, forklift operators must be evaluated in the field every 3 years. The evaluator determines if the operator needs to successfully complete an operational requirement.

The heavy equipment refresher course can be found on DOI Learn under:

[FWS Heavy Equipment Refresher OLT](#)

For ORUVs:

All individuals operating ORUVs must successfully complete the refresher course every 3 years after completing the initial Service-approved training for each specific category as we describe in 243 FW 6 and 321 FW 1. Successful completion of the online refresher course and its final exam are required to receive credit and a certificate. ORUV training requirements have been updated in the last 5 years in 243 FW 6. Following is a clarification of those training requirements:

- All individuals trained before April 4, 2011, who had their initial ATV training certificates on file, were not required to retake the initial Service ATV/UTV training course, but had to take the online ATV/UTV refresher course according to the 3-year refresher schedule outlined in 321 FW 1, Exhibit 1. They also must have demonstrated a safe record of operation during the time between the initial and refresher training. For UTVs only, if an individual had been operating UTVs safely without any accidents and had a training certificate for ATV use as described above, his/her/their supervisor could certify successful completion of the initial UTV training. Supervisors are required to update FWS Form 3-2267 and place this form in the employee's file.
- All individuals trained before April 4, 2011, who do not have a certificate of successful completion of the initial Service ATV training course, and all new Service employees and volunteers, regardless of training received prior to joining the Service, must take the initial Service ATV/UTV safety training to obtain certification and authorization to operate an ATV/UTV. Supervisors must also complete FWS Form 3-2267, Authorization to Operate.

Note: There are two separate refresher courses for the ORUV program. They are (1) ORUV (includes ATV, UTV, and amphibious vehicles) and (2) Snowmobile. The Web-based refresher courses can be located on DOI Learn under the following titles:

FWS ORUV Refresher OLT (includes ATV, UTV, and amphibious)

USFWS Snowmobile Refresher OLT

1.8 What type of personal protective equipment (PPE) must I wear?

The following Service Manual chapters describe the type of PPE that a heavy equipment operator must wear:

- 241 FW 3: *Personal Protective Equipment*,
- 243 FW 1: *Safe Operation of Motor Vehicles and Motor Equipment*,
- 243 FW 3: *Heavy Duty Motor Equipment*, and
- 242 FW 3: *Noise Control and Hearing Loss Prevention*.

In general, hard hats, safety-toed boots, gloves, hearing protection, high visibility attire, and safety glasses are required to operate heavy equipment.

Operators must wear hard hats when operating equipment unless they are in an enclosed cab, and then it must be immediately available inside the cab. Enclosed cabs are those that completely enclose the operator to prevent immediate exposure to outside elements, and that have windows made of safety glass and door(s). Operators must also wear hard hats when operating agricultural tractors for land clearing operations (e.g., mowing) if they are in an open cab.

Other PPE, such as dust (or comfort) masks, respirators, and personal floatation devices may be required for safety, depending on the circumstances. An employee who voluntarily wears a dust (or comfort) mask must be given a copy of the OSHA standard that addresses the voluntary use of masks and respirators, [29 CFR 1910.134, Appendix D](#), and acknowledge reviewing it. As described in 241 FW 3: *Personal Protective Equipment*, when a Project Leader or supervisor develops a Job Hazard Assessment (FWS Form 3-2279), they identify the required PPE for the operation of specific tasks.

1.9 Can operator privileges be suspended or revoked? (321 FW 1.24)

- a.** Supervisors must suspend or revoke operator privileges if operators fail to maintain their qualifications, or if they demonstrate a careless disregard in operating either the Service's or their own personal motor vehicles or motor equipment.
- b.** Supervisors must suspend or revoke heavy duty motor equipment, light duty motor equipment, or ORUV operators' privileges if they do not complete refresher training and reauthorization within 3 years after the last training session and authorization.
- c.** Supervisors must document suspensions and revocations and any subsequent remedial actions on the operator's [FWS Form 3-2267](#). Regional Heavy Equipment Coordinators and Regional Safety Managers must work through line management (supervisors) to suspend or revoke operator authority if operators fail to maintain their qualifications, or if they demonstrate a careless disregard in operating the Service's or their personal motor vehicles or motor equipment.
- d.** If an operator has had their authorization to operate revoked, they must re-take the entire heavy equipment course to regain their authorization to operate.

HEAVY EQUIPMENT OPERATOR – Wildland Fire Operations..... CHAPTER 2

2.1 Definition: Wildland fire is any non-structural fire that occurs in the wild. Agencies recognize two distinct types of wildland fires: (1) wildfires that are unplanned ignitions, and (2) prescribed fires that are declared wildfires. Documents that have the standards and definitions for wildland fire operations include:

- [621 FW 1](#), *Fire Management Program*
- [U.S. Fish and Wildlife Service Fire Management Handbook](#) (FMH)
- [Interagency Standards for Fire and Fire Aviation Operations](#) (Redbook)
- [The National Interagency Incident Management System Wildland Fire Qualification System Guide, PMS 310-1](#) (PMS 310-1)

2.2 What type of heavy equipment operator positions may be involved during wildland fire operations?

Dozer Operators (DZOP), Tractor Plow Operators (TPOP), and Specialty Tracked Equipment Operators (STOP).

2.3 What training is required?

All employees who operate Service-owned, leased, rented, or borrowed heavy equipment (regardless of job series) must first attend the heavy equipment safety training as outlined in [321 FW 1](#). 321 FW 1 states that before operators may operate heavy equipment for use on wildland fire duties, they must complete the 8-hour Heavy Equipment Safety Training program (or approved equivalent), which includes 3 hours of pre-class, 4 hours of classroom work, and 1 hour of operation time. The [Federal Wildland Fire Qualifications Supplement](#) describes additional training, experience, and fitness requirements for the operation of heavy equipment on any wildland fire. The [Interagency Standards for Fire and Fire Aviation Operations](#) also describe the supervisor's responsibility to document the type and extent of training for each operator using the Incident Qualification and Certification System (IQCS), and to document the operator's ability to meet the heavy equipment safety training requirements in [321 FW 1](#).

2.4 How do you sign up for the training?

Contact your Regional Fire Management Coordinator for information about required training opportunities for the DZOP, TPOP, and STOP positions. Contact your Regional Heavy Equipment Coordinator for information about the Service Heavy Equipment Safety Training program.

2.5 Is refresher training required?

All personnel participating in wildland fire activities must take annual Fire Line Safety Refresher Training (RT-130). They must also meet the Service Heavy Equipment Safety training refresher requirement described in [321 FW 1](#).

2.6 What type of PPE must I wear?

The following Service Manual chapters describe the requirements for the type of PPE that an operator must wear:

- [241 FW 3](#): *Personal Protective Equipment*,
- [243 FW 1](#): *Safe Operation of Motor Vehicles and Motor Equipment*,
- [243 FW 3](#): *Heavy Duty Motor Equipment*, and
- [242 FW 3](#): *Noise Control and Hearing Loss Prevention*

In general, hard hats, safety-toed boots (Kevlar-toed for fire line operations), gloves, hearing protection, and safety glasses are required for operating heavy equipment unless guidance in the *Interagency Standards for Fire and Aviation Operation Redbook* and Service policy dictate otherwise. Operators must also wear hard hats when operating agricultural tractors for land clearing operations, such as mowing. Other PPE, such as dust masks, respirators, and personal floatation devices may be required for safety, depending on the circumstances. As described in 241 FW 3, *Personal Protective Equipment*, when a Project Leader/supervisor develops a Job Hazard Assessment ([FWS Form 3-2279](#)), they identify the required PPE for the operation of specific tasks.

2.7 What are the experience and proficiency requirements for operation of heavy equipment and specialty tracked equipment-in wildland fire operations?

- a. Service policy ([321 FW 1](#)) states that before operators may operate heavy equipment for use on wildland fire duties, they must complete the 8 hour Heavy Equipment Safety Training Program, which includes 3 hours of pre-class, 4 hours of classroom work, and 1 hour of operation time.
- b. The Service requires completion of a performance-based position task book (PTB) to document experience and on-the-job training for heavy equipment working on wildland fires. Before an employee is eligible to initiate a PTB for heavy equipment use on a wildland fire, he/she/they must be a proficient operator of the specific heavy equipment. The operator must be able to perform common tasks and be knowledgeable of all instruments, equipment controls, and equipment limitations/restrictions to operate in varying terrains and environmental conditions typically encountered. The operator must be able to react instinctively in an emergency situation should the need arise. Proficiency can only be achieved by time in the seat operating in various situations. It cannot be measured only by the amount of time in the seat, but instead by the operator's ability to comprehend the limitations of not only each type of machine being operated, but also by their own limitations.
- c. The operator's supervisor must document on FWS Form 3-2267 that the operator has the proficiency level needed to start and complete the PTB under the supervision of a qualified wildland fire heavy equipment operator.
- d. Once the employee has completed these requirements, he/she/they must initiate and complete the PTB as required by the policy and appropriate to the equipment being used and in addition to other required wildland fire qualifications. The wildland fire qualifications of DZOPs, TPOPs, STOPs require documentation of wildland fire experience in a PTB. PTBs must be completed and certified according to guidance in the *Interagency Standards for Fire and Fire Aviation Operations* and the *Wildland Fire Qualifications System Guide (PMS 310-1)*. Agency-specific PTBs can be printed from the [National Wildfire Coordinating Group \(NWCG\) PTB Web site](#).

2.8 Is there any additional training needed for ORUV operation on a wildfire?

- a. Initial Service ORUV training for each specific type of ORUV is required before operating on a wildfire.
- b. The operator must be able to perform common tasks and be knowledgeable of all instruments, equipment controls, and equipment limitations/restrictions to operate in varying terrains and environmental conditions typically encountered. The operator must be able to react instinctively in an emergency situation should the need arise. Proficiency can only be achieved by time in the seat operating in various situations. It cannot be measured only by the amount of time spent, but instead

by the operator's ability to comprehend the limitations of not only each type of machine being operated, but also their own limitations.

c. The operator's supervisor must document on [FWS Form 3-2267](#) that the operator has the proficiency level needed to operate the equipment during a wildland fire.

Note: Operators must review Regional requirements for PPE as they may be stricter than Servicewide policy.

NATIONAL HEAVY EQUIPMENT COORDINATOR.....CHAPTER 3

3.1 What is the role of the National Heavy Equipment Coordinator?

The position of the National Heavy Equipment Coordinator is located within the National Wildlife Refuge System (NWRS) Division of Information Technology and Management in Headquarters. As a key player in the accomplishment of Service goals, the Coordinator develops and evaluates the safe and effective deployment of heavy equipment. We rely on an inventory of heavy equipment valued at nearly \$10 billion for water management, flood control, and fire management activities for a land base of over 100 million acres. We also use heavy equipment to build and maintain roads, trails, and similar structures that allow nearly 40 million visitors per year to safely enjoy wildlife-dependent activities. The need for heavy equipment varies from site to site, so the logistics of having the right equipment and qualified operators at the right time and place is an important factor for the effective deployment of resources.

3.2 What are the duties of the National Heavy Equipment Coordinator?

The National Heavy Equipment Coordinator's primary duties fall into four broad categories: Training, Equipment Management, Workforce Management, and Liaison.

Training. The National Heavy Equipment Coordinator:

- Ensures that quality heavy equipment safety training is available by developing a standardized and consistent program that we implement throughout the Regions; and
- As part of a national team of peers from other Regions, develops and implements the Service Heavy Equipment and Off-Road Utility Vehicle Safety Training Program as described in 321 FW 1 and 243 FW 6.

The Heavy Equipment and Off-Road Utility Vehicle Safety Training Program uses a "train-the trainer" approach to deliver training throughout the Service. The team coordinates training program content with State and national certification entities to ensure our training meets criteria for certification standards, tests, or other requirements, especially when transporting machinery/equipment or using public roadways while operating it.

Equipment Management. The National Heavy Equipment Coordinator develops acquisition and deployment strategies for heavy equipment that meet the field stations' missions as well as our effective management practices. He/she/they:

- Plans, coordinates, and evaluates budgets, materials, and services needed to effectively deploy heavy equipment;
- Analyzes purchasing and leasing options of new and used heavy equipment; and
- Explores/identifies exchange programs for sharing equipment and evaluates transportation requirements.

Workforce Management. The National Heavy Equipment Coordinator:

- Establishes approaches for the effective development and deployment of the overall maintenance workforce within the Service;
- Works in concert with national/Regional workgroups (Leadership Development Council, Wage Grade Advisory Committees, workgroups dealing with policy issues, etc.) to develop policies on

maintenance programs within the Service and to recommend strategies on topics such as training and workforce development;

- Works in conjunction with Regional Heavy Equipment Coordinators, facility managers, and Regional supervisors to analyze and evaluate the need for Maintenance Action Teams (MAT) on a Regional and national level;
- Analyzes and develops plans to help ensure that the Service adequately funds and staffs for maintenance of assets and equipment;
- Provides technical assistance and/or conducts accident investigations with National and Regional Safety Managers as needed to identify root causes of accidents and develop corrective actions; and
- Assists National and Regional Emergency Management Coordinators to identify equipment and people who can assist in national emergencies, as required.

Liaison. The National Heavy Equipment Coordinator serves as the national liaison by coordinating Regional heavy equipment efforts with Regional Heavy Equipment Coordinators, Regional office staff, field station managers, and operators. He/she/they also:

- Coordinates efforts with NCTC for wage grade employee training needs,
- Assists NCTC with the development of safety-related, Web-based programs for heavy equipment and ORUVs, and
- Works in conjunction with the Regional Wage Grade Committees and Regional Heavy Equipment Coordinators to identify policy and workforce issues.

REGIONAL HEAVY EQUIPMENT COORDINATORCHAPTER 4

4.1 What is the role of the Regional Heavy Equipment Coordinator?

As key players in the accomplishment of Service goals, the Regional Heavy Equipment Coordinators develop and evaluate the safe and effective deployment of heavy equipment in their Regions.

4.2 What are the duties of a Regional Heavy Equipment Coordinator?

A Regional Heavy Equipment Coordinators duties are to:

- Serve as a member on a national team of peers from other Regions to formulate the development and implementation of a National Heavy Equipment Safety Training Program.
- Develop a cadre of Heavy Equipment Safety Instructors to meet Regional logistical requirements.
- Ensure that all instructors' training meets the standards in 321 FW 1 to provide consistency throughout the Service.
- Develop an annual assessment of the Regional heavy equipment training needs and coordinate the deployment of instructors to meet field station training requests.
- Coordinate efforts with NCTC for employee enrollment and completion of training courses using the pre-class study and refresher programs.
- Use the Department of the Interior's learning management system (i.e., DOI Learn) to register and complete the instructor-led heavy equipment and ORUV safety training course(s).
- Ensure the instructors' program delivery meets the requirements in 321 FW 1 and does not exceed the ratio of five students per instructor at the field training location for heavy equipment safety training. The ratio cannot exceed 4 students per 1 instructor for ORUVs.
- Issue certificates of completion and FWS Form 3-2268 for employees who have successfully completed Heavy Equipment Safety Training Courses (See [FORMS](#)).
- Develop an instructor refresher program as required in 321 FW 1, in conjunction with national guidelines.
- Evaluate the training program and develop recommendations for improvement that address the requirements of the operators in the field. These evaluations and recommendations use quality control methods such as student feedback.
- Assist program managers with budget requirements for acquisition, leasing, and rental of heavy equipment. Coordinate these efforts with the Regional Maintenance Management Coordinator.
- Analyze purchasing and leasing options for new and used heavy equipment and provide technical assistance about heavy equipment options to the field stations.
- Coordinate with Regional and field station managers on development of an exchange program for sharing equipment, planning transportation of Service equipment, adjusting staff schedules

for details or temporary assignments of operators to other stations, and researching methods to most efficiently provide needed services, supplies, and parts.

- Use databases such as the Service Asset and Maintenance Management System (SAMMS) or the Financial and Business Management System (FBMS) to analyze needs and document actions.
- Develop policies on maintenance programs that include strategies for training and development of the maintenance workforce.
- As part of a Regional office team, periodically participate in field station reviews to evaluate the effectiveness, safety, and administration of maintenance programs with emphasis on effective use and safety concerns related to operation of heavy equipment. The team includes Regional Safety Managers and other Regional program managers.
- At their discretion, designate Regional Lead Heavy Equipment Safety Instructor(s) to more effectively manage the logistics of the instructor-led component of the heavy equipment safety training program within their Regions.
- Provide technical assistance and/or conduct accident investigations with the Regional Safety Manager, as needed, to identify root causes of accidents and develop corrective actions.
- Assist the Regional Emergency Management Coordinator to identify equipment and people who can assist in national emergencies, as required.

HEAVY EQUIPMENT/ORUV SAFETY INSTRUCTORS..... CHAPTER 5

5.1 Definition.

A Heavy Equipment/ORUV Safety Instructor is a Service employee who, at the request of the Regional Heavy Equipment Coordinator, provides the Heavy Equipment and/or ORUV Safety Training Program as described in 321 FW 1 and 243 FW 6 to Service employees and others using Service equipment. Generally, the instructors have a strong background in heavy equipment operations with an emphasis in construction. The title and duties of a Heavy Equipment Safety Instructor or ORUV Safety Instructor can only be included in an employee's position description after his/her/their completion of specific training described in 321 FW 1 and a review of his/her/their qualifications by the Regional Heavy Equipment Coordinator.

5.2 Who determines how many Heavy Equipment and ORUV Safety Instructors are required to meet the Regional needs?

The Regional Heavy Equipment Coordinator, working with line management (supervisors and safety managers), determines the number and location of instructors each Region requires.

5.3 How can an employee become a Heavy Equipment and/or an ORUV Safety Instructor?

Before an employee may provide heavy equipment safety training, he/she/they should exhibit:

- A strong background and experience in the safe operation of a variety of types and categories of heavy equipment,
- Good judgment and operational skills, and
- Above all, a safe work ethic.

For ORUV Safety Instructors, an employee must have:

- A strong background and experience in the safe operation of the specific category of ORUV on which they will be providing instruction,
- Good judgment and operational skills, and
- Above all, a safe work ethic.

To be approved as a candidate for Heavy Equipment and/or ORUV Safety Instructor training, employees must first submit documentation to the Regional Heavy Equipment Coordinator that includes:

- a. A written recommendation signed by their immediate supervisor, including approval to participate in the trainer program and to travel from their assigned duty station to conduct training,
- b. Detailed documentation describing past heavy equipment and/or ORUV operational experience, and
- c. Verification of a current and class of State Department of Motor Vehicles driver's license. For heavy equipment instructors, we recommend they hold a State commercial driver's license (CDL).

In addition, a candidate must have the following skills:

- (1) An operational understanding of training fundamentals,
- (2) The ability to develop instructional materials for heavy or specialized equipment, and
- (3) The ability to instruct others on various types of heavy equipment and/or ORUVs, including operational safety and maintenance.

Once the candidate's supporting documents have been submitted, a team consisting of the Regional Heavy Equipment Coordinator, the candidate's immediate supervisor, and the Regional Safety Manager will review the documents. Based on this review, past work experience, skills/abilities, and safety record, the team determines if the candidate has the qualities necessary to be an effective Heavy Equipment and/or ORUV Instructor. If approved, the Regional Heavy Equipment Coordinator will enroll him/her/them in an instructor-based "train-the trainer" program for an individual piece of equipment or for a variety of heavy equipment family groups. This program must comply with all of the requirements described in 321 FW 1.

5.4 What are the duties of a Heavy Equipment and/or ORUV Safety Instructor?

Heavy Equipment and ORUV Safety Instructors provide the Heavy Equipment and ORUV Safety Training programs to employees based on a schedule developed by the Regional Heavy Equipment Coordinator. Instructors must follow the guidelines below:

- All training for each type or family group of heavy equipment and ORUVs must meet the requirements of and include all the training agenda items for heavy equipment and/or ORUV training as described in 321 FW 1 and 243 FW 6.
- Trainers must incorporate local and State regulations pertaining to the operation and transportation of heavy equipment and ORUVs into their program. They also must follow the Service format within their respective programs and include information on Federal regulations, such as those from OSHA and NIOSH.
- Each training program must follow the format and material content outlined in the *Service Heavy Equipment Instructor Manual* for that type of equipment and the *ORUV Instructor Guide* for each specific type of ORUV.
- The training format for heavy equipment must also comply with the information in the *Heavy Equipment Instructor Guide*. Training must include a minimum of 4 hours of classroom instruction and 1 hour of operation for each category of heavy equipment, demonstrating the employee's capability to safely operate the equipment and attachments in the terrain conditions that he or she may encounter.
- The classroom instruction can be accomplished in a formal classroom setting, open classroom around the piece of equipment, or a mix of these techniques.
- The training format for ORUVs must also comply with the information in the machine-specific *ORUV Instructor Guide*. Training consists of a minimum of 6 hours with combined classroom time and field operations.
- Instructors must complete all required training lessons within the instructor guide before students can get a certificate.

- The classroom instruction can be accomplished in a formal classroom setting, open classroom around the piece of equipment, or a mix of these techniques.

Each training program must maintain a student to instructor ratio of not more than 5 to 1 for heavy equipment and not more than 4 to 1 for an ORUV.

- All instructors must wear approved PPE as required in 241 FW 3: *Personal Protective Equipment*, 242 FW 3: *Noise Control and Hearing Loss Prevention*, and 243 FW 1: *Safe Operation of Motor Vehicles and Motor Equipment*.
- Instructors must ensure that every student also wears required PPE.
- Instructors should use the equipment-specific Safety Training Course Exam to determine a student's knowledge and retention of course material. The student must get a passing score of 80% and a "pass" rating for the operational safety skill evaluation to successfully complete the course.
- An instructor must "fail" a student if they cannot perform the safety tasks outlined in 321 FW 1. The instructor must then contact the Regional Heavy Equipment Coordinator to develop a solution for the deficiency.
- Instructors must complete the following documentation of a student's performance and attendance (and give copies to the Regional Heavy Equipment Coordinator):
 - *FWS Form 3-2392, Operator Authorization Test (Knowledge and Skills)*
 - *Student Final Exam*
 - *Training Course Evaluation*

Contact your Regional Heavy Equipment Coordinator for any updated forms.

- As part of a Regional office team, a Heavy Equipment Instructor may have to inspect a station's heavy equipment fleet to analyze its operational status and to recommend solutions, with emphasis on safety compliance and adherence to manufacturer standards/recommendations.
- An instructor must attend refresher training, as required in 321 FW 1, every 3 years to maintain his/her/their designation as an instructor. The Regional Heavy Equipment Coordinator develops and provides this refresher program.
- Instructors must emphasize that the training they give is strictly the basic safety training program required before heavy equipment operation, and that it does not authorize an employee for fire program support operations. **Successful completion of specific fire-related training is required before an employee can operate heavy equipment on a fire detail.** Contact the Regional Fire Management Coordinator to determine the type(s) of additional training required to operate heavy equipment or ORUVs in a fire operation.

5.5 What is the goal of a Heavy Equipment Safety Instructor?

Each instructor's goal is to provide instruction and materials that equip employees with sufficient knowledge, skills, and abilities to operate heavy equipment or ORUVs safely. Achieving these goals impacts not only the operator, but the many visitors who are close by during our operations. Meeting these goals also gives operators a greater knowledge of maintenance requirements for heavy equipment and ORUVs, which extends the useful life of the equipment and minimizes repair and

replacement costs. The instructor's knowledge and skills are important resources for the Region and for the Service to support equipment acquisition and readiness, and to identify resource capabilities and limitations.

5.6 Can the authorization of a Heavy Equipment or ORUV Safety Instructor be suspended or revoked?

Yes, if the Regional Heavy Equipment Coordinator and line management (supervisors) determine that the instructor has repeatedly exhibited poor performance or judgment during training sessions, if there are other safety considerations, or if there is another cause for concern related to sustaining a successful training program, they can suspend or revoke an instructor's authorization.

The Regional Heavy Equipment Coordinator, working with line management (supervisors), can reinstate the instructor's suspended or revoked authority by documenting mitigating information/actions that satisfactorily address the cause of the original determination.

6.1 What is the role of the National Conservation Training Center (NCTC) for Heavy Equipment and ORUV Safety Training?

NCTC, in Shepherdstown, WV, is the primary training center for the Service. Because the Service Heavy Equipment and ORUV Safety Training Program requires heavy equipment and ORUV operation to evaluate the knowledge and abilities of the student to safely operate the equipment, NCTC cannot support that component of the training program at their facility. It is more cost-efficient and effective to provide the classroom and operational component for the program at designated locations throughout the Service.

NCTC provides the administrative and logistical support and acts as a central point of contact for the training program through the use of the Department's learning management system (i.e., DOI Learn), see Appendix A. NCTC's support includes:

- Using DOI Learn to enroll students in all program courses, tracking the pre-class study requirements for each specific category of heavy equipment and ORUV, and tracking the refresher training programs.
- Providing course management access for the National/Regional Heavy Equipment Coordinators to determine student compliance with and completion of pre-class study, developing class rosters, printing certificates of completion, and tracking refresher training requirements on a semiannual basis.
- Providing printing and re-printing cost estimates for specific Heavy Equipment and ORUV Safety Training Student/Instructor Manuals per National and or Regional Heavy Equipment Coordinator requests.

6.2 What future role can NCTC provide?

NCTC may help leverage new technology and training methods, such as distance learning and interactive Web-based activities, to enhance the Heavy Equipment and ORUV Safety Training Programs for the Service.

MANUFACTURER- AND INTERAGENCY-OFFERED HEAVY EQUIPMENT/ORUV TRAINING... ..CHAPTER 7

7.1 What is manufacturer-offered heavy equipment training?

This is training that a manufacturer of heavy equipment provides (e.g., John Deere, Inc.; Caterpillar, Inc.; New Holland, Inc.; Komatsu, Inc.; etc.). Such entities as Polaris and the American Safety Institute (ASI) offer ORUV training. This training may include safety topics, maintenance, and operational techniques, and it varies from one manufacturer to another.

7.2 Can Service employees/volunteers take manufacturer- and interagency-offered heavy equipment/ORUV training?

Yes, the partnerships that we have developed with heavy equipment/ORUV manufacturers have guided the design of their courses to meet most of the operators' requirements. Generally, there is a tuition fee associated with these courses in addition to the travel and per-diem costs. Additional training requirements may be needed.

7.3 Will successful completion of these courses authorize a Service employee to operate a specific piece of heavy equipment or ORUV for the Service? No.

Because the manufacturers and other agencies do not cover Service policies and procedures in their training, just taking manufacturer- or inter-agency-offered training courses does not authorize an employee to operate heavy equipment or an ORUV for the Service. The National or Regional Heavy Equipment Coordinator will review the manufacturer's or other agency's course syllabus and determine if there is equivalency. If the manufacturer's or other agency's training is determined to be equivalent, the employee must read and be familiar with the following Service policies: 243 FW 1-6, 321 FW 1, and the *Heavy Equipment and Off Road Utility Vehicle Safety Training Handbook*. If the manufacturer's or other agency's training is determined to not be equivalent, then the employee will need to complete the Service's heavy equipment training.

LOAD SECUREMENT TRAINING..... CHAPTER 8

8.1 What is load securement training?

Load securement training is training that we require for Service employees and volunteers who are involved with transportation and securement practices associated with light and heavy duty equipment and cargo. See 243 FW 5: *Towing, Cargo Carrying, and Load Securement*.

8.2 Who must have load securement training?

Any employee, volunteer, or partner who independently loads and secures, or assists another individual with loading or securing Service-owned or leased equipment for transportation must attend load securement training. Even if the person is not the driver of the transport vehicle, he/she/they must attend load securement training to assist in the process. Supervisors of these personnel may also participate in this training.

8.3 How can a Service employee/volunteer/partner obtain load securement training?

Personnel can take load securement training as part of the Service Heavy Equipment Safety Training program. If you are not required to take Heavy Equipment Safety Training, but are required to transport light equipment such as mowers or ORUVs as part of your duties, you may register for the training by contacting the Regional Heavy Equipment Coordinator.

APPENDICES

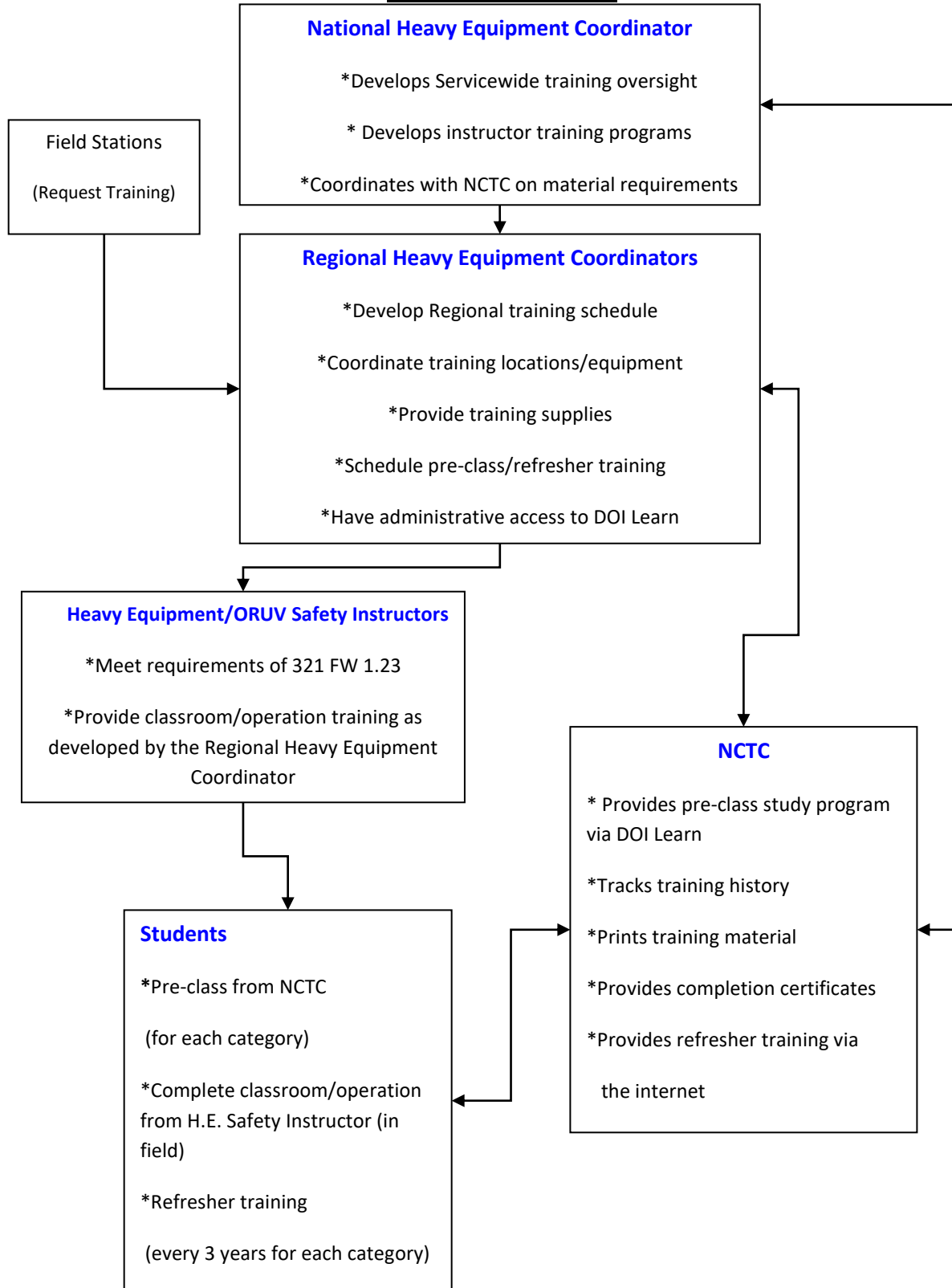
APPENDIX A. HEAVY EQUIPMENT/ORUV SAFETY TRAINING
FLOWCHART

APPENDIX B. REFERENCES

APPENDIX C. HEAVY EQUIPMENT/ORUV SAFETY TRAINING HISTORY

APPENDIX D. FORMS

**APPENDIX A - U.S. Fish & Wildlife Service Heavy Equipment/ ORUV Safety
Training Flowchart**



Operator:

- Must have required authorization before operating Service-owned, rented, leased, or borrowed heavy equipment.
- Requests training through supervisor and Regional Heavy Equipment Coordinator.
- Registers and completes pre-class online program in DOI Learn.
- Registers for instructor-led course in DOI Learn and completes instructor-led classroom from Service's H.E. /ORUV Safety Instructor (in field).
- Completes refresher training (every 3 years).

Supervisor:

- Evaluates student training needs.
- Requests training through Regional Heavy Equipment Coordinator.
- Completes FWS Form 3-2267 for authorization to operate.

Heavy Equipment/ORUV Safety Instructor:

- Provides instructor-led classroom and field course as developed by Regional Heavy Equipment Coordinator.
- Provides course completion forms and comments to Regional Heavy Equipment Coordinator.
- Meets instructor and training requirements of 321 FW 1 and 243 FW 6.

Regional Heavy Equipment Coordinator:

- Develops Regional training schedule.
- Coordinates training location availability and equipment.
- Provides training supplies.
- Manages Regional training records within DOI Learn.
- Issues certificates of completion.

National Heavy Equipment Coordinator:

- Evaluates Servicewide training logistics.
- Updates training initiatives.
- Evaluates training resources.
- Develops instructor training programs.

APPENDIX BREFERENCES

REGULATIONS AND GUIDELINES

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Code of Federal Regulations: <http://www.gpo.gov/nara/efr/index.html>

29 CFR 1910, OSHA Standards, General Industry

29 CFR 1926, Safety and Health Regulations for Construction

ADMINISTRATIVE MANUALS AND HANDBOOKS

U.S. Fish and Wildlife Service, Fish and Wildlife Service Manual
Division of Policy, Performance, and Management Programs (PPM)
Internet Web Site: <http://www.fws.gov/policy/manuals>

Chapter Title:

321 FW 1, Authorization, Training, and Safety Requirements

Internet Web Site: <http://www.fws.gov/policy/321fw1.html>

243 FW 1, Safe Operation of Motor Vehicles and Motor Equipment

Internet Web Site: <http://www.fws.gov/policy/243fw1.html>

243 FW 2, Special Purpose Trucks

Internet Web Site: <http://www.fws.gov/policy/243fw2.html>

243 FW 3, Heavy Duty Motor Equipment

Internet Web Site: <http://www.fws.gov/policy/243fw3.html>

243 FW 4, Powered Industrial Trucks

Internet Web Site: <http://www.fws.gov/policy/243fw4.html>

243 FW 5, Towing, Cargo Carrying, and Load Securement

Internet Web Site: <http://www.fws.gov/policy/243fw5.html>

243 FW 6, Off-Road Utility Vehicles

Internet Web Site: <http://www.fws.gov/policy/243fw6.html>

241 FW 3, Personal Protective Equipment

Internet Web Site: <http://www.fws.gov/policy/241fw3.html>

242 FW 3, Noise Control and Hearing Loss Prevention

Internet Web Site: <http://www.fws.gov/policy/242fw3.html>

322 FW 2, Operation and Maintenance of Heavy Duty Motor Equipment

Internet Web site: <http://www.fws.gov/policy/322fw2.html>

APPENDIX C ... HEAVY EQUIPMENT/ORUV SAFETY TRAINING HISTORY

How did the training program develop? The following timeline is a synopsis of the program's development:

1979: Release of Service Administrative Manual, 23 AM 8 (*Motor Equipment Management*). The chapter stated:

"No employee will be permitted to operate any piece of light or heavy duty equipment, except in an emergency, until he/she/they had demonstrated satisfactory attitude, proficiency, and aptitude in operating the specific type of machine. Each different type of machine requires separate qualifications..... "

1982: Release of 24 AM 4 (*Heavy Equipment*) that described the specific training requirements for each type of light and heavy duty equipment employees and volunteers operate. The training and testing requirements were:

"Training: Training employees to appreciate and meet the hazards of equipment operation is essential to the conduct of a safe operation. Operators of motorized equipment must be trained, tested, and authorized as required in 23 AM 8.2J."

"Testing: Operators are to be tested in accordance with the requirements of 23 AM 8.2J. The operator must demonstrate, at a minimum, knowledge of the following operations:

- A. The proper methods of fueling, adding oil, adding water, servicing the battery, and lubricating the equipment.
- B. The pre-start procedures, to include proper safety checks.
- C. The proper starting and warm up of the engine.
- D. The proper operating procedures, to include use of all controls and demonstration of travel maneuvers necessary for the type of terrain that they will encounter.
- E. The proper hook-up of equipment and accessories used on the equipment.
- F. The operation of the equipment with various attachments or accessories, such as plows or blades.
- G. The proper shut-down procedures."

1983: The Service contracted with John Deere, Inc. to provide a "Train-the-Trainer" program for three to four Service equipment operators in each Region so that the newly trained operators would then be able to act as Service equipment safety instructors. John Deere also produced a student manual meeting the requirements of 24 AM 4. This 2-week program provided training to approximately 30 Service operators on farm tractors, backhoe/loaders, crawler dozers, crawler loaders, wheeled loaders, motor graders, and excavators.

1987: The Service contracted with Texas A&M to provide a "Train-the-Trainer" program to more Service equipment operators and to produce a student manual. This 2-week program provided training to approximately 30 Service operators on farm tractors, backhoe/loaders, crawler dozers, crawler loaders, wheeled loaders, motor graders, and

excavators.

1993: The Service combined the student manuals John Deere and Texas A&M produced to meet the needs of the program.

1995: The Service released two Manual chapters (321 FW 1: *Requirements and Responsibilities* and 241 FW 2: *Motorized Vehicles and Equipment*) which mirrored requirements in 23 AM 8 and 24 AM 4 and identified responsibilities and training requirements for operators of heavy equipment and their supervisors.

2003: The Service held a Heavy Equipment Policy and Training Workshop at NCTC to evaluate the existing program and recommend changes. Instructors from each Region, Regional office personnel, and Headquarters personnel participated in the workshop. They delivered recommendations to the Leadership Development Council to standardize the heavy equipment training program. Their recommendations included:

- Revision of existing training manuals,
- Creation of National and Regional Heavy Equipment Coordinator positions,
- Revision of existing Service policy for equipment operation and training (321 FW 1 and 243 FW 1),
- Involvement of NCTC with the training program, and
- Development of a charter to establish a Service National Wage Grade Advisory Committee.

2003: The Service contracted with VISTA Training, Inc. in Burlington, WI to revise the existing training manuals and develop Web-based pre-class and Web-based refresher training programs for each type of equipment. The contractor worked with a Service technical team to develop all the programs. The contractor delivered final copies of the manuals and programs in December of 2004.

2004: The Service released policy changes regarding motorized equipment operation and training. The revised chapters were:

- 321 FW 1, *Operator Requirements and Responsibilities*
- 243 FW 1, *Safe Operation of Motor Vehicles and Motor Equipment*
- 243 FW 2, *Special Purpose Trucks*
- 243 FW 3, *Heavy Duty Motor Equipment*
- 243 FW 4, *Powered Industrial Trucks*
- 243 FW 5, *Towing, Cargo Carrying, and Load Securement*
- 241 FW 3, *Personal Protective Equipment*

2004: The Service developed National and Regional Heavy Equipment Coordinator positions in the GS-0346 Logistic Management Specialist series. The Service filled the National Heavy Equipment Coordinator position in August of 2004. Regions 2 and 6 filled their

Regional Heavy Equipment Coordinator positions in September and December of 2004. The remaining Service Regions filled their positions in 2005.

2005: NCTC began to administer the Heavy Equipment Safety Training Program in DOI Learn for course enrollment, pre-class study programs, and the refresher program.

2010: The Service entered into a contract with KIKO, INC. to help update the existing heavy equipment training program to include online training, instructor guides, and incident evaluations for heavy equipment and ORUV operations. The purpose of the program was to:

- Define and Classify ORUVs: An analysis of Service-owned ATVs, UTVs, snowmobiles, and amphibious utility vehicles recorded in the 2010 Service Personal Property Management System (PPMS).
- Establish requirements through the Service Mandatory Training Approval Team (MTAT): Reviewed with MTAT and the Division of Safety and Health the need to include UTVs in the ATV training program, rename the *ATV Training Guide* as the *ORUV Training Guide*, and provide overview of justification to require refresher training every 3 years for the Service Heavy Equipment Safety Training program. All topics were approved by the MTAT team.
- Conduct an ORUV Risk Management Analysis: An analysis was conducted to report on Service-owned ATVs, UTVs, snowmobiles, and amphibious utility vehicles involved with personal injury or property damage accidents as recorded in the Safety Management Information System (SMIS) for a 10-year period, including Job Hazard Assessment (JHA) templates for ATV operations, UTV operations, and loading ATVs in truck beds.
- Conduct an ORUV Instructor Assessment in the Service: Developed a report outlining the current ORUV instructor strategy specific to each of the eight Service Regions, including the forecasted numbers of instructors needed to meet the training requirements in the new policy and the “Train-the-Trainer” format for training new ORUV instructors.

2011: The Service developed an ATV/UTV Instructor Guide and Student Handbook. The Service ATV/UTV Instructor Guide is a comprehensive training manual for Service operators of ATV/UTVs designed to be delivered by Service-trained ORUV collateral duty instructors in the field. The guide was developed in collaboration with the Service ORUV Development Team members from the National and Regional Heavy Equipment Coordinators along with National and Regional Safety Coordinators. The Service also developed training materials, including instructor and student manuals, that incorporate basic safe riding and operation skills in addition to:

- Personal protective gear use and care.
- Cargo carrying practices.
- Hill/slope operation.
- Water crossing operation.
- Transportation – safe load securement, loading, and unloading practices for both trailer and truck bed transportation.
- Liquid tank use for spraying operations.

- Winching procedures – the safe and proper method of mechanical retrieval of ORUVs that have been stuck or mired.

2011- The Service developed an online Heavy Equipment Refresher Training Course. The 1-hour SCORM-compliant/508 compatible online training course is hosted on the DOI Learn server and is designed to meet the Service refresher requirement for the heavy equipment safety training. A 20-question final exam using a pool of 30 questions is linked to the course. The DOI Learn course title is **FWS Heavy Equipment Refresher OLT.**

2011: The Service analyzed Service heavy equipment accidents in SMIS to determine the type, location, and job series involved and causes of accidents. Evaluated program management, training logistics, safety and health requirements, and accident history. The analysis also included suggestions for program improvements.

2012: The Service developed the Service Snowmobile Instructor Guide, which is a comprehensive training manual for Service operators of snowmobiles. It's designed to be delivered by Service-trained snowmobile collateral duty instructors in the field. The guide was developed in collaboration with the Service Snowmobile Development Team members from the National and Regional Heavy Equipment Coordinators along with National and Regional Safety Coordinators. The team developed training materials, including instructor and student manuals, that incorporate basic safe riding and operation skills. A final exam and instructor reference material support the Instructor Guide contents.

2012: The Service developed the Service Amphibious Utility Terrain Vehicle (AUTV) Instructor Guide, which is a comprehensive training manual for Service operators of AUTVs and is designed to be delivered by Service-trained snowmobile collateral duty instructors in the field. The guide was developed in collaboration with the Service AUTV Development Team members from the National and Regional Heavy Equipment Coordinators along with National and Regional Safety Coordinators. The team developed training materials, including instructor and student manuals, that incorporate basic safe riding and operation skills. A final exam and instructor reference material support the Instructor Guide contents.

2012: The Service evaluated and made changes to the current ATV/UTV Instructor Guide, Student Handbook, and final exam.

2012: The Service revised the 1-hour SCORM-compliant/508 compatible online training course that is hosted on the DOI Learn server and is designed to meet the Service refresher requirement for the ATV/UTV safety training program. Course content and design was collaborated on by all the Service Heavy Equipment Coordinators and National Safety Managers. A 20-question final exam using a pool of 30 questions is linked to the course. The DOI Learn course title is **FWS ORUV Refresher OLT.**

2012: The Service developed a 3-hour SCORM-compliant/508 compatible online training course, which is hosted on the DOI Learn server and designed to meet the Service pre-class study requirement for the heavy equipment safety training program. Course content and design was collaborated on by the Service Heavy Equipment Coordinators and combines all 11 categories of heavy equipment. A 30-question final exam using a pool of 40 questions is linked to the course. The DOI Learn course title is **USFWS Heavy Equipment Pre Class On Line Training Course.**

2013: The Service developed a 1-hour SCORM-compliant/508 compatible online training course hosted on the DOI Learn server, which is designed to meet the Service refresher requirement for the snowmobile safety training program. Course content and design was collaborated on by Service subject matter experts. A 20-question final exam using a pool of 30 questions is linked to the course. The DOI Learn course title is **USFWS Snowmobile Refresher OLT.**

APPENDIX D FORMS
(Available online at www.fws.gov/forms/default.cfm)

[FWS 3-2267](#) Authorization for Operation of Motor Vehicles and/or Equipment

[FWS 3-2268](#) Completion of Heavy Equipment Training

[FWS 3-2392](#)..... Operator/Authorization Test (Knowledge and Skills)