



OFF HIGHWAY VEHICLE PRESENTATION-Safety Leadership Council, Santa Fe, NM





WHAT TYPICALLY COMES TO MIND WHEN WE THINK ABOUT OHV USE



NPSafe

Safe Acts & Attitudes Foster Excellence

WHAT WE DON'T OFTEN IMAGINE





WHAT WE DON'T OFTEN IMAGINE





OFF HIGHWAY VEHICLES

BLM **REPORTS** AN AVERAGE OF 15 ATV ROLLOVERS ANNUALY

BLM ATV ROLLOVER FATALITY IN CO, AUGUST, 2004

NPS ATV ROLLOVER FATALITY AT PAIS, APRIL, 2007



OFF HIGHWAY VEHICLES

IT HAPPENS IN UNEXPECTED PLACES





OFF HIGHWAY VEHICLES

Dynamic Research – Accident Trend Analysis

Summaries of 36 incidents that resulted in
damage, injury or death

Detailed reports on 3 accidents

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- 66% - riders making poor route choices and attempting to cross terrain beyond their skill level
- 22% - obstacle on the trail that contributed to incident
- 19% - rider control errors
- 15% - distraction (i.e. application processes)
- 17% - rollovers caused by cargo loads (50% were liquids)
- 28% - successful bailouts



OFF HIGHWAY VEHICLES

**ARE WE USING THE RIGHT
TOOL FOR THE JOB?**

**ARE UTV's A SAFER
ALTERNATIVE?**

OFF HIGHWAY VEHICLES

WHY ARE UTV'S MORE SAFE THAN ATV'S?

- 50% More Stable
- Wheelbase
- Track Width
- Lower Center of Gravity
- Do Not Require Active Operator**
- Automotive Type Controls
- Increased Cargo Capacity
- Can be Equipped with ROPS/Seatbelts**





OFF HIGHWAY VEHICLES

OBJECTIVES of DRAFT POLICY:

- Give Managers A Way to Choose the Right Tool for the Job
- Keep the Decision Making at the Park/Unit Level
- Simple and Useful
- Something Parks/Units Can Live With
- Consider the USFS/BLM Draft Policy



OFF HIGHWAY VEHICLES

Assembled Task Group:

- Representation Offered to Each Region
- Subject Matter Experts from BLM



OFF HIGHWAY VEHICLES

KEY SECTIONS:

- Definitions
- OHV Selection
- Operator Qualifications
- PPE Equipment
- Operational Equipment
- Loading/Transporting
- Operational Requirements



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DEFINITIONS:

Off-highway Vehicle (OHV); ATV or UTV

All-Terrain Vehicle (ATV);

- 50" < width,
- seat straddled by the operator
- handlebar for steering control.

Utility Terrain Vehicle (UTV), aka side-by-side;

- side-by-side seats
- steering wheel
- seatbelts
- rollover protective structures





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CHOOSING THE RIGHT TOOL FOR THE JOB

1st Use the **Risk Assessment Tool** to Characterize
Hazard Level of the Operation

Low (Green)

Medium (Amber)

High (Red)

2nd Match the **OHV** to the Hazard Level

3rd Match the **Training/PPE/Safety Equipment &
Operational** Requirements to the Hazard Level



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1st Step:

Use Risk Assessment Tool to Identify
Hazard Level (See TAB)



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2nd Step

CHOOSE THE RIGHT OHV FOR THE JOB

- **LOW** HAZARD POTENTIAL (**GREEN** OPERATIONS):
Either **ATV** or **UTV** Use is Appropriate
- **MEDIUM** HAZARD POTENTIAL (**AMBER** OPERATIONS):
UTV Use is **Recommended** Over ATV
- **HIGH** HAZARD POTENTIAL (**RED** OPERATIONS):
UTV Use is **Required**



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EXCEPTIONS CAN BE PERMITTED:

- Amber—Authorized at **Division Chief** Level or Higher
- Red— Authorized at **Superintendent** Level



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FIVE YEAR TRANSITION PERIOD

- **Equipment Replacement Plan**
- **Use Hazard Assessment Tool to Prioritize**



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3rd Step

**Consult Tables which Summarize Requirements
by Hazard Level** (Text of Document Provides Explanation and
Additional Details)

Develop and Follow JHA

ATV	GREEN	AMBER	RED
TRAINING	BASIC LEVEL	ADVANCED LEVEL; INCLUDING EMERGENCY DISMOUNT	ADVANCED LEVEL; INCLUDING EMERGENCY DISMOUNT
PERSONAL PROTECTIVE EQUIPMENT	<ul style="list-style-type: none"> -HELMET -GLOVES -LONG SLEEVES -LONG PANTS -OVER ANKLE BOOTS WITH SLIP RESISTANT SOLES -EYE PROTECTION 	<ul style="list-style-type: none"> -HELMET -GLOVES -LONG SLEEVES -LONG PANTS -OVER ANKLE BOOTS WITH SLIP RESISTANT SOLES -EYE PROTECTION -ADDITIONAL PPE AS REQUIRED BY THE JHA OR TECHNICAL MODULE i.e., PESTICIDE APPLICATION, DRIP TORCH ETC. 	<ul style="list-style-type: none"> -HELMET -GLOVES -LONG SLEEVES -LONG PANTS -OVER ANKLE BOOTS WITH SLIP RESISTANT SOLES -EYE PROTECTION -ADDITIONAL PPE AS REQUIRED BY THE JHA OR TECHNICAL MODULE i.e., PESTICIDE APPLICATION, DRIP TORCH ETC.
OPERATING EQUIPMENT	<ul style="list-style-type: none"> -FIRE EXTINGUISHER -FIRST AID KIT 	<ul style="list-style-type: none"> -FIRE EXTINGUISHER -FIRST AID KIT -4WD/AWD CAPABILITY -LOCKABLE DIFFERENTIALS -ANTI-SWAY BARS* -COMMUNICATION DEVICE -JACK/SHOVEL/COME-ALONG IF SPECIFIED IN LOCAL JHA -POWER PLANT SUFFICIENT TO PRECLUDE STALLING ON STEEP TERRAIN UNDER FULL LOAD 	<ul style="list-style-type: none"> -FIRE EXTINGUISHER -FIRST AID KIT -4WD/AWD CAPABILITY -LOCKABLE DIFFERENTIALS -ANTI-SWAY BARS* -COMMUNICATION DEVICE -JACK/SHOVEL/COME-ALONG IF SPECIFIED IN LOCAL JHA -POWER PLANT SUFFICIENT TO PRECLUDE STALLING ON STEEP TERRAIN UNDER FULL LOAD
OPERATING REQUIREMENTS	<ul style="list-style-type: none"> -PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -OPERATE WITHIN MFGR'S LIMITATIONS 	<ul style="list-style-type: none"> -PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -HOLD TAILGATE SAFETY MEETING -OPERATE WITHIN MFGR'S LIMITATIONS -SOLO TRAVEL IN WELL TRAVELED AREAS ONLY -USE CHECK-IN CHECK-OUT SYSTEM 	<ul style="list-style-type: none"> -PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -HOLD TAILGATE SAFETY MEETING -OPERATE WITHIN MFGR'S LIMITATIONS -SOLO TRAVEL PROHIBITED -USE CHECK-IN CHECK-OUT SYSTEM

UTV	GREEN	AMBER	RED
TRAINING	AS RECOMMENDED BY MANUFACTURER	AS RECOMMENDED BY MANUFACTURER	AS RECOMMENDED BY MANUFACTURER
PERSONAL PROTECTIVE EQUIPMENT	-PPE IF REQUIRED BY THE JHA	- PPE IF REQUIRED BY THE JHA OR TECHNICAL MODULE I.e., PESTICIDE APPLICATION, DRIP TORCH ETC. -HELMET	-PPE IF REQUIRED BY THE JHA OR TECHNICAL MODULE I.e., PESTICIDE APPLICATION, DRIP TORCH ETC. -HELMET
OPERATING EQUIPMENT	-FIRE EXTINGUISHER -FIRST AID KIT - SEAT AND SEAT BELT FOR EACH RIDER	-FIRE EXTINGUISHER -FIRST AID KIT -SEAT AND SEAT BELT FOR EACH RIDER -4WD/AWD CAPABILITY -LOCKABLE DIFFERENTIALS -ANTI-SWAY BARS* -COMMUNICATION DEVICE -JACK/SHOVEL/COME-ALONG IF SPECIFIED IN LOCAL JHA -POWER PLANT SUFFICIENT TO PRECLUDE STALLING ON STEEP TERRAIN UNDER FULL LOAD -ROPS	-FIRE EXTINGUISHER -FIRST AID KIT -SEAT AND SEAT BELT FOR EACH RIDER -4WD/AWD CAPABILITY -LOCKABLE DIFFERENTIALS -ANTI-SWAY BARS* -COMMUNICATION DEVICE -JACK/SHOVEL/COME-ALONG IF SPECIFIED IN LOCAL JHA -POWER PLANT SUFFICIENT TO PRECLUDE STALLING ON STEEP TERRAIN UNDER FULL LOAD -ROPS
OPERATING REQUIREMENTS	-PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -OPERATE WITHIN MFGR'S LIMITATIONS -WEAR SEAT BELTS	-PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -HOLD TAILGATE SAFETY MEETING -OPERATE WITHIN MFGR'S LIMITATIONS -USE CHECK-IN CHECK-OUT SYSTEM -WEAR SEAT BELTS	-PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -HOLD TAILGATE SAFETY MEETING -OPERATE WITHIN MFGR'S LIMITATIONS -USE CHECK-IN CHECK-OUT SYSTEM -WEAR SEAT BELTS



OFF HIGHWAY VEHICLES

ALL OHV OPERATORS:

- **MUST BE QUALIFIED AND AUTHORIZED**
- **MUST HOLD VALID STATE MOTOR VEHICLE OPERATORS PERMIT**



OFF HIGHWAY VEHICLES

TECHNICAL MODULES ADDRESSED SEPARATELY

- DRIP TORCH
- PESTICIDE APPLICATION



OFF HIGHWAY VEHICLES

ATV OPERATOR QUALIFICATIONS:

- GREEN**

Trained at Basic Level

- AMBER** and **RED**

Trained at Advanced Level



OFF HIGHWAY VEHICLES

ATV OPERATOR QUALIFICATIONS

GREEN – Basic Level Training

- Introduction to Basic ATV Operation – an **Online Course** that is a Prerequisite to Field Training
- ATV Safety Institute (**ASI**) **ATV Rider Course** Training Taught by an ASI Certified Instructor
- Safe Operating Procedures as Specified in the Local JHA
- Training on this Policy



OFF HIGHWAY VEHICLES

ATV OPERATOR QUALIFICATIONS

AMBER & RED – Advanced Level Training

- Basic Level +
- Training by an Experienced ATV Operator on Local Conditions of Use
- Emergency dismount
- Technical modules



OFF HIGHWAY VEHICLES

ATV OPERATOR QUALIFICATIONS

- **THREE YEAR RE-EVALUATION BY ASI CERTIFIED TRAINER**
- **INFREQUENT RIDER (<16 hrs in last year) REQUIRE CHECKRIDE**



OFF HIGHWAY VEHICLES

ATV OPERATOR QUALIFICATIONS

NOTE: Any ATV operator **qualified by BLM** training at the basic or advanced level is **qualified to operate an ATV for the NPS** consistent with that level of qualification.

OFF HIGHWAY VEHICLES

UTV OPERATOR QUALIFICATIONS:

- No Certified Training Currently Available
- Trained by Park in Accordance with Operating Manual
- Trained on the JHA
- Trained on this Policy

WARNING

To reduce risk of accidents and injury or death:

Be Prepared

- Wear seat belt, motorcycle helmet, eye protection and protective gear.
- Keep your body completely inside the vehicle at all times. Keep both hands on the steering wheel. Be sure passenger is seated, belted, and holding onto the handholds.

Be Qualified and Responsible

- This vehicle is intended for use only by an operator 16 or older with a valid motor vehicle license.
- Passenger and driver must be able to place both feet flat on the floorboard while seated upright with their backs against the seat backs.
- Do not drive or ride as passenger after using drugs or alcohol.
- Do not operate on public roads.

Read the Owner's Manual

Avoid Rollovers and Crushing Injuries

- Use care when turning.
 - Turning the steering wheel too far or too fast can result in a rollover or loss of control.
 - Slow down before entering a turn.
 - When making tight turns from a stop or at slow speeds, avoid sudden or hard acceleration.
 - Avoid sideways sliding, skidding, or fishtailing, and never do donuts.
- Drive straight up and down inclines, not across them. If crossing a hill is unavoidable, drive slowly and turn downhill immediately if you feel the vehicle may tip.
- Avoid paved surfaces. Turn gradually and go slowly if you must drive on pavement. This vehicle is designed for off-road use only.

If you think or feel the Rhino may tip or roll:

- Brace yourself by pressing your feet firmly on the floorboards and keep a firm grip on the steering wheel or handholds.
- Do not put your hands or feet outside of the vehicle for any reason.

Abrupt maneuvers or aggressive driving have caused rollovers - even on flat, open areas.

Genuine Yamaha Doors and a Handhold/Strap are available for free installation or replacement. Yamaha recommends these features to help keep occupants from sticking arms or legs out of the vehicle during a rollover.

Contact your dealer or visit www.yamaha-motor.com/rhino



OFF HIGHWAY VEHICLES

PPE: ATV vs. UTV

ATV GREEN

- HELMET
- GLOVES
- LONG SLEEVES
- LONG PANTS
- OVER ANKLE BOOTS WITH SLIP RESISTANT SOLES
- EYE PROTECTION

UTV GREEN

- PPE IF REQUIRED BY THE JHA



OFF HIGHWAY VEHICLES

PPE: ATV vs. UTV

ATV AMBER/RED

- GREEN (including HELMET) +
- PPE AS REQUIRED BY THE JHA OR TECHNICAL MODULE

UTV AMBER/RED

- GREEN+
- HELMET**
- PPE AS REQUIRED BY THE JHA OR TECHNICAL MODULE.

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OFF HIGHWAY VEHICLES

OPERATING EQUIPMENT

ATV GREEN

- FIRE EXTINGUISHER
- FIRST AID KIT

UTV GREEN

- FIRE EXTINGUISHER
- FIRST AID KIT
- SEAT AND SEAT BELT FOR EACH RIDER



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OFF HIGHWAY VEHICLES

OPERATING EQUIPMENT

ATV AMBER/RED

- GREEN EQUIPMENT +
- 4WD/AWD CAPABILITY
- LOCKABLE DIFFERENTIALS
- ANTI-SWAY BARS
- COMMUNICATION DEVICE**
- JACK/SHOVEL/COME-ALONG
IF SPECIFIED IN LOCAL JHA
- POWER PLANT SUFFICIENT
TO PRECLUDE STALLING ON
STEEP TERRAIN UNDER FULL
LOAD

UTV AMBER/RED

- GREEN EQUIPMENT +
- SAME AS ATV
- ROPS**



OFF HIGHWAY VEHICLES

OPERATING REQUIREMENTS

- Each operator authorized to operate an OHV
- Supervisor ensures that operators possess the skills required for the work project or activity
- Supervisor ensures that a JHA is prepared for activity involving use of OHV
- JHA to be reviewed by all participants



OFF HIGHWAY VEHICLES

OPERATING REQUIREMENTS

ATV GREEN

- PREPARE AND FOLLOW JHA
- CONDUCT PRE-RIDE INSPECTION
- OPERATE WITHIN MFGR'S LIMITATIONS

UTV GREEN

- SAME AS ATV
- WEAR SEAT BELTS**



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OFF HIGHWAY VEHICLES

OPERATING REQUIREMENTS

ATV AMBER/RED

- GREEN +
- HOLD TAILGATE SAFETY MEETING
- SOLO TRAVEL PERMITTED** IN WELL TRAVELED AREAS (AMBER)
- SOLO TRAVEL PROHIBITED** (RED)
- USE CHECK-IN CHECK-OUT

UTV AMBER/RED

- GREEN +
- HOLD TAILGATE SAFETY MEETING
- USE CHECK-IN CHECK-OUT



OFF HIGHWAY VEHICLES

ADDITIONAL OPERATING REQUIREMENTS

ATV OR UTV

- NOT LOADED **IN EXCESS** OF MFGR's RECOMMENDED MAX
- NO TOWING **IN EXCESS** OF MFGR's MAXIMUM TOWING CAPACITY
- OFF SHELF ADD-ONS **OK**
- NO **MODIFICATION** TO FRAME, MECHANICAL CONFIGURATION, ELECTRICAL
- ANNUAL **MAINTENANCE** INSPECTION



OFF HIGHWAY VEHICLES

Loading and Transporting





OFF HIGHWAY VEHICLES

Loading and Transporting

- ATV's Trailers Recommended for ATV
- Loading Ramps
- Tiedowns
- PPE Worn

UTV

A trailer shall be used to transport a UTV



OFF HIGHWAY VEHICLES

APPENDICIES

- Certification Tracking Record
- Pre-ride Inspection Checklist
- ATV Checklist for Pickup Truck Loading and Transport
- Drip Torch
- OHV's Buyer's Guide



OFF HIGHWAY VEHICLES

OHV BUYER'S GUIDE—Guidance On:

- Suspension Systems**
- Transmissions**
- 2/4/AWD**
- Differentials**
- Power Plant**
- Carburetion**
- ROPS**
- Payload**

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OFF HIGHWAY VEHICLES

MYTHS:

- **UTV's Can't Go Where ATV's Go**
- **UTV's Can't Pursue**



Dickie Brown, MWR Risk Manager
Will Reynolds, Regional Chief Ranger, National Capitol Region
Mike Morales, Law Enforcement Ranger, Channel Islands National Park
Marshall Neeck, Chief Ranger, AK
Jesse Duhnkrack, Fire Planning Specialist, IMR
Jay Lippert, Supervisory Park Ranger, Fire Island National Seashore
Brad Taylor, Interagency Fire Center, BLM
Ken Higgins, AK Safety, BLM

David DiTommaso, Acting IMR Risk Manager (Workgroup Leader)



**OHV PRESENTATION
SAFETY LEADERSHIP COUNCIL**

David DiTommaso
Acting IMR Risk Manager
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APPENDIX A

OHV RISK ASSESSMENT TOOL

To compute the total level of risk for the ten elements, circle the number beside each element in the table that best describes the operation according to the guidance given below. Add the circled numbers to come up with a total risk score. Use the Green/Amber/Red scale and the OHV selection protocol in Section II of the policy to choose the safest vehicle for the operation.

SPEED OF OPERATION

Circle the number next to the **maximum** intended speed of operation for the trip.

MAXIMUM TERRAIN SLOPE

Circle the number next to the **maximum** slope the OHV will encounter during the trip. Do not use the average slope. This includes both cross slope and up/down slope. **NOTE: An OHV may not be operated on any slope that is greater than the maximum slope recommended by the manufacturer.**

SURFACE TYPE

Circle the number next to the type of surface upon which the OHV will **mostly** operate during the trip.

SURFACE CONDITIONS

Circle the number next to the condition of the surface upon which the OHV will **mostly** operate during the trip.

SURFACE CONFIGURATION

Circle the number next to the most **extreme** surface configuration likely to be encountered on the trip.

LOAD WEIGHT

Circle the number next to the **greatest** weight (as a percentage of the manufacturer's recommended maximum weight) to be carried at any location on the vehicle, i.e., the front rack, rear rack, either axle or both. **NOTE: An OHV may not be loaded in excess of the manufacturer's recommended maximum weight for any location on the machine.**

LOAD TYPE

Circle the number next to the **type** of load to be carried during the trip.

ACCESSIBILITY OF USE AREA FOR EMERGENCY RESPONSE

Circle the number next to the **best** description of the operational area for accessibility to emergency response furthest from the OHV loading/unloading area.

TIME OPERATING VEHICLE

Circle the number next to the amount of time the **same** rider will be operating the vehicle.

DISTRACTION POTENTIAL OF OTHER TASK WHILE DRIVING

Circle the number which **best** describes how distracting a task will be if performed simultaneously while operating the vehicle. e.g., observing animal movements, observing wildfire activity, operating weed spraying equipment, operating drip torch equipment, etc.

OHV RISK ASSESSMENT TOOL TABLE				
Speed of Operation	1	Under 5 mph		
	4	6 to 15 mph		
	9	Over 15 mph		
Maximum Terrain Slope in Any Direction	0	Flat (0-5 degree slope)		
	9	Slight (5 to 10 degree slope)		
	25	Moderate (10 to 20 degree slope)		
	49	Steep (Greater than 20 degree slope)		
Surface Type	1	Concrete/Asphalt		
	4	Prepared Gravel/Dirt Road		
	9	Soil, Grass		
	16	Sand		
	25	Rocky		
Surface Condition	1	Solid		
	4	Highly Compacted		
	9	Medium Compacted		
	16	Soft/Loose/Slippery		
Surface Configuration	1	Ruts/Bumps/Irregularities (less than 3 inches)		
	9	Ruts/Bumps/Irregularities (4 to 10 inches)		
	25	Ruts/Bumps/Irregularities (> than 10 inches)		
Load Weight	0	No Load		
	1	Up to 25% of Mfgr's Recom'd Maximum		
	4	26% to 50% of Mfgr's Recom'd Maximum		
	9	51% to 75% of Mfgr's Recom'd Maximum		
	16	76% to 100% of Mfgr's Recom'd Maximum		
Load Type	0	No Load		
	1	Solid (attached to vehicle)		
	4	Liquid in a Baffled Container		
	9	Liquid in an Unbaffled Container		
Accessibility of Use Area for ER Response	1	Very accessible		
	4	Generally accessible		
	9	Generally inaccessible		
Time Operating Vehicle	1	Under 1 hour		
	4	1 Hour to 4 hours		
	9	4 Hours to 8 hours		
	16	Over 8 hours		
Distraction Potential of Other Task While Driving	0	No Distraction		
	1	Slight Distraction		
	4	Moderate Distraction		
	9	Significant Distraction		
TOTAL OF CIRCLED VALUES		UP TO 30 LOW HZD ATV OR UTV	31 TO 50 MOD HZD UTV RECM'D	OVER 50 HIGH HZD UTV REQUIRED

OFF HIGHWAY VEHICLE BUYER'S GUIDE

STABILITY

BLM tilt table studies have shown that a UTV is more resistant to rollover than an ATV. An ATV is usually smaller, both in width (generally less than 50 inches) and length and it is also lighter than a UTV. The increased width and length of a UTV contribute to its increased stability.

SUSPENSION

OHV suspensions are generally one of two types. Solid axles, commonly known as swing-arms and independent suspensions, sometimes called A-arms or double-wishbone suspensions. According to the BLM tilt table studies on stability, the type of rear axle selected on an ATV is a matter of personal preference. However, an independent suspension give a smoother and more stable ride on bumpy surfaces such as washboard roads. An independent suspension (front or rear) should always have an anti-sway or anti-roll bar to reduce the tendency for the suspension to tuck-under during navigation of side hills.

TRANSMISSION

Most ATV and UTV automatic transmissions are continuously variable transmissions (CVTs). There are two types of CVT's. The most common type uses an adjustable belt and pulley mechanism to control the drive ratio. Belt and pulley CVT's may not provide good engine braking on steep slopes. Newer belt and pulley CVT's may have special systems to solve this problem. For example, the Polaris Sportsman ATV has active descent control (ADC) which is an electronic feature on its belt and pulley CVT that Polaris says provides better speed control on descents.

The other type of CTV uses a hydro-mechanical transmission. A hydro-mechanical transmission (sometimes called hydrostatic transmission) uses hydraulically driven pistons and swage plates to adjust the drive ratio instead of a belt and pulley system. A significant benefit of a hydro-mechanical CTV is that it allows superior engine braking on steep terrain. This can reduce the need for the operator to ride the brake down long steep slopes to maintain a controllable speed. The Honda Rubicon ATV and the Kubota RTV 900 UTV both have hydro-mechanical transmissions.

2/4/ALL WHEEL DRIVE

4WD is needed for amber and red operations for two reasons. First, it allows the front wheels to climb out of ruts, holes, etc., which decreases tendency for the rear wheels to continue pushing when the front of the vehicle is stuck, causing loss of control or vehicle instability. Also, 4WD allows engine braking on all four wheels. On a 2WD drive machine, engine braking is only applied to the rear wheels which can cause those wheels to skid. However, an ATV/UTV operated in 4WD on pavement is harder to steer. The best solution is to purchase a vehicle where the operator can switch between 4WD and 2WD or one that has all wheel drive (AWD) that automatically engages 4WD when needed and reverts back to 2WD when 4WD is not needed. The Polaris Sportsman ATV has AWD, as do many other models.

DIFFERENTIALS

Differentials generally come in two types. A locking (limited slip) differential improves traction and stability on steep or slippery terrain by transferring torque to the wheel(s) that has the most traction. This reduces the tendency for a wheel to slip, spin and then catch, jerking the vehicle and reducing control and stability. Unlocked differentials improve maneuverability on paved streets, reduce steering effort, allow easier, tighter turns and reduce damage to sensitive terrain. The ability for the rider to select “locked” or “unlocked” differentials is a desirable feature.

POWER PLANT

Power plants should be large enough to provide the power needed to climb steep terrain without stalling. Stalling can cause loss of vehicle control both when the stall occurs and when the operator attempts to re-start the vehicle on the slope. Restarting underpowered vehicles on steep slopes may cause the operator to over-rev the engine to keep it from stalling again, which can cause loss of control and rollover when the transmission is engaged at high rpm.

CARBURATION

An ATV or UTV can have a standard carburetor or be electronically fuel injected (EFI). EFI enhances starting ability. Also, when used where altitude changes are expected, EFI helps maintain full power at higher elevations. EFI is a desirable feature and is standard on many ATV/UTV models.

ROLLOVER PROTECTIVE STRUCTURE (ROPS)

ROPS are required on UTV's where a rollover hazard exists. ROPS are not available, and should never be used, on ATV's. The use of an ATV where a rollover hazard exists is prohibited. The ROPS on a UTV should comply with the Society of Automotive Engineers (SAE) specification J2194-97. A cab or brush cage may not meet ROPS requirements. ROPS are standard on some UTV models but must be purchased as an option on others. The Kubota RTV 900 UTV has ROPS. Husqvarana models 4421GXP and 4421DXP have ROPS as standard equipment.

PAYLOAD

The payload of a UTV is usually greater than that of an ATV. Also, a UTV can generally tow greater weight than an ATV. A UTV can also carry a passenger in addition to the operator where most ATV's can only transport the operator. At least one ATV however, the Polaris Sportsman 2UP, has a tandem seat for an additional rider.

OFF-HIGHWAY VEHICLE DRAFT POLICY

I. DEFINITIONS

All-Terrain Vehicle (ATV); A motorized off-highway vehicle (OHV) 50 inches (1-1/4 m) or less in width, traveling on four or more low-pressure tires, having a seat to be straddled by the operator and a handlebar for steering control.

Amber Operations An OHV operation where the Risk Assessment Tool in Appendix A generates a value from 31 up to and including 50:

ASI Certified ATV Instructor; An individual who has completed the ASI ATV Rider Instructor Certification Course.

Emergency Dismount Training; ATV operator training on techniques for quickly and safely dismounting the ATV when a rollover is imminent.

Green Operations; An OHV operation where the Risk Assessment Tool in Appendix A generates a value less than or equal to 30:

Job Hazard Analysis (JHA); A document which identifies hazards associated with specific work operations and lists safe actions or procedures for employees to follow.

Maximum Cargo Rack Weight Limitation; The weight limitation specified by the manufacturer for the front cargo rack or the rear cargo rack.

Maximum Gross Vehicle Weight; The OHV weight limitation specified by the manufacturer including rider(s), attachments, fuel, oil and all cargo.

Maximum Towing Capacity; The maximum towing capacity for an ATV or UTV as specified by the manufacturer.

Off-highway Vehicle (OHV); For the purposes of this policy an OHV means an ATV or UTV as defined in this section.

Red Operations; An OHV operation where the Risk Assessment Tool in Appendix A generates a value of 51 or greater.

Rollover; OHV upset commonly due to steep terrain, slippery or uneven ground, large loads, top-heavy loads, and other environmental conditions or unsafe operating practices, including improper trailer/truck loading and unloading techniques.

ROPS; Rollover Protective Structure. A cage like structure fastened to the UTV frame which complies with Society of Automotive Engineers (SAE) specification J2194-97 designed to protect the operator and passenger in case of UTV rollover. [Note: A cab/brush cage is not a roll-over protective structure (ROPS). Some UTV manufacturers offer ROPS either standard or as an option.]

Utility Terrain Vehicle (UTV), also called a side-by-side; A motorized off-highway vehicle (OHV) having four or more low pressure tires, designed with side-by-side seats, seatbelts, steering wheel, and optional cab, brush cage or Rollover Protective Structure (ROPS).

II. OFF HIGH WAY VEHICLE SELECTION

A. NPS superintendents will ensure that a JHA is prepared for each type of OHV operation along with a risk assessment using the Risk Assessment Tool in Appendix A. The risk assessment and the ATV/UTV selection guide (below) will be used to select the appropriate type of OHV for the operation to be conducted.

1. LOW HAZARD POTENTIAL (GREEN OPERATIONS):

(a) Either ATV or UTV use is appropriate.

(b) **REQUIREMENTS FOR OHV USE:** See Tables 1 and 2 (below) and Sections III, IV, V and VI of this policy for operator qualifications, PPE, Operational Equipment, Loading and Transporting and Vehicle Operating Requirements.

2. MEDIUM HAZARD POTENTIAL (AMBER OPERATIONS):

(a) UTV use is recommended over ATV use.

(b) ATV use for amber operations requires authorization at the Division Chief level, or higher.

(c) **REQUIREMENTS FOR OHV USE:** See Tables 1 and 2 (below) and Sections III, IV, V and VI of this policy for operator qualifications, PPE, Operational Equipment, Loading and Transporting and Vehicle Operating Requirements.

3. HIGH HAZARD POTENTIAL (RED OPERATIONS):

(a) UTV use is required, unless an exception has been authorized that allows for ATV use. Exceptions to the UTV requirement during red operations should be rare, well founded, and must be approved at the Superintendent level.

(b) **REQUIREMENTS FOR OHV USE:** See Tables 1 and 2 (below) and Sections III, IV, V and VI of this policy for operator qualifications, PPE, Operational Equipment, Loading and Transporting and Vehicle Operating Requirements.

TABLE 1
ATV REQUIREMENTS

	GREEN	AMBER	RED
TRAINING	BASIC LEVEL	ADVANCED LEVEL; INCLUDING EMERGENCY DISMOUNT	ADVANCED LEVEL; INCLUDING EMERGENCY DISMOUNT
PERSONAL PROTECTIVE EQUIPMENT	-HELMET -GLOVES -LONG SLEEVES -LONG PANTS -OVER ANKLE BOOTS WITH SLIP RESISTANT SOLES -EYE PROTECTION	-HELMET -GLOVES -LONG SLEEVES -LONG PANTS -OVER ANKLE BOOTS WITH SLIP RESISTANT SOLES -EYE PROTECTION -ADDITIONAL PPE AS REQUIRED BY THE JHA OR TECHNICAL MODULE i.e., PESTICIDE APPLICATION, DRIP TORCH ETC.	-HELMET -GLOVES -LONG SLEEVES -LONG PANTS -OVER ANKLE BOOTS WITH SLIP RESISTANT SOLES -EYE PROTECTION -ADDITIONAL PPE AS REQUIRED BY THE JHA OR TECHNICAL MODULE i.e., PESTICIDE APPLICATION, DRIP TORCH ETC.
OPERATING EQUIPMENT	-FIRE EXTINGUISHER -FIRST AID KIT	-FIRE EXTINGUISHER -FIRST AID KIT -4WD/AWD CAPABILITY -LOCKABLE DIFFERENTIALS -ANTI-SWAY BARS* -COMMUNICATION DEVICE -JACK/SHOVEL/COME-ALONG IF SPECIFIED IN LOCAL JHA -POWER PLANT SUFFICIENT TO PRECLUDE STALLING ON STEEP TERRAIN UNDER FULL LOAD	-FIRE EXTINGUISHER -FIRST AID KIT -4WD/AWD CAPABILITY -LOCKABLE DIFFERENTIALS -ANTI-SWAY BARS* -COMMUNICATION DEVICE -JACK/SHOVEL/COME-ALONG IF SPECIFIED IN LOCAL JHA -POWER PLANT SUFFICIENT TO PRECLUDE STALLING ON STEEP TERRAIN UNDER FULL LOAD
OPERATING REQUIREMENTS	-PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -OPERATE WITHIN MFGR'S LIMITATIONS	-PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -HOLD TAILGATE SAFETY MEETING -OPERATE WITHIN MFGR'S LIMITATIONS -SOLO TRAVEL IN WELL TRAVELED AREAS ONLY -USE CHECK-IN CHECK-OUT SYSTEM	-PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -HOLD TAILGATE SAFETY MEETING -OPERATE WITHIN MFGR'S LIMITATIONS -SOLO TRAVEL PROHIBITED -USE CHECK-IN CHECK-OUT SYSTEM

- If OHV is equipped with independent suspension

TABLE 2
UTV REQUIREMENTS

	GREEN	AMBER	RED
TRAINING	AS RECOMMENDED BY MANUFACTURER	AS RECOMMENDED BY MANUFACTURER	AS RECOMMENDED BY MANUFACTURER
PERSONAL PROTECTIVE EQUIPMENT	-PPE IF REQUIRED BY THE JHA	- PPE IF REQUIRED BY THE JHA OR TECHNICAL MODULE i.e., PESTICIDE APPLICATION, DRIP TORCH ETC. -HELMET	-PPE IF REQUIRED BY THE JHA OR TECHNICAL MODULE i.e., PESTICIDE APPLICATION, DRIP TORCH ETC. -HELMET
OPERATING EQUIPMENT	-FIRE EXTINGUISHER -FIRST AID KIT - SEAT AND SEAT BELT FOR EACH RIDER	-FIRE EXTINGUISHER -FIRST AID KIT -SEAT AND SEAT BELT FOR EACH RIDER -4WD/AWD CAPABILITY -LOCKABLE DIFFERENTIALS -ANTI-SWAY BARS* -COMMUNICATION DEVICE -JACK/SHOVEL/COME-ALONG IF SPECIFIED IN LOCAL JHA -POWER PLANT SUFFICIENT TO PRECLUDE STALLING ON STEEP TERRAIN UNDER FULL LOAD -ROPS	-FIRE EXTINGUISHER -FIRST AID KIT -SEAT AND SEAT BELT FOR EACH RIDER -4WD/AWD CAPABILITY -LOCKABLE DIFFERENTIALS -ANTI-SWAY BARS* -COMMUNICATION DEVICE -JACK/SHOVEL/COME-ALONG IF SPECIFIED IN LOCAL JHA -POWER PLANT SUFFICIENT TO PRECLUDE STALLING ON STEEP TERRAIN UNDER FULL LOAD -ROPS
OPERATING REQUIREMENTS	-PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -OPERATE WITHIN MFGR'S LIMITATIONS -WEAR SEAT BELTS	-PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -HOLD TAILGATE SAFETY MEETING -OPERATE WITHIN MFGR'S LIMITATIONS -USE CHECK-IN CHECK-OUT SYSTEM -WEAR SEAT BELTS	-PREPARE AND FOLLOW JHA -CONDUCT PRE-RIDE INSPECTION -HOLD TAILGATE SAFETY MEETING -OPERATE WITHIN MFGR'S LIMITATIONS -USE CHECK-IN CHECK-OUT SYSTEM -WEAR SEAT BELTS

* If OHV is equipped with independent suspension

B. TRANSITION PERIOD

1. When the above criteria necessitate a change in type of off-highway vehicle available for use in NPS facilities all NPS units will prepare an equipment replacement plan, promptly begin the transition, and complete the transition not later than 5 years from the effective date of this policy.

III. Qualifications

A. Only qualified and authorized employees shall operate an OHV ATV.

1. NPS ATV operators must be qualified at either the Basic or Advanced Level as described below depending on the hazard potential of the operation described in Section II.A., above. Supervisors will review and annually certify the list of ATV operators.[Note: Appendix B can be used to document the date of this training and establish the time period for re-evaluation of the ATV operator.]

2. To be qualified at the Basic Level, NPS ATV operators must successfully complete the following training:

- (a) Introduction to Basic ATV Operation – an online course that is a prerequisite to field training.
- (b) ATV Safety Institute (ASI) ATV Rider Course training taught by an ASI certified instructor.
- (c) Safe operating procedures as specified in the local JHA
- (d) Training on this policy

3. To be qualified at the Advanced Level, NPS ATV operators must successfully complete the following training:

- (a) Introduction to Basic ATV Operation as described in III.A.2.(a), above.
- (b) ATV Safety Institute (ASI) ATV Rider Course training as described in III.A.2.(b), above.
- (c) Training by an experienced operator on ATV operation under the conditions they will be used at the local park or operating unit level. Training must include emergency dismount and technical modules as appropriate for their job (e.g. wildland fire operations and pesticide application use module).
- (d) Safe operating procedures as specified in the local JHA
- (e) Training on this policy.

NOTE: Any ATV operator qualified by BLM training at the basic or advanced level is qualified to operate an ATV for the NPS consistent with that level of qualification.

NOTE: Currently, certified training for UTV operators does not exist. Each park and operating unit should assure that UTV operators are trained in the safe use of UTV's in accordance with the manufacturer's operating manual, the park's JHA and this policy.

4. All ATV operators shall be re-evaluated by an ASI Certified Trainer every three years. The re-evaluation shall be documented. Appendix B (ATV Operator Accountability/Certification Tracking Record) may be used to document the re-evaluation. NPS field units are responsible for maintaining and tracking certifications.

(a) Re-evaluation consists of demonstrating to the Certified ATV Trainer the operator's abilities in: operation of controls, service, handling, loading/tie-down, unloading, and operating over terrain typically encountered utilizing the equipment the operator will use on the job. This may be accomplished during a Check Ride.

(b) Infrequent users (less than 16 hours of riding a year), including volunteers and Special Program enrollees shall have a Check Ride before the scheduled use of the ATV for project work, or as determined by the ASI Certified Trainer. [Note: A Check Ride is required if in the past year the ATV operator has not ridden for 16 or more hours regardless of whether of the ATV operator is due for their three year re-evaluation

5. All OHV operators must hold a valid state Motor Vehicle Operator's Permit. Operating restrictions identified on the operator's permit must be adhered to while operating an OHV (e.g., use of corrective lenses, etc).

IV. Personal Protective Equipment and Operational Equipment Requirements`

A. Personal protective equipment (PPE) required for OHV use shall be identified in the JHA developed for the particular job. At a minimum the following PPE shall be provided and used:

1. The first aid kit should contain the following PPE items; examination gloves, eye protection, and Cardio-pulmonary resuscitation (CPR) barriers, in addition to the standard contents.

2. The operator and passenger on a UTV must each wear a seat belt.

3. Head Protection:

(a). ATV operators shall wear a full or three-quarter style motorcycle helmet with chin strap properly secured.

(b) If a UTV is operated in amber or red operations the operator and passenger must wear helmets. Otherwise, head protection for the UTV operator and passenger will be specified by the local JHA, if needed depending on conditions of use

(c) The helmet shall meet requirements of the Department of Transportation (DOT), ANSI Z90.1 standard, or Snell Memorial Foundation (SMF) standards. Helmets shall be replaced as recommended by their manufacturer or sooner if a helmet is involved in an impact related accident.

4. ATV operators must utilize gloves as determined by the local JHA based on the work environment (e.g., brushy environment may warrant padded riding gloves as opposed to canvas gloves used for trash pickup).

5. Clothing:

(a). ATV operators: Long pants and long-sleeved shirt, jersey or jacket.

(b). Special clothing requirements for the UTV operator and passenger will be specified by the local JHA, if needed depending on conditions of use.

6. Footwear:

(a). ATV operators: sturdy over-the-ankle boots with slip resistant soles to help prevent the operator's feet from slipping off the foot rests.

(b). Special footwear requirements for the UTV operator and passenger will be specified by the local JHA, if needed depending on conditions of use.

7. Eye protection:

(a). ATV operators must wear safety glasses, goggles, or sunglasses that meet the ANSI 87.1 standard as determined by the JHA based on the work environment (e.g., brushy environment may warrant goggles as opposed glasses).

(b). Eye protection for the UTV operator and passenger will be specified by the local JHA, if needed depending on conditions of use.

8. Additional items identified in the JHA such as rider pants, knee/shin/elbow guards, or protective wear for law enforcements such as a kidney belt or chest protector.

B. PPE for Pesticide/Herbicide Application:

1. ATV Pesticide Application - Applicators shall wear a helmet as described in IV.A.4.a.above with chin strap properly secured while in transit to and from the pesticide application area. While applying pesticide the applicator may wear a half-shell style DOT approved motorcycle helmet. The helmet shall be equipped with a removable, washable liner. Helmets shall be replaced as recommended by their manufacturer, or sooner if a helmet is involved in an impact-related accident.

2. UTV Pesticide Application – Head protection for the UTV operator and passenger will be specified by the local JHA, if needed depending on conditions of use.

2. Nitrile gloves are to be worn during spray operations, replacing riding gloves.

3. To protect the applicator from chemical exposure and for safe operation of the UTV impervious boots with fiberglass shank in the sole will be worn or impervious boots may be worn over leather riding boots.

4. Follow pesticide label instructions for other personal protective equipment, as specified.

C. Operational Equipment.

1. The following basic on-board equipment is required for all OHV use:

- (a) First Aid Kit
- (b) Each OHV must have a fire extinguisher; 2.5 pound ABC rating, minimum
- (c) Each UTV must have seat and seatbelt for each rider.

2. In addition to the basic equipment listed above, the following equipment is required where an ATV is used in an Amber or Red operation.

- (a) Equipment such as a jack, shovel, come-along, etc., if specified in the local JHA.
- (b) A positive means of emergency communication, i.e. radio, cell phone, satellite phone.
- (c) The ATV must have 4 wheel drive (4WD) or all wheel drive (AWD) capability.
- (d) Lockable differentials are required.
- (e) If the ATV is equipped with an independent suspension system it must also have anti-sway bars.
- (f) Power plant sufficient to preclude stalling on steep terrain under full load conditions.

3. In addition to the basic equipment listed above, the following equipment is required where a UTV is used in an Amber or Red operation.

- (a). The UTV must have Rollover Protective Structure (ROPS).
- (b) Equipment such as a jack, shovel, come-along, etc., if specified in the local JHA.
- (c) A positive means of emergency communication, i.e. radio, cell phone, satellite phone.
- (d) The UTV must have 4 wheel drive (4WD) or all wheel drive (AWD) capability.
- (e) Lockable differentials are required.
- (f) If the UTV is equipped with an independent suspension system it must also have anti-sway bars.
- (g) Power plant sufficient to preclude stalling on steep terrain under full load conditions.

4. The local JHA and local park policy will specify the minimum equipment required for backcountry travel. Minimum equipment requirements will be consistent with the backcountry travel procedures

developed for each park unit and as outlined in the memorandum issued by the Director (dated July 10, 2006) regarding backcountry travel procedures and training requirements.

V. Loading and Transporting

A. Operator shall wear the personal protective equipment described above and specified in the JHA while loading/unloading the OHV.

B. An OHV being transported must be well secured to the transport vehicle, with the transmission in gear and the parking brake set. Transporting vehicle shall be of adequately rated capacity and capability when hauling the OHV.

C. An OHV shall be secured using four tie downs to prevent forward, backward, and sideways movement. When transporting an OHV via:

1. Vehicle - During transport, the tailgate is recommended to be completely closed at all times. If the tailgate cannot be closed all four tires of the ATV must rest on the pick-up bed at all times. If a commercially manufactured restraining device is used, two tie downs may be used in lieu of four provided its use is addressed in the JHA.

2. Trailer – An OHV shall be transported on an appropriately rated trailer, ensuring that the load does not exceed combined gross vehicle weight and trailer rated capacity.

D. Tie down straps shall be in good condition, free of frays/splices with the following minimum rated capacity.

1. ATV – 1,200 pounds. Only straps with cam action or ratchet action buckles may be used to secure an ATV; knotted straps or rope may not be used.

2. UTV – 2,500 pounds. Only ratchet-type tie downs may be used to secure a UTV.

E. Containers with hazardous materials contents, such as pesticide, flammable solids or flammable liquids shall:

1. Be secured separately from the OHV inside the bed of the truck to prevent movement;

2. Containers must be in good condition, free of leaks and residue on their exteriors, properly labeled, and meet D.O.T. specifications for over the road transportation requirements;

3. When transporting hazardous material you should not exceed D.O.T. minimum transportation regulation for over the road transportation, unless placarding or licensing requirements are met; and

4. A copy of the Material Safety Data Sheet (MSDS) must be provided.

F. Any materials, equipment or gear in the pick-up bed shall also be secured from movement at all times.

G. Trailers are the recommended method for transporting an ATV.

H. A trailer shall be used to transport a UTV.

I. Recommended hierarchy for loading an ATV into the back of a pickup truck is as follows:

1. One piece, bi- or tri-fold ramps that are strapped, chained, bolted to the truck bed.
2. Two individual ramps a minimum of 10 inches wide and 72 inches long. **However, an 84 inch ramp length is strongly recommended.** Chains or straps must be used to secure the ramps to the vehicle and prevent rearward movement of the ramps during loading.

J. Loading ramps must meet the following criteria:

1. Fabricated of aluminum or steel and must be of welded construction. Driving surface must have closely spaced crossed members or mesh construction with high traction surface. Wooden ramps may not be used.
2. Ramps may be one or two piece, rigid or folding. Hinges must be factory installed.
3. Minimum ramp loading capacity for an ATV shall be a minimum of 1200 pounds.
4. Minimum ramp loading capacity for a UTV shall be a minimum of 1500 pounds.

K. Loading ramps must be secured to transport vehicle with two tie down straps, chains, steel cables, or mechanical fasteners, and capable of supporting the OHV and associated equipment. Loading ramps for pick-up beds shall not be shorter than 72" in length. Ramp bases shall not be positioned on terrain lower than that of the rear truck or trailer tires in order to maintain a safe slope angle.

L. Trucks and trailers shall not be positioned across side slopes for loading or unloading operations.

M. The procedures for loading and unloading OHV's described in Appendix D to this policy shall be followed.

VI. Operation

A. Each operator must be authorized in writing by their supervisor to operate an OHV.

B. Solo travel by ATV for amber operations is not recommended unless the area of operation is well traveled..

C. Solo travel by ATV for red operations is prohibited.

D. Prior to operating any OHV in amber or red operations, tailgate safety meetings shall be held and documented specifically identifying their local hazards as identified within the JHA.

E. Prior to operating any OHV in amber or red operations, a check-out/check-in procedure (COCI) must be developed and followed.

F. An OHV may not be operated outside of the manufacturer's operating limitations.

G. The supervisor shall ensure that a JHA is prepared for each work activity involving use of an OHV.

H. Supervisors shall ensure that operators possess the skills required for the work project or activity. The supervisor will consider the following issues:

1. Is the type of OHV the appropriate vehicle for the work project or activity. See the Risk Assessment Tool, Appendix A. and Section II A, above.
2. Operator tasks
3. Personal protective equipment
4. Operator experience/training level
5. Vehicle cargo rack weight limitations
6. OHV capabilities/limitations
7. Loading, unloading, and transportation of the vehicle
8. Terrain (e.g., need for ROPS)
9. Weather and work environment
10. Maintaining reliable communications
11. Check-Out/Check-In (COCI) procedures
12. Evacuation Plan which includes: location of work, nearest medical evacuation
13. Site latitude/longitude, and routes to the work-site for responding ground SAR (Search and Rescue)/EMS (Emergency Medical Service).

I. Before riding an OHV a pre-ride inspection check such as T-CLOC (ASI Program) or similar check must be performed and documented. A pre-ride inspection checklist is provided in Appendix C to document the pre-ride inspection. Inspection forms or durable, weather resistant vehicle inspection tags developed by local offices may also be used. T-CLOC maintenance check includes:

1. T – Tires, Wheels
2. C – Controls, Clutch, Brake, Throttle
3. L – Lights

4. O – Oil, Fuel, Air Filter

5. C – Chassis, Suspension, Nuts, Bolts

J. An annual maintenance inspection from the manufacturer, certified OHV mechanic, or Fleet Manager's designee is required. A copy of the inspection report will be maintained in the equipment history folder.

K. A passenger may not be carried on an ATV unless the ATV is specifically designed for a second rider.

L. Only the manufacturer's recommended number of passengers may be carried on a UTV.

M. When parking an OHV:

1. Engage brake;
2. Shift transmission into low range/low gear;
3. Block tires when parking on an incline/decline; and
4. Turn off and remove keys if appropriate.

N. An OHV may not be loaded in excess of the manufacturer's recommended maximum weight for any location on the machine including the axle(s), the cargo rack(s) and the maximum gross vehicle weight shall not be exceeded. When carrying equipment, equalize the load to maintain balance, stability and center of gravity. Follow manufacturer loading instructions.

O. When using an OHV to tow a trailer and/or equipment the maximum manufacturer's towing capacity shall not be exceeded. [Note: Manufacturers specified towing capacity varies depending on grade or the slope of the terrain to be traveled.] In addition, the trailer's weight rating shall not be exceeded.

P. Equipment should be secured as close to the rider as possible to maintain center of gravity. Additional precautions as specified in the JHA must be observed when carrying liquids. All tools or equipment transported on an OHV shall be secured.

Q. Reckless driving and horseplay are prohibited.

R. Do not enter deep or swift moving water. Hazards exist when:

1. Stream bottom is unstable due to mud, sand, boulders, or submerged obstacles.
2. Water depth is not consistent through the entire route of travel.
3. Stream width prevents a complete view of the bottom across the route of travel.
4. Water depth and current may stall the engine.

5. Current is forceful enough to require you to counteract it to maintain balance or direction of travel.

S. Modifications that include changes to the frame, electrical systems, and other changes to the manufacturer's design of an OHV's mechanical configuration are not allowed.

1. Installation of "off the shelf" "add-ons", such as carry-all boxes, equipment bags, approved extended range fuel tanks, equipment racks or other attachments such as agriculture spraying equipment are allowed.

2. Fuel firing device operations using a ATV or UTV and the fuel firing device itself shall comply with the requirements in Appendix E.

T. All NPS accidents shall be reported in SMIS (Safety Management Information System) as required.

U. When hazardous materials or pesticides are being transported, ensure that the JHA reflects the necessary actions to activate emergency procedures in the event of an accidental discharge as appropriate for the region and state. The JHA shall include chemical name, classification, quantity and precautions to be taken in the event of an accident.

V. All containers used for externally transporting fuel, must meet specification requirements stipulated in the Interagency Transportation Guide for Gasoline, Mixed Gas, Drip-Fuel firing device Fuel, and Diesel prepared by the Missoula Technology and Development Center

Appendix A
Risk Assessment Tool

Appendix B

ATV/UTV Operator Accountability/Certification Tracking Record

UNIT:

DATE:

OPERATOR'S NAME	Type of Training ATV/UTV 4x4, 6x6	INITIAL TRAINING COURSE DATE	REFRESHER TRAINING DUE DATE	ANNUAL REVIEW DATE	SUPERVISOR SIGNATURE

I certify that the individuals listed above have completed the required certification training to operate an ATV/UTV.

ATV Certified Trainer - Signature & Title

Date:

Appendix C

ATV/UTV OPERATOR

Pre-ride Inspection Checklist

Warning: Proper inspection may prevent serious injury or death. Failures of controls and other equipment are likely to cause vehicle accidents, and unreliable equipment can leave riders stranded in remote areas and/or under severe conditions. **Always inspect your ATV/UTV before each use to ensure the equipment is in proper operating condition.**

T = TIRES & WHEELS:

- ☐ Air pressure is in range stipulated on the tires.
- ☐ Tire condition is good, with no significant damage or extreme wear to treads or sidewalls.
- ☐ Wheels - Rim bolts/lug nuts and axle nuts are tightened and wheel bearings rotate smoothly.

C = CONTROLS & CABLES:

- ☐ Controls & Throttle – Cables are in their proper location; cables, pedals, & switches work smoothly.
- ☐ Brakes are adjusted properly and fluid at required level.
- ☐ Recoil Start and shifter are operational.

L = LIGHTS & ELECTRICS:

- ☐ Ignition switch operates properly and reliably.
- ☐ Engine stop switch kills engine.
- ☐ Lights function at both front and rear.

O = OIL, FUEL, FLUIDS & AIR FILTER:

- ☐ Oil in crankcase is at proper level, with no visible leaks in gaskets or engine casing.
- ☐ Fuel tank is full.
- ☐ Air filter is clean and not torn or blocked.
- ☐ Coolant is full, with no visible leaks.

C = CHAIN/DRIVESHAFT, CHASSIS, SUSPENSION & EXTERNAL EQUIPMENT:

- ☐ Check chain slack for free-play and lubrication.
- ☐ Drive shaft - Check for oil leaks and missing nuts and bolts.
- ☐ Shake handlebars, footrests, racks, etc. to ensure that nothing is loose.
- ☐ Check fasteners for tightness.
- ☐ Check cargo racks for cracks and broken welds.
- ☐ Winches – Check for proper operation of controls, damaged cables, proper fairlead, & hook integrity.
- ☐ Tool boxes, liquid tanks, and other external equipment and loaded items are secured and in good repair.
- ☐ Trailer hitches are secured and of proper size and capacity.

Appendix D

ATV Loading and Transport Procedures for Pick-ups

The objective of Appendix 3 is to establish Standard Operating Procedures to ensure safe loading, unloading, and transport of an ATV in a pickup truck. Only qualified operators are permitted to load or unload an ATV. Great care must be taken to avoid a wide variety of hazards associated with this operation. A Risk Assessment will be done prior to ATV operation, as circumstances are rarely constant. Loading/unloading operations should **never** become routine.

The recommended method of transporting an ATV is via trailer. Trailers normally have built-in ramps and set lower to the ground, decreasing the loading angle. If operational reasons make it necessary to transport an ATV via pick-up, it is strongly recommended that a winch be mounted either on the ATV or the pick-up and that the winch be used for all loading/unloading operations.

If the ATV must be ridden into a truck bed, the following procedures will govern NPS personnel:

Personal Protective Equipment:

- All required Personal Protective Equipment (PPE) must be worn while loading and unloading an ATV to/from vehicles.

Loading Ramps:

- Loading ramps may be plastic, aluminum or steel. If aluminum or steel they must be of welded construction. Plastic ramps may be used if commercially designed and manufactured for ATV loading. Ramps may be one or two piece, rigid or folding. Hinges must be factory installed. Ramp surface (driving surface) should have closely spaced cross members or mesh construction with high traction surface. Plastic ramps must have traction blocks molded into drive surface. Under no circumstances will wooden ramps be used.
- Ramps must have a minimum rated capacity sufficient for the weight of the ATV/UTV plus any additional external equipment.
- One piece, bi- or tri-fold ramps must be a minimum of 46 inches wide when extended for loading. One piece ramps must be wider than the distance between the ATV's tires as measured from the outside of the left tire to the outside of the right tire. For two-piece ramps, each ramp must be a minimum of 10 inches wide. Ramp length must be a minimum of 72 inches (6 feet) long when extended for loading.
- All ramps must have chains or straps to secure the ramps to the vehicle tailgate. Use of ramp chains or straps during loading is mandatory. These chains or straps prevent rearward movement of the ramps during loading.

Vehicle:

- Only pickup trucks or larger vehicles that have room for all four wheels of the ATV to rest on the bed of the truck will be used to transport an ATV. Gross Vehicle Weight Rating (GVWR), suspension weight capacity and tire load ratings may not be exceeded.
- Pickup trucks may transport only one ATV loaded in the bed and all four ATV wheels/tires must be in contact with the bed surface.
- Transport vehicles should be equipped with front-end header boards (headache racks) if possible.
- All vehicles must have a flat bed surface, wide enough between wheel wells that the ATV may be rolled on the bed without riding over the wheel wells. Under no circumstances will an ATV be loaded into a vehicle when the ATV must be driven over the wheel wells.
- Four tie downs sufficient to secure the ATV to the vehicle shall be used. Stake pocket tie downs, available at many auto or trailer retail stores. Stake pocket tie downs must have a 1,000-pound capacity.

Vehicle/Ramp Position:

- The ramp angle from vehicle to ground has the largest influence on risk when loading/ unloading an ATV. If the ramp angle is reduced, and all other conditions remain the same, risk is reduced. The truck should be positioned to take advantage of any terrain features that will help reduce the ramp angle. Therefore, the operator should consider the following methods to reduce the ramp angle.
- The use of a loading wall, if available, or positioning the rear of the truck near a berm will reduce the ramp angle from truck bed to ground. If the loading wall is the correct height, it may eliminate the need for ramps and allow roll-on/roll-off loading.
- The truck may be positioned with the rear wheels in a depression (for example, a ditch) to reduce the ramp angle. This lowers the bed of the truck and allows the ramps to be located on higher ground on the far side of the depression.
- Loading ramps must be secured to the truck bed with chains or straps designed for that purpose. When in position for loading, the chains or straps must be taut with no slack or sag.
- Two-piece loading ramps must be positioned parallel and spaced so the ATV tires are centered on the ramps. One-piece ramps must be centered on the truck bed and the ATV driven up the center of the ramp.
- Loading ramps should be positioned so the ends in contact with the ground are level or at the same height. Uneven ramps may cause the ATV to tip over sideways during loading/unloading.

Loading Technique:

- An ATV's racks should be unloaded before transporting. Any heavy cargo must be removed and/or spray tanks emptied. If heavy cargo or tanks cannot be removed, sandbags or other heavy objects should be secured to the opposite cargo rack to help balance the ATV. The only safe method of

loading an ATV that has a loaded spray tank or other heavy load on the back is to winch the ATV into the bed of the pick-up.

- Padding should be placed at the front of the vehicle's bed to protect both vehicles and help absorb impact during loading. An old tire (minus the rim) works well for this.
- When preparing to drive the ATV into the bed of a vehicle, the operator should be leaning well forward with feet positioned on the ATV's footrests. This keeps the operator's weight low over the ATV's center of gravity.
- The ATV should be loaded with the front of the ATV toward the front of the transport vehicle. In cases where the ATV must be loaded with a tank or other load on the ATV rear, it may be safer to load the ATV with the rear facing the front of the transport vehicle, placing the center of gravity further forward and reducing the probability of the ATV tipping backward off the ramp.
- The operator should apply throttle smoothly and climb the ramp at low speed. Too much or sudden increases in throttle will cause the ATV to be harder to control and may cause the ATV to impact the front of the vehicle bed or over-turn.
- As the ATV starts up the ramp the operator should lean toward the uphill direction, i.e. toward the ramps, to help keep the ATV balanced.
- The safest method of unloading is to push the ATV down the ramps, carefully braking to ensure control of the ATV. When riding down, the operator should apply only enough throttle to start the ATV down the ramps, then allow the ATV to roll backwards using light pressure on all the brakes to control speed.
- For transport, an ATV with a manual transmission should be left in first gear. An ATV with an automatic transmission should be in the Park position. The ATV's ignition key should be turned off and removed, the parking brake set, the run/stop switch in the stop (or off) position and the fuel lever turned to the off position.

Secure Load:

- Tie down straps shall be in good condition, free of frays/splices with the following minimum rated capacity.
 - ATV – 1,200 pounds.
Only straps with cam action or ratchet action buckles may be used to secure an ATV; knotted straps or rope will not be used.
 - UTV – 2,500 pounds.
Only ratchet type tie downs may be used to secure a UTV.
- A minimum of four tie downs will be used to secure the ATV to the vehicle. One tie down must be used to secure the front of the ATV to the vehicle. Two tie downs must be used to secure the rear of the ATV to the vehicle. Four tie downs are preferred and are required if vehicle tailgate will not close with ATV in bed.

- Hooks on one end of the tie-downs must be attached to the ATV's frame tubing, not the cargo racks. Hooks on the other end must be attached to vehicle cargo anchors. If using one tie-down to secure an ATV's front, pass the strap around tubing on the front bumper and secure hooks on both ends to vehicle cargo anchors.

Appendix E

Fuel Firing Device Requirements

Fuel Firing Device Requirements

- All components compatible with diesel and gasoline
- Fuel tank must have a pressure relief (vented tank)
- Wiring, if present, protected from abrasion
- Fuel firing device electrical controls centrally located within sight and reach of the operator
- Fuel shut-off within reach of operator

Auxiliary Equipment

- Fire extinguisher
 - Minimum 10 lbs., Type B-C
 - Not mounted on fuel firing device
 - Mounted to be easily accessible

Operational Requirements

Prior to Burn

- ATV/UTV fuel firing device operator should recon burn area prior to ignition
- Perform inspection of ATV/UTV, fuel firing device, fire extinguisher, etc. (use check lists)
- Include discussion of ATV/UTV fuel firing device operations in pre-burn briefing
- Document ATV/UTV fuel firing device use in JHA

Firing Operations

- LCES guidelines will be followed during operation. [Lookouts, Communications, Escapes Routes, and Safety Zones]
- The firing boss/ignition specialist will not be a fuel firing device operator
- Change operators as needed to avoid fatigue
- Fueling fuel firing device
 - Turn off ATV/UTV and allow to cool
 - Ensure the wick/igniter is completely extinguished and cooled
 - No smoking or open flame within 50 feet

- Use correct fuel mixture for conditions
 - Do not completely fill tank, fill to about 90% of tank capacity
 - Wipe up any fuel spilled on the tank or the ATV/UTV
- Close the fuel firing device fuel valve and extinguish the wick/igniter when not actively firing
 - Watch out for fire burning under a lit wick/igniter when the ATV/UTV is stopped
 - Always use safe firing practices
 - Maintain a safe distance between ATV/UTVs when igniting
 - Maintain continuous communication or visual contact with other operators
 - Maintain position and speed during ignition
 - Never ignite when another ATV/UTV is directly downwind of you
 - Never allow ignitions to trap other operators
 - In areas with access problems operator should ride in and ignite on the way out
 - When the operator dismounts the machine in an active fire area:
 - Park ATV/UTV in the black or other safe area
 - Turn off the fuel firing device, extinguish wick/igniter

Emergency Procedures

Provide for personal safety first

Stuck, Stalled, or Rolled ATV/UTV

- Halt further ignition
- Extinguish wick/igniter
- Notify others of your situation and request help
- Extinguish fire near machine

Fuel firing device Catches Fire

- Try to extinguish fire
- If practical, jettison fuel firing device and drive ATV/UTV away
- If fuel firing device cannot be jettisoned abandon ATV/UTV/fuel firing device and leave area immediately
- Notify others of your situation

Fuel firing device Inspection Checklist (Pre-operation)

- Valves
- Filters
- Check all connections, including condition (fuel lines)
- Switches
- Fuel firing device is securely fastened to ATV/UTV

- Fill tank
- Pump check
- Nozzle
- Igniter system
- Tank (cap tight, etc.)
- Fasteners
- Snuffer
- Spare fuses
- Wiring and connections

Safety and Auxiliary Equipment Checklist

- Fire Extinguisher
 - Minimum 10 lbs., Type B-C
 - Not mounted on fuel firing device
 - Mounted to be accessible in event of a rollover

Name

Date
