

Cold-Weather Risk Management

A Common Sense Approach

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Training in cold weather is inherently dangerous, and leaders continually face the challenge of finding ways to prevent cold-weather injuries. As roads become slippery from snow and ice, drivers have a harder time maintaining control of their vehicles. And warming tents can quickly burn to the ground if soldiers do not use the stoves properly. Despite these and other hazards, cold-weather training is a fact of life in such regions as Alaska and Germany. Leaders at all levels must assess the risks and then manage them so that training will be as safe as possible without sacrificing realism.

Assessing the Risk

Leaders must first determine the risks associated with their training plan. In doing this, they are normally guided by the standard risk-assessment card, which should be familiar to every leader. When a unit conducts training, leaders fill out the card to determine the risk category for their training. After determining the risk value of the seven categories, they arrive at a numerical value that tells them whether the training is *Low Risk*, *Caution*, or *High Risk*. This assessment helps them determine measures needed to reduce the dangers.

The current card, however, is inadequate for cold-weather operations. It is too general and can be misleading. For example, under the *Weather* category, it lumps together all temperatures below 31 degrees Fahrenheit. In Alaska, training is clearly more hazardous at -10 degrees than at +30 degrees. Because the card shows the same risk values for both con-

ditions, an inexperienced leader may take fewer precautions than he should, or be overly cautious when he doesn't need to be.

At the Northern Warfare Training Center at Fort Greely, Alaska, where we normally conduct winter training in temperatures at or below -20, we have developed a modified risk assessment worksheet that is better suited to cold-weather operations (Figure 1).

First, we modified the *Soldier Selection* category to show the amount of cold-

The current risk assessment card is too general for cold-weather operations and may mislead leaders.

weather training and exposure a soldier or a unit has had. Soldiers with no cold-weather training usually do not have the knowledge or skills to train safely or effectively and therefore fall into the highest risk category. As they operate more in cold weather, they acclimatize and learn how to survive and fight in the cold, and this experience makes subsequent training safer. Clearly, soldiers and units that are cold-weather veterans are the safest because they know what to expect.

Next, we changed the *Weather* category in two ways. We subdivided the temperature conditions into more definite temperature zones. This lets leaders know that all training conducted at temperatures below freezing is not the same. Obviously, soldiers are more likely to become

cold-weather casualties when the temperature is -20 degrees than when it is +20.

Then we moved the visibility categories from the top of the box to a specific condition under the temperature ranges. We then assigned risk values to the amount of exposure. Understandably, as soldiers remain in extreme cold temperatures for longer periods, the probability of cold-weather injuries increases.

We also increased the risk value under specific conditions. On the current card, the highest risk value in any category is 5. On the modified card under *Weather* we increased the highest value to 9 for some conditions (long operations during a blizzard, for example), thereby identifying this training as extremely hazardous.

Finally, we changed the last category from *Sustainability* to *Rest and Maintenance*, because training is more dangerous when soldiers get little rest and have less-than-adequate equipment.

The final change was in the overall categories of training. Under the standard card, training is rated in three risk categories—*Low risk*, *Caution*, and *High risk*. We added an *Extreme* category, and now consider training to be in that category if it receives a value of 36 or higher, or if one area receives a 7 or higher. We recommend that a commander at brigade or higher be the approving authority for any training in this category.

Managing the Risk

Although the modified risk assessment card better meets our requirements in

Alaska and other cold regions, this alone still does not make training safer. Steps must be taken to keep the dangers to a minimum. For this, we have developed planning considerations for cold-weather training and operations for each of the five temperature zones. The purpose is to provide guidelines and key points for leaders to remember while planning training or missions.

As shown on the sample in Figure 2, we have provided recommendations for the same six areas—clothing and personal equipment, training, food and water, shelter and heat, additional support requirements, and task or mission limitations—for each temperature zone on our risk assessment card:

Temperature Zone I (55 to 33 degrees). Normally, weather does not affect training in these conditions as much as it does at lower temperatures. Leaders should concern themselves primarily with preventing such nonfreezing cold-weather injuries as hypothermia and trenchfoot. The soldiers' normal TA-50 and initial issue clothing protects them so long as they wear it properly. Footwear can be the issue combat boots or the new intermediate cold-weather boots. Soldiers can survive on three MREs per day without additional supplements.

Temperature Zone II (32 to 10 degrees). As the temperatures drop below freezing, leaders must start to be concerned about freezing injuries, in addition to the nonfreezing injuries in Zone I. Frostbite is the most likely freezing injury that soldiers will suffer. Soldiers must know how to prevent, identify, and treat these injuries. They must know how to wear clothing properly, and leaders must start checking them more often. Footwear should include some type of insulated boots that are also waterproof.

Soldiers need more calories to stay warm while operating in the cold. They should receive food supplements to the standard ration cycle or receive cold-weather rations that will provide 4,500 calories per day. If at all possible, they should get hot food twice a day.

Soldiers need better shelters than a poncho hooch or pup tent, and the 10-man arctic tent and Yukon stove provide this shelter. Soldiers must know how to set

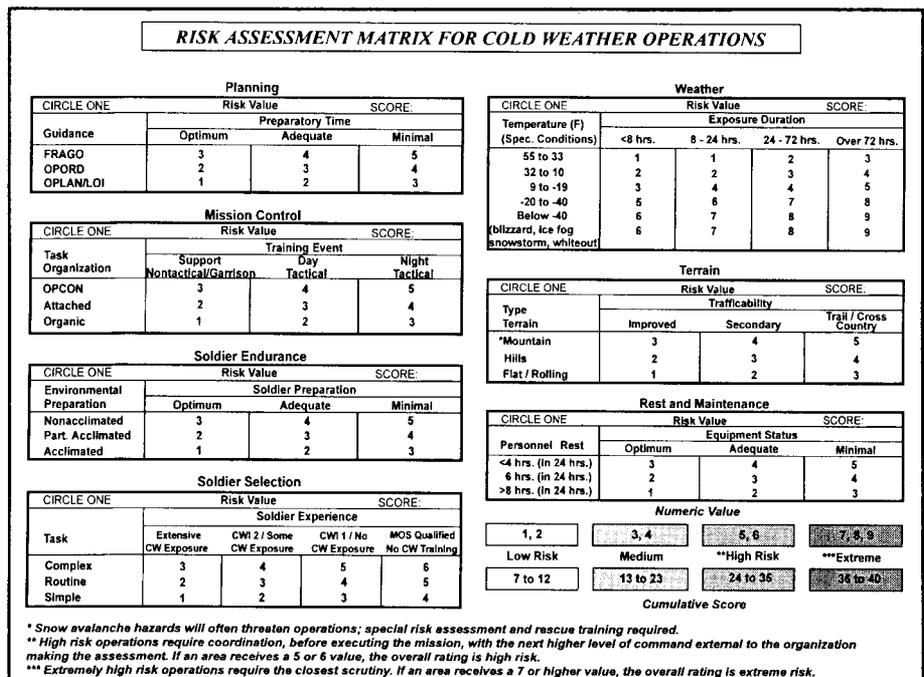


Figure 1

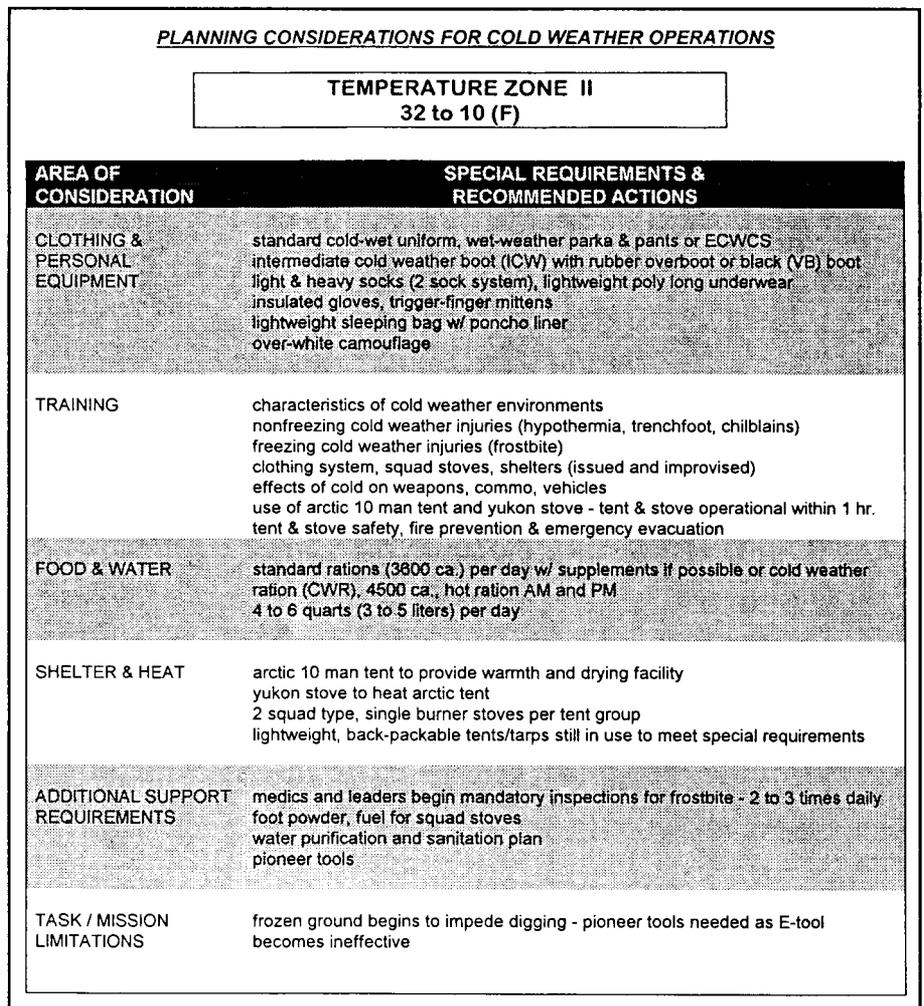


Figure 2

up the tent and operate the stove effectively. We recommend that they have the tent and stove set up within one hour of occupying a stationary position.

Leaders and medics should begin mandatory checks for frostbite. We recommend two or three times a day; mealtime is a good time for this. Weather will also start to affect the mission as digging becomes more difficult. Snow and ice may limit mobility for both vehicles and dismounted troops. With precautions, however, training and missions are still not extremely hazardous at these temperatures.

Temperature Zone III (9 to -19 degrees). As temperatures near and then dip below zero degrees, leaders need to continue the actions they took in Zone II. Soldiers must have a complete cold-weather uniform such as the extreme cold-weather clothing system (ECWCS). Footwear should be vapor barrier (VB) boots, preferably the white extreme-cold version. Gloves, even if they are insulated, may be useless in keeping hands warm; soldiers should have either trigger finger mittens with inserts or arctic mittens.

Since there is a greater chance of cold-weather injuries, leaders and medics must check more frequently. The number of checks now doubles, from two or three times a day to four to six times. Because soldiers are more prone to these injuries while stationary, they should be able to set up the arctic tent in 30 minutes so that

a warming shelter is readily available.

Defensive operations are likely to require engineer support to dig in; pioneer tools and entrenchment tools will barely make a dent in the frozen ground. Snow and the cold make movement even slower. Maintenance requirements increase as the cold causes materials to break more readily. Long endurance operations (greater than 72 hours) are now hazardous.

Temperature Zone IV (-20 to -40 degrees). Training or tactical operations are now extremely hazardous. Leaders need to check soldiers hourly for cold-weather problems. Soldiers need warming tents or shelters nearby. Since equipment breaks more often, more spare parts must be on hand. Soldiers in static positions are very vulnerable to frostbite, and moderate movement is required to keep them warm. Almost everything a unit wants to do takes more time.

Temperature Zone V (below -40 degrees). These conditions severely limit military operations. Leaders should now check soldiers almost constantly (every 30 minutes). Soldiers exposed to the cold for more than 30 minutes are likely to become cold-weather casualties. Thus, even with experienced units, commanders should limit missions that require extensive outdoor exposure. The only operations conducted should be those that are critical to the unit's survivability. Since we rate this training as extremely hazardous, we recommend that the bri-

gade commander approve any training that is conducted.

A recently published *Risk Assessment Guide* contains the modified worksheet as well as the planning considerations sheets. The Guide is available on request from the Northern Warfare Training Center, 502 Second Street, #2900, Fort Greely, Alaska 96508-2900.

Force protection is one of the elements of combat power. In the harsh and unforgiving environment of extreme cold regions, however, we cannot expect our junior leaders to take care of their soldiers without proper training.

Risk management requires that leaders first identify the risks of extreme cold weather and then take steps to limit them. We believe that our modified risk assessment card and the accompanying planning considerations will help leaders train more effectively. If they execute realistic but safe training, units will have self-confident soldiers who can win in the cold and under any other conditions.

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Command and Staff College Selection Board

COLONEL COLE C. KINGSEED

The primary mission of the Army Command and Staff College Selection Board is to select the best-qualified officers to attend a resident command and

staff college and to revalidate officers previously selected but deferred. I served on the 1995 board last summer and would like to share my personal observations

of the selection process. (These remarks are based strictly on my personal experience and reflect neither the official Department of the Army policy nor the opin-