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## **TAB B – RISK OVERVIEW**

1. Tab B provides a macro perspective of the issues facing USAREUR during the winter safety campaign period.
2. **Enclosure 1 – Aviation Risks.** Provides aviation air and ground lessons learned and risk management information for central region and the Balkans, and for operations in Iraq.
3. **Enclosure 2 – Ground Risks.** Provides lessons learned and risk information for all other ground operations.
4. **Enclosure 3 – Winter Road Conditions in Europe.** Provides risk management information for all road operations, with winter weather risk factors.
5. **Enclosure 4 – Weather.** Provides a macro view of the winter weather pattern for Europe, focused on the deployment aspect of Central Europe. It also provides sites for specific weather information.

**ENCLOSURE 1 TO TAB B  
AVIATION RISKS**

1. General. The following guidance is applicable to USAREUR aviation units operating in Central Region, the Balkans, and while deploying to or redeploying from contingency and combat operations.

2. The following are the primary accident types, causal factors, current safety issues, aviation operational hazards, and challenges and prevention focus for aviation units operating in Central Region (CR) and the Balkans:

a. Primary Accident Types.

(1) Unintentional Impact with an Object or Surface. This type of accident is the most prevalent within CR and the Balkans. It includes for example, wire strikes, tree strikes, and ground strikes. This is our number one accident type.

(2) Maintenance. These accidents are primarily due to failed aircraft components, or unsecured cowlings and/or objects lost in flight, as well as ground-related accidents involving ground handling and/or movement of aircraft.

(3) Blade Strikes. This type of accident involves objects striking the main rotor and tail rotor systems and is generally a function of unsecured items blowing into the rotor systems.

b. Primary Causal Factors.

(1) Individual Failure (Human Error). This involves an omission, oversight, or arbitrary disregard for an established standard or procedure i.e., failure to adhere to minimum hard deck altitude or skipping steps and/or items in the aircraft checklist.

(2) Leader Failure (Human Error). This involves failure to enforce the standard, lack of supervision, or uninformed risk decisions i.e., poor crew selection, inadequate mission planning, or failure to correct behavior inconsistent with the standard.

(3) Training Failure (Human Error). This involves inadequate or insufficient training in preparation for mission execution i.e., pilots executing a Fast-Rope mission without all crewmembers being current. Currency vs. proficiency. Urgency of mission vs. crewmember capability.

c. Current Safety Issues.

(1) Aviation Procedures Guide (APG). Strict adherence to the guidance established in the Balkans APG is imperative.

(2) Hard Deck - Mission vs. Training (Balkans). The decision to operate below the hard deck altitude limitation established in the APG both on mission and during training flights has resulted in numerous accidents.

(3) Terrain and Low-Level Flight. Unintentional impact with an object or surface is the preeminent accident type in the USAREUR AOR. The need to maintain situational awareness at all times cannot be overstated. Situational awareness, crosschecks, and crew coordination must increase at lower flight altitudes.

(4) ATM, SOP, -10, Checklist, etc. Task, condition, standard, procedure, limitation, or other established requirement must be strictly adhered to and enforced. Arbitrary disregard for standards should not be tolerated by leaders, peers, or subordinates.

d. Aviation Operational Hazards

(1) Environment (Wind, Sand, Dust, Snow, WX, Brownouts, and Whiteouts). Operating in harsh flight environments certainly increases the risk of an accident and is exacerbated through lack of preparedness, poor decision-making, and inexperience. There is no substitute for frequent and realistic training in like environments. Know your limitations.

(2) Weather Issues.

(a) VFR vs. IFR. Intentional flight into adverse weather conditions, improper flight planning, inadequate in-flight decision making, failure to maintain adequate terrain clearance are factors that will increase the probability aviation accidents occurring during winter months. A Controlled Flight into Terrain (CFIT) accident is likely to occur when a crew elects to continue VFR flight after encountering instrument meteorological conditions or low ceilings and limited visibility exist.

(b) Brownouts and Whiteouts. Whiteouts generally occur over an unbroken snow cover or where loosely packed snow accumulates. Aircraft landing, taking off, or especially when hovering may encounter this phenomena as visibility is significantly decreased and the aircraft is engulfed in blowing snow. Brownout is a similar phenomena involving blowing sand or dust. Pilots must be aware and anticipate these phenomena. Moreover, pilots must adequately train in the proper techniques for operating in these types of environments. Likewise, pilots must exercise extreme caution and judgment regarding mission accomplishment and safety.

(c) Restrictions to Visibility. Rain showers, low clouds, fog, and in selective parts of the world, blowing sand and dust. All of these weather phenomena restrict the pilot's ability to maintain visual reference and situational awareness. Sustained or frequent operations in this type of environment significantly increase the potential for weather related accidents and must be avoided. Strict adherence to ceiling and visibility requirements outlined in the applicable regulations is imperative. Leaders must brief weather abort criteria and Emergency/Vertical Helicopter Instrument Recovery Procedures (E/VHIRP) when weather is a factor.

(d) Icing. Small aircraft do not deal well with ice accumulation, even in seemingly insignificant quantities. Once the airfoil is covered with even a thin layer of ice, lift is lost. Rime ice is particularly hazardous. It forms rapidly and causes an airfoil to change shape and lose lift. Clear ice is difficult to see. It is virtually transparent and flows back forming a clear glaze over the aircraft structure. You should never run-up or take off with frost, snow, or ice accumulation on your aircraft. Asymmetrical ice shedding may cause severe vibrations, damage the aircraft, and is a danger to ground personnel. Likewise, if your aircraft is not certificated for flight into known icing conditions, it is important to stay out of such conditions. Your aircraft operators' manual lists those things you need to do to prepare the aircraft for winter operations.

(3) Ground Handling and Movement of Aircraft. Moving and parking aircraft on the flight line, taxiing, run-ups, and refueling is more difficult when the surface is covered with ice and snow. Aviation crewmembers and maintenance support personnel must be aware of the hazards, exercise extreme caution and ensure movement is slower and more deliberate in this type of environment.

(4) Maintenance and Pre-Flight. In addition to limited hours of daylight, another human factor element that must be considered is performing adequate maintenance and thorough aircraft pre-flights during temperature extremes. The practical amount of exposure time to the elements while performing these tasks is severely limited. Warming tents, hangars, clamshells, and work breaks must be used in order to reduce exposure time and the risk of shortcuts.

(5) ALSE. Aviation Life Support Equipment must be inspected, functional, and made available to crewmembers during missions conducted in temperature extremes. Forced landings and accidents may be exacerbated in terms of severity without proper precautions being taken to mitigate this hazard.

(6) Obstructions (Trees & Wires). Unfortunately, the long-term USAREUR aviation accident experience indicates our propensity for running into trees, wires and other obstructions. This trend must be curtailed. Aviation leaders at every level must emphasize this fact during safety briefings, mission briefings, classrooms, and in the cockpit. We cannot continue to lose personnel and equipment to this type of preventable accident.

(7) Blade Strikes (Objects vs. M/R & T/R; M/R & T/R vs. Objects). We must always maintain situational awareness while operating in and around running aircraft. Aviation personnel must police areas for FOD i.e., aircraft parts such as doors, covers and other debris. Likewise, pilots must always maintain sufficient clearance while rotor blades are turning. We must reemphasize this requirement to crewmembers and maintenance personnel.

(8) Maintenance (Towing and Ground Handling). Maintaining situational awareness is also relevant to this particular hazard. Conducting walk-a-rounds, adhering to speed limits for towing, and always using the required number of ground guides will help eliminate this type of hazard.

(9) Airfields and FARPS. Airfields and FARPS must be established and maintained IAW applicable regulations. Both fall into disrepair as a result of disuse or complacency. Aviations ASOs must survey these sites and

maintain current hazard logs regarding safety issues. Reintegration into those locations that have been temporarily closed may require an additional measure of preparation and maintenance.

(10) Aircraft Parking (HESCO Barriers/Berms) and Weapons/Ammunition (Loading, Unloading, and Storage). Extreme caution and due diligence must be paid to ensuring loaded aircraft are parked in a manner that minimizes the impact of the inadvertent discharge of a weapons system. Further, uploading, downloading and storage of munitions while at home station, during movement, and while deployed require constant vigilance and standardized safety precautions. We cannot use deployments as an excuse to take shortcuts in this area.

e. Challenges and Prevention Focus.

(1) Accurate Reporting and Data Collection (Challenge). The collection of accurate and timely accident information is necessary in order to analyze the data, identify trends, and target prevention measures. Without accurate reporting, we cannot make informed prevention decisions; however, we should not simply be a clearinghouse for accident information. Aviation ASOs must be diligent in collecting, documenting, and reporting unit accidents.

(2) Trend Analysis (Accident Causal Factors). Identifying trends and systemic problems is imperative in order to target prevention measures that are proactive and preventative in nature. Therefore, we must collect data from an historical perspective, analyze it, and determine what types of accidents are occurring, and what is causing them. Aviation ASOs must access the U.S. Army Safety Center Risk Management Information System (RMIS) and collect and analyze long-term historical accident data to include Abbreviated Aviation Accident Reports (AAAR), identify trends, and target prevention measures.

(3) Human Error (Leadership and Individual Failure). The most effective tools for eliminating these types of failures are as follows:

(a) Command Emphasis and Support. Aviation leaders, from the top down must advocate and enforce the standard. We must empower our subordinate supervisors to act on our behalf and with the full weight of our convictions. Mission first, but safety always.

(b) Ownership (Accountability and Direct Oversight). We as aviation leaders must assume ownership and personal responsibility for the safety of our personnel. We must provide direct, adult supervision during daily operations. We must "spot-check" during the preparation, training, and execution phases of our missions. "Soldiers do what leaders check."

(c) Target Risk Takers – Intervention. Do not accept behavior that is inconsistent with the standard. If you perpetuate substandard performance then you may be a contributor to the occurrence of an accident. There are risk takers and those that are known to take shortcuts. Identify these individuals or other personnel who either omit or compromise a standard, and intervene. Make a correction. Make them aware of your expectation of performance. Make them accountable and reeducate/retrain them to standard. Leaders, peers and subordinates must show "tough love" to our fellow soldiers. We have to develop a willingness to tactfully, yet deliberately correct inappropriate behavior before accident occurs. We cannot afford to look back and say, "I knew this would happen."

(d) Collect, Evaluate, and Apply Lessons Learned. Those who do not learn from their mistakes are doomed to repeat them. We do not have to make the same mistakes that our predecessors made. There are ample sources of information in terms of lessons learned regarding our diverse missions. This information must be collected and exploited to the fullest extent possible. There are no new accidents. We continue to hurt ourselves and damage our equipment in the same ways over and over again. We must capture and apply applicable lessons learned in a proactive manner in terms of implementing control measures to mitigate identified and/or potential hazards. We must also document our experience and share it with other organizations.

3. The following is specific guidance to aviation commanders, leaders, aviation safety, standardization, and maintenance officers, and aviation support personnel. These directives are designed to enhance safety awareness, increase the unit safety posture, and to prevent unnecessary aviation accidents.

a. Aviation commanders will sustain the current unit safety posture and mitigate hazards by continuously applying active risk management principles as necessary during preparation, movement, reintegration, and sustainment operations.

b. Aviation commanders will ensure that clear, concise, and functional guidance is in place for expected mission requirements and will direct leadership at every level to supervise and enforce the standard.

c. Aviation commanders will assure that deliberate risk assessments are performed for all applicable mission/task scenarios particular to the various phases of operation i.e., preparation, movement, reintegration, etc. Hazards identified during the risk assessment and review of relevant safety literature will be documented and mitigated IAW the 5-step risk management process.

d. Aviation safety and standardization personnel will consider flight hazards associated with the imminent operational environment prior to deployment and/or reintegration. Special emphasis must be placed on review of applicable ARs, FMs, TCs, PAMs, TMs, ATMs, APGs, and SOPs in terms of identifying, knowing, and adhering to the standard.

e. Aviation leaders will obtain and review applicable lessons learned, accident trends, and other information germane to the operational hazards expected while en route, on mission, and/or at home station. The following is a list of relevant information that should be reviewed and can be accessed at <http://www.per.hqusareur.army.mil/>:

- (1) USAREUR Winter Weather Hazards To Flight
- (2) USAREUR Aviation Safety Briefing (Trend Analysis & Lessons Learned)
- (3) OIF Aviation Safety Briefing (Trend Analysis & Lessons Learned)
- (4) Next Accident Assessment For Leaders of Aviators
- (5) Next Accident Assessment For Aviators
- (6) Deployment Safety
- (7) Desert Shield Leader's Safety Guide
- (8) Desert Storm NVG
- (9) Redeployment & Port Operations Leader's Safety Guide

f. Aviation units should modify training, revise existing procedures, and implement additional control measures as necessary in order to mitigate hazards and/or mission challenges that are specific to the expected operational environment.

g. Aviation units should optimize training opportunities during RSOI and/or MREs focusing on realism in terms of modeling the training environment and tasks commensurate with the expected mission environment.

h. Aviation leaders and standardization personnel must ensure that training and mission execution are comparable in terms of strict adherence to task, condition, and standard. Creative interpretation or modification of established standards and/or perpetuation of flight techniques not sanctioned or published is unacceptable.

i. Aviation safety and standardization personnel will consider and mitigate mission challenges specific to the expected flight environment. The following list is not all-inclusive, however, does denote areas requiring special attention:

- (1) Environmental considerations i.e., whiteouts, brownouts, blowing sand, snow, and dust.
- (2) Performance planning considerations especially in high altitude or extremely hot environments.
- (3) Visual limitations in terms of contrast and depth perception in the desert and over snow-covered terrain.
- (4) Night Vision Goggle (NVG), Night Vision Device (NVD), and Night Vision System (NVS) limitations.
- (5) Obstacles, wires, and hazards to flight.
- (6) MOPP gear flight limitations.

(7) NBC operations and considerations.

(8) Desert/hot weather environmental flight considerations.

(9) Cold weather environmental flight considerations.

(10) Extended-Range Fuel System (ERFS).

(11) Laser safety.

(12) FARP operations to include uploading and downloading ammunition, ammunition storage, mitigating inadvertent launches, and berms and HESCO barriers.

j. Aviation safety, standardization, and maintenance personnel will establish and maintain a deployment library, which includes essential maintenance, training, operational, and safety publications.

k. Aviation units will establish/revise their Emergency Helicopter Instrument Recovery Procedure (EHIRP) for their current area of operation considering such things as terrain, threat, mission briefing requirements, crew duties, crew coordination requirements, radio communication procedures, recovery airfield requirements, etc.

l. Aviation units will conduct operational and safety surveys in order to identify hazards to flight specific to their area of operation. Likewise, aviation flight operations section will establish and continuously update a unit hazard map that includes restricted flight areas and natural and manmade hazards and obstacles. Aviation crewmembers will update their individual hazard maps and brief hazards prior to every mission.

m. Aviation units will establish and/or update their pre-accident plan, which provides guidance, information, and procedures to follow in the event of an aviation accident. Pre-accident plans will be specific to the region and include such things as notification procedures, emergency support services, POC contact numbers, local telephone listings, notification requirements, witness identification, accident response coordination, records and logs, medical requirements and support, accident site security, etc.

n. Aviation units will develop and implement crew endurance/fighter management programs, which include duty-day considerations while preparing for deployment, movement, reintegration, and continuous or sustained operations while deployed and/or at home-station. Individual crew rest plans will also include effective controls for aviation crewmembers conducting nighttime operations in terms of protecting night vision and provisions for adequate rest.

o. Aviation units will ensure tactical Forward Arming and Refueling Points (FARPS) are established IAW applicable regulations. Further, aircraft ordnance handling and inspections or maintenance of weapons systems are conducted in a safe area with weapons oriented away from other aircraft, troops, and facilities. Berms are recommended.

p. Aviation leaders and maintenance supervisors must place special emphasis on proper "by the book" maintenance and ground handling of aircraft at all times. Reemphasize hook-up procedures, speed limits, number and position of ground guides, etc.

4. POC: USAREUR Aviation Safety, 370-8084.

## **ENCLOSURE 2 TO TAB B GROUND RISKS**

1. PURPOSE. To provide substantive guidance for planning and incorporating safety and risk management activities and issues into support for deployment, redeployment and winter operations in the Central Region and the Balkans. This document describes the primary hazards, accident types, causal factors, safety issues and prevention focus for winter operations in the Central Region and the Balkans and deployment and redeployment

2. Primary accident types and hazards.

a. POV Accidents.

(1) Speed. Too fast for road conditions or loss of control while passing or exiting roadway.

(2) Fatigue. Falling asleep while driving or losing control due to drowsiness.

(3) Alcohol.

b. Military Vehicles:

(1) Speed. Too fast for road conditions or loss of control while passing or exiting roadway.

(2) Fatigue. Falling asleep while driving or losing control due to drowsiness. Failure to follow sleep plan or modify due to schedule changes.

(3) Failure to Recognize Hazards. Steep hills, curves, soft shoulders, and sinkholes.

(4) Convoy Accidents. Catch up speeds, taking risks to maintain convoy integrity, poor communication and making U-turns.

(5) Backing Accidents. Failure to use or obey ground guides.

(6) Mission Planning. Crew selection, recon, preparation and identification of hazards.

c. Personnel Injuries.

(1) Sports Injuries. Physical conditioning and acclimation, poor facilities and lack of supervisory control.

(2) Slips, trips and falls. Icy conditions and failure to use 3-points of contact. Falls from heights after drinking.

(3) Recreation Accidents. Physical conditioning and acclimation lack of training and alcohol.

(4) Finger Injuries. Rings caught on objects and fingers smashed during operations.

(5) Cold Weather Injuries.

(6) Electric Shock. Contact with overhead electric lines at rail loading locations and rail stops. Contact during recovery operations. Antenna contact with overhead electric lines on roads and rail crossings.

d. Fire and Explosives.

(1) Heaters and Stoves. Use of wrong fuel, failure to cool before refueling and use of unauthorized heater.

(2) Accidental Discharges. Lack of training on proper weapon handling procedures and muzzle awareness.

(3) Explosives. Improper handling of ammunition.

### 3. Primary Causal Factors.

a. Individual Failure (Human Error). The omission, oversight or disregard for established standards and procedures, i.e. failure to follow speed limits or proper equipment operation procedures.

b. Leader Failure (Human Error). Failure to enforce standards, lack of supervision or poor application of the risk management process in identifying hazards and implementing controls, i.e. inadequate mission planning, failure to correct non-standard behavior and poor crew selection.

c. Training Failure (Human Error). Inadequate training in preparation for mission execution, i.e. failure to train and certify crews for rail loading operations and improper instruction for convoy operations.

### 4. Current Safety Issues.

a. Vehicle Operation. Strict adherence to speed limits in AE Pam 385-15 and vehicle TM with modification for road and traffic conditions. Compliance with vehicle marking IAW USAREUR Regulation 385-55. Use of ground guides when backing or operating in close quarters.

b. Cold Weather. Preparation of personnel and equipment for operation under adverse conditions. Cold weather injury prevention training and winter driver training. Acclimation of personnel for changes in weather conditions.

c. Deployment Operations. Training and certification of personnel for convoy and rail loading operations. Proper marking of vehicles.

d. Redeployment Operations. Training and certification of personnel for convoy and rail loading operations. Proper marking of vehicles. Refreshing soldiers on POV operations and hazards of alcohol consumption.

e. SOP, -10, Checklist, etc. Task, condition, standard and procedural compliance and enforcement by first line leaders.

### 5. Operational Hazards.

a. Environment (Wind, Sand, Snow, Sun, Cold and Heat). Operating in harsh environments increases the risk of injury and / or accident. This condition is exacerbated by lack of preparation, poor planning and decision-making. Preparation and realistic training is key to mission success in harsh environments.

(1) Rain, Ice, Snow, Sleet and Fog. Changing weather conditions increase the likelihood of ice forming in shaded areas in the early morning and evening hours. Precipitation in many forms results in the lack of vehicle traction and control making movement hazardous. Speed control is the primary control. Use of chains or snow tires are additional control measures.

(2) Visibility. Rain, snow, ice, sleet, fog and dust all restrict visibility. This affects the vehicle operator's ability to maintain situational awareness and visual reference. Speed control and communication are the primary control factors.

(3) Icing. Clear visibility is essential to maintaining situational awareness and visual reference. Viewing surfaces and lights must be completely cleared to maximize visibility.

(4) Cold. Personnel must be properly equipped for operation in cold environments (UR Pam 350-7). Clothing must be available and layering used to provide maximum protection. Enforcement by first line leaders and buddies through periodic checks are mandatory to prevent cold weather injuries. Warming facilities should be provided to reduce exposure. Proper hydration is essential.

(5) Heat. Work activities and water intake must be regulated to prevent heat injuries. First line leaders and buddies must be vigilant in preventing heat injuries.

b. Deployment/Redeployment Operations.

(1) Rail Operations. Railhead loading/unloading, supercargo and guard details require emphasis. Respect for power lines, heavy equipment movement and high-speed trains are essential. Use the rail training, certification and verification program.

(2) Convoy Operations. Drivers must be properly equipped and trained for convoy operations. Communication and control is essential. A deliberate and enforced rest and sleep plan are critical. Drivers must be properly equipped and trained for night vision operations. Use the convoy-training program.

(3) Port Operations. Soldiers must be properly trained and licensed to operate equipment. Congestion, large vehicle movement and overhead hazards all require enhanced situational awareness and first line leader control.

c. Weapon Discharges. Unintended weapon discharges are a frequent and very dangerous reality. Leaders must ensure soldiers are properly trained and muzzle awareness is stressed at all times.

d. Fire. The use of stoves, heaters and lanterns significantly increases the risk of fire. Use of these devices in tents and close quarters multiplies the risk. Proper training and licensing for equipment operation is essential. Fire prevention planning and preparation are paramount. Vehicle fires are a result of poor maintenance. Crews must practice evacuation procedures.

e. Reintegration. Preparing soldiers for their return should re-emphasize the dangers from POV operation, drinking and driving, excess consumption of alcohol, acclimation and resumption of organized physical training.

## 6. Challenges and Prevention Focus.

a. Applied safety and occupational health measures and risk management practices are combat multipliers. Commanders and first line leaders will incorporate the five-step risk management process during all operations and tasks. Safety and occupational health standards for field operations outlined in UR Pam 385-15 will be enforced. General standards for convoy operations, rail operations, port operations, ammunition and explosives safety, occupational safety and health and hazardous materials (HAZMAT) will be followed.

b. Commanders will use their unit safety officers and/or NCOs to assist unit leaders in conducting safety and risk management for all operations and tasks. This includes assigned civilian safety and occupational health professionals. In addition, unit leaders will enforce the safety and occupational health standards for field operations outlined in USAREUR Pam 385-15.

c. Unit safety officers and/or NCOs will deploy with their organizations to provide organic safety support. Civilian safety and occupational health professionals will deploy with their designated organizations to provide safety support.

d. Units will establish emergency recovery procedures considering such things as terrain, threat, mission briefing requirements, communication procedures, and recovery.

e. Units will conduct operational and safety surveys in order to identify hazards specific to their area of operation. Operations will establish and continuously update a hazard map.

f. Units will establish a pre-accident plan that provides guidance, information, and procedures to follow in the event of an accident. Pre-accident plans will be specific to the region and include such things as emergency support services, POC contact numbers and telephone listings, notification requirements, witness identification, accident response coordination, records and logs, medical requirements and support, and site security.

g. Speed limits will be established to ensure safe vehicle and convoy operations.

h. Safe vehicle operations must be an integral part of mission execution to include proper qualifications, licensing, use of NCOICs and identification of hazards associated with road conditions and environment that could be very treacherous. Vehicles will be properly placarded for greater visibility. Convoy procedures IAW UR Pam 385-15 will be followed.

i. Serviceable and properly fitted Personal Protective Equipment (PPE) must be provided and used by all personnel, as required. PPE includes eye, hand, feet, head, and hearing protection. Helmets and other body armor are also considered PPE. Helmets will be worn in vehicles.

j. Lockout/Tagout, confined space entry procedures and electrical distribution systems that differ from standard practices must be evaluated in all stages of operations to ensure hazards are minimized. Life Support Areas housing personnel will be constructed as remotely as possible, to meet separation distance requirements from hazardous operations, such as fuel storage, munitions storage, aircraft live load parking locations and other hazardous operations.

k. Electrical work performed on the tactical vans, ramps, and buildings housing staff will be done to the standard. Soldiers performing as electricians will be properly trained and certified to perform this type of work. Work on electrical boxes will be done with the power shut off and locked out. If work must be done on the electrical box when it is hot, a risk assessment must be done and approved by an officer in the grade of O-6.

l. Fire Prevention. Fire Marshals/Fire Protection personnel must conduct appropriate fire safety training and briefings that cover actions to be taken in the event of a fire. In addition, conduct routine monitoring during the deployment to detect and correct adverse trends to prevent fires. All personnel must be trained to report fires and the use of fire extinguishers.

m. Construction of Life Support Areas will include fire lanes separating every three rows of tents and life safety code requirements will be met. One 10 pound CO<sub>2</sub> and one pressurized water fire extinguisher is the minimum standard for a GP medium tent. Additionally, a 10-pound CO<sub>2</sub> fire extinguisher will be located every 75 feet in a fixed facility. Personnel capacities will be determined and posted for all facilities. Use of CO and smoke detectors will be considered for Life Support Areas.

n. Unvented heaters are not authorized for use. This prohibition applies in guard shacks, tents, Life Support Areas, MWR facilities, military-owned de-mountable containers (MILVANS), and other locations that require heaters. Vented heaters include forced-air heaters that have fuel, ignition, and heat sources located outside of tents and structures. UR Pam 385-15 lists approved heaters belonging to the family of space heaters (FOSH) with NSNs and descriptions. Commercial off-the-shelf (COTS) and electric heaters may be authorized if they are approved by a reputable national standards organization (for example, Underwriters Laboratories (UL), American National Standards Institute (ANSI), International Standards Organization (ISO)) or have a "CE" label indicating that the heater is approved for use. If electric heaters are used outdoors or in a damp environment, a ground fault interrupter must be installed between the heater and the power source. TM 10-4500-200-13 provides operating instructions and preventive maintenance checklists for using M1941 type I and II and M1950 solid- or liquid-fuel space heaters. Heater model H-45 type I and type II operation and maintenance instructions are in TM 9-4520-257-12&P. Personnel will consult TM 9-4520-257-12&P or TM 10-4500-200-13 when installing space heaters.

(1) Carbon Monoxide (CO) is a clear, odorless gas that forms during incomplete combustion. In the body, it acts as oxygen thief, stealing oxygen out of the blood. Unvented heaters, or leaking vented heaters can release dangerous quantities of CO into the living space. If the space is closed, then the concentration can build up. Examples are closed vehicles, closed garages, and closed tents. First aid is to get the individual out into fresh air, away from the CO, where the concentration in the body can lower.

(2) Asphyxiation is a condition caused by lack of oxygen in the air being breathed. A vented heater in perfect running order can cause this condition if the tent (such as the squad tent) or other room is tightly closed. Fire requires oxygen to burn, and it can burn in less oxygen than a human can survive. Therefore, the tent or room also needs to be ventilated to avoid this condition ("make up air"). First aid is to remove the person to fresh air where oxygen is present.

o. UR55-4 will be used for road or rail transport of hazardous materials, including ammunition and explosives. Operators of vehicles transporting dangerous goods must be trained and certified.

p. Develop a Directed Sleep Plan to ensure fatigue does not hinder mission accomplishment. Fatigue is a known factor in the cause of many mishaps. After 48-72 hours without sleep, personnel become ineffective. Factors that can impact fatigue are water consumption, diet, physical condition, stress, and hygiene.

q. Weather-related injuries are considered preventable and reportable mishaps. Soldiers will be trained on hot and cold weather injury prevention prior to the potential for hot or cold weather injuries occurring. Leaders will ensure that adequate measures are taken to prevent weather-related injuries. Rest, diet, fluid intake and proper clothing assist in the prevention of weather-related injuries. Frostbite, trench foot, and other cold weather injuries are considered preventable and reportable mishaps. Operating in MOPP increases the hazards of weather-related injuries. Increase WBGT by 10 degrees F and water consumption for operations in MOPP. Delegate and distribute tasks to reduce fatigue. USAREUR Pam 350-7, "Winning In The Cold", is the standard reference for techniques to prepare for cold weather operations.

r. Establish procedures to ensure sports and recreation facilities/activities, and local area hazards are identified, monitored, and personnel informed and afforded protection from potential injury.

s. Radiation protection requires emphasis. The unit Local Radiation Safety Officer must be notified when a radioactive source is damaged or lost. Evaluation, reporting and clean up will be IAW UR Pam 385-15. Damaged sources will be placed in a plastic bag with gloves along with soil in the immediate vicinity. This bag will be placed in a second bag and labeled as containing possible radioactive material. This will be placed in another bag and labeled.

t. Increased use of lasers for range finding and target designation as well as the availability of inexpensive laser pointers significantly increases the potential for laser exposure. Aircraft are especially vulnerable. Laser detectors provide an indication of laser exposure but do not distinguish the lasers by their characteristics. This makes assessment of potential injury impossible. Laser protective eyewear with laser filters provides protection against this potential threat. Exposures will be reported immediately and medical personnel will evaluate exposed personnel.

u. Deployment Operations. Deployment operations pose a significant risk to mission success. Compliance with established standards listed in the references for convoy operations, rail loading/transport and port operations and proactive risk management efforts are critical to mission success. Specific areas of concern are operations in close proximity to overhead electrical lines at railheads, staging and loading of explosives containers and uploaded vehicles and transport of fuels and fueling operations.

v. Unexploded Ordnance (UXO). Explosives reconnaissance involves three steps: identify, mark and report. Personnel must be trained to recognize UXO hazards. They must safely mark and evacuate and report the UXO hazard. Suspicious items or identified UXO will not be touched or approached.

w. Ensure all accidents to include fratricide incidents are investigated and reported IAW UR and AR 385-40. Hot and cold weather injuries are considered preventable and are reportable as accidents.

7. POC: USAREUR Safety, 370-8084.

## **ENCLOSURE 3 TO TAB B WINTER ROAD CONDITIONS IN EUROPE**

1. Road conditions during the winter months can change very quickly in Europe, causing deadly results for unsuspecting drivers. Heavy rain, snow, black ice, freezing rain, and fog are conditions that are responsible for soldier deaths and injuries on European roads every winter season. All drivers need to be prepared for possible changes in road conditions, to avoid needless injury to themselves and others. Many times, simply reducing speed will reduce the risks and prevent accidents.

2. The Inclement Weather Road Condition Status Policy is contained in USAREUR Reg 385-55, Appendix I. Every leader will ensure that soldiers redeploying to USAREUR, or deploying from USAREUR, during the winter months, are briefed on this policy. Each BSB is responsible for determining local road conditions and status. Soldiers must understand the hazardous road conditions they can expect to experience while driving in Europe, as well as how to access up-to-date information on road conditions in their areas of operations via the "Winter Safety" section of the USAREUR Safety Office web page at, <http://www.per.hqusareur.army.mil/services/safetydivision/main.htm>.

3. The following section will describe winter road conditions that soldiers can expect to see when driving on roadways in Europe. Recommended precautions are also given for each of these conditions, to reduce the potential for accidents. All soldiers should be briefed on these hazardous driving conditions and precautions before being allowed to drive a vehicle in Europe

a. Ice.

(1) Expect icy conditions any time the outside air temperature reaches 40oF (4oC) or lower. Although water freezes at 32oF (0oC), road surfaces can freeze when the air temperature drops to 40oF (4oC) or less. An important place to watch for this condition is on bridges. Bridge surfaces are exposed to the wind and cool off faster than the rest of the road. Freezing rain can glaze these road surfaces with ice, causing extremely hazardous driving conditions.

(2) The following terms are often used to describe specific icing conditions that drivers can expect to see. Some are more easily recognized than others, and all are dangerous.

- White Ice - Snow that has been compacted during the day and has slightly melted will freeze at night. This is called white ice, and can usually be seen on the road. When traveling on white ice, drive very slowly. If you cannot find a place to park until conditions improve, install tire chains for better traction.

- Glare Ice - These are slippery spots that may appear on an otherwise clear road in shaded areas where a cold wind can freeze a wet road surface, quickly. If you see a patch of ice ahead, brake before reaching it and try not to brake while actually on the ice.

- Black Ice – Black ice fools drivers. Its shine tricks them into thinking it is water on the road. What they may not realize is that condensation, such as dew and fog, freezes on the road surfaces when temperatures reach 32oF (0oC) or below. This forms an extra-thin layer of ice on the road that is difficult to see. This shiny ice surface is one of the most slippery road conditions. Black ice is likely to form first under bridges and overpasses, in shady spots and at intersections.

(3) When roads are icy or slushy:

- Drive slowly, allowing extra room to slow down and stop - It can take ten times longer to stop in icy conditions than on a dry road.

- Use the highest gear possible to avoid wheel spin.

- Maneuver gently, avoiding harsh braking and acceleration.

- To brake on ice and snow without locking your wheels, get into a low gear earlier than normal, allow your speed to fall, and use the brake pedal gently.

- If you skid, ease off the accelerator but do not brake suddenly. Turn the front wheels towards the direction in which the rear wheels are skidding.

b. Snow.

(1) Drivers can expect to experience snow while driving on the highways of Europe. Falling snow can cause reduced driver visibility, which can be made worse with windy conditions. Snow can accumulate very quickly, especially at higher elevations, causing slippery driving conditions. Drifting snow, snow displaced by the wind, can create very deep snow on the roads at all elevations, and drivers should be prepared for this condition before venturing out on the highways during the winter months. These snowdrifts can be a very serious hazard to drivers because they can render any vehicle immobile, causing very large traffic jams. Proper use of snow chains can make driving in the snow safer. Snow chains can be rented from many gas stations midway through your journey and then dropped off at another station further down the road. Sometimes membership in one of the European-based automobile clubs is necessary for this service, but not always. The cost is low and is based on the number of kilometers traveled. Stop as soon as you think you may need the chains, because supplies are limited at each station. Otherwise, purchase a set of snow chains, properly sized for your vehicle, and keep them in the vehicle during the winter season. Practice installing them before the snow begins to fall.

(2) The following precautions and recommendations for driving in the snow should be considered.

- Slow down. Triple the usual distance between your car and the one ahead.
- Stay in the plowed lane; avoid driving over the ridges between the plowed areas. If you must switch lanes, slow down, signal and move over slowly.
- If you skid, steer into the skid. If the back of your vehicle is skidding to the left, for example, turn the steering wheel to the left.
- Don't pump your brakes, and avoid locking them up. If your brakes lock, take your foot off the brake pedal for a moment.
- If you're involved in a fender-bender, move the vehicles out of the lanes of travel.
- Keep a blanket and flashlight in the vehicle.
- While driving, keep your headlights on. Keep snow and ice off your mirrors, windows and lights
- As always, wear your seatbelts.
- If your vehicle has an Anti-lock Braking System (ABS) and you must brake, be sure to press the brake pedal and hold.

c. Fog is the condensation of moisture in the atmosphere near the surface of the earth. This can happen in several ways, but always results from the same basic conditions, i.e., warm, moist air meeting cold air, or cold, moist air meeting warm air. These conditions exhibit themselves throughout the year, but predominately occur during the spring and winter months. Fog can form quickly and may reduce a driver's visibility to zero. Fog is a major hazard on the European highways and contributes to many automotive accidents every year. The following safety tips should be used when fog is expected.

- Consider postponing your trip until the fog clears.
- SLOW DOWN before you enter a patch of fog.
- If your vehicle is equipped with fog lamps, turn them on.
- Be sure that you can stop within the distance that you can see.
- Turn on wipers and defroster to remove moisture from the windshield.
- Use your low-beam headlamps whether it is day or night.
- Don't use high beams, they reflect off the fog and can impede visibility.

- Use the right edge of the road or painted road markings as a guide.
- Watch out for slow-moving and parked vehicles.
- Do not change lanes or pass other vehicles unless absolutely necessary.
- If you must pull off the road, signal, then carefully pull off as far as possible.
- After pulling off the road, turn on your hazard flashers.

d. Rain. Winter in Europe tends to be a very wet time of year. Long periods of rain can lead to areas of flooding and standing water on the roads. Even thin layers of water on the road can create dangerous conditions. Heavy rains can reduce a driver's visibility to dangerously short distances, making roadway markings and other traffic difficult to see. Water mixed with roadway dirt and oil can create slick surfaces. Wet brakes can increase stopping distances. Hydroplaning can occur when the tire's tread cannot move the water from underneath the tire fast enough. The tire begins to ride atop a ridge of water and loses contact with the ground and possible loss of vehicle control. The combination of fast speeds and wet European highways results in many hydroplaning accidents every year. Many variables lead to hydroplaning but slower speeds and good tires are the best way to prevent it. The following safety tips should be used when driving in wet weather:

- Most important, **SLOW DOWN**.
- Stay in middle lanes as water tends to pool in outside lanes.
- Follow vehicles using the 3-second rule of spacing.
- Try to follow in the tracks of the vehicle in front of you.
- Avoid hard braking, take foot off accelerator to slow down.
- Ensure tires and windshield wipers are serviceable.
- Always drive with your headlights on in wet weather.
- Never drive beyond the limits of visibility.
- Never drive through moving water or puddles that touch vehicle frame.
- Beware of high winds during storms or blinding lightning at night.

4. Winter road conditions in Europe can be a challenge for all drivers, but especially for those that do not have the experience driving in Europe. When driving in these challenging conditions, slow down and increase the distance to the vehicle in front of you. Decreasing your speed will allow more time to respond when a difficult situation arises. Factors such as the type of vehicle you are driving, the quality of snow tires your vehicle is equipped with, and your abilities as a driver should all be considered in the speed adjustment. Prepare for unplanned events by carrying a mobile phone and having emergency supplies:

- Snow shovel.
- Scraper with a brush on one end.
- Tow chain or strap.
- Warning device (flares or reflective triangles).
- Brightly colored cloth to signal for help.
- Flashlight (with extra batteries).
- Abrasive material (cat litter, sand, salt, or traction mats).

- Compass, Warning light or road flares, Booster cables.
- First Aid Kit

5. For many winter road conditions, the right risk decision is to delay travel and pull off the road until conditions improve. For other conditions, simply reducing speed and increasing the distance between vehicles may be appropriate to reduce risk to an acceptable level. Leaders will ensure that every soldier knows how to evaluate the risks and make the proper decision when road conditions begin to deteriorate.

6. POC: USAREUR Safety, 370-8084