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and all-terrain vehicles  
don't mix . . . page 14

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# Snow & Cold

## ***ALERT:***

Safe All-Terrain Vehicle Operation

by Bill Fluru and Air Supply, Inc. Snow Operations Training Center LLC

All-terrain snow vehicles are seasonal pieces of equipment. Their infrequency of use is the blame for their lack of attention when it comes to safety regulations. Although used infrequently, they are still dangerous to untrained operators.

In recent years, OSHA enforcement activities have prompted a much greater recognition of the need for training of snow vehicle operators. However, in the past 15 years the greatest improvements have come from the initiative of the utility companies and government agencies themselves, often as the result of employee suggestions. The majority of utilities and agencies with snow vehicle operations have implemented training programs as well as instituting some policies to make snow-vehicle operations safer. The positive results have been apparent in the utilities and agencies taking these steps. Unfortunately, most utilities and agencies using snow-vehicles currently do not have written policies dealing with the specific issues of snow operations safety.

According to Art Seely, President of the Snow Operations Training Center (SOTC) in Denver, CO, which provides safety and winter survival training, snow-vehicle operations are very dangerous. In some utilities, the serious injury or fatality rate exceeds one per 500 hours of snow-vehicle operation. This would translate into four serious injuries or fatal accidents annually if snow vehicles were operated year round. Fortunately, most utilities operate snow vehicles for less than 20 hours annually. However, it is just this infrequency of use that until recently has kept attention from being focused on the problems.

### Training Saves

As recent accidents illustrate, the importance of comprehensive operator training cannot be overlooked. One accident involved a new operator who lost control of his snow-vehicle on a

steep incline when one track of the two-track machine lost traction due to ice and slid to the bottom of the hill. When it rolled, one occupant was ejected and fatally injured. The accident is attributed to an inadequately trained opera-

tor who failed to recognize special hazards posed by the icy slope.

In another case, the operator misjudged the snow covered location of a 10-foot wide summer road cut into the side of a mountain. Repeated heavy

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snowfall had covered the roadway and drifts made it appear that the edge of the underlying roadway was five feet further from the mountain than it actually was. While trying to cross the road, the operator strayed onto the five-foot overhanging section which collapsed resulting in the snow-vehicle rolling down a steep embankment, killing the operator. The operator had not been adequately trained to recognize the false-edge phenomena common on the leeward side of Rocky Mountain peaks.

Another example involves utility

remote mountaintop site to service repeater equipment. When the snow-vehicle left the site to get additional equipment from a truck parked six miles away, it became disabled. Shortly thereafter, a heavy snowstorm set-in on the area. The two people were stranded at the remote site for almost two days before another snow-vehicle could make a rescue. While the company employee had been properly clothed, the contractor wore sneakers, blue jeans and a light jacket. He recovered from hypothermia, but lost nine toes to frostbite.

satellite telephones for employees and additional radio repeaters or replacing the entire park radio system with a narrow band system.

If you consider the implications of this citation for most utilities that must have employees operate in remote areas where radio coverage is less than 100 percent, the seriousness of the problem becomes apparent. One solution SOTC is working on with some of its utility clients is the installation of low cost (\$300.00) satellite/aircraft emergency transmitters in snow vehicles. These devices transmit on a frequency that is monitored and relayed by a network of satellites to local law enforcement officials. The devices can also simultaneously communicate directly with any commercial aircraft flying within an approximate twenty-mile radius. It should be noted that this special frequency is designed for use only by downed aircraft and as an emergency form of back-up communications. Use by ground-based utility crews has not yet received any written approval from the FCC or FAA.

The second citation issued by OSHA to the U.S. Agency posed further questions for utility companies. The Agency was simultaneously cited by OSHA for having employees working in a remote area without an "adequate plan or method of back-up for emergency rescue and evacuation for employees injured in remote locations." The Agency explained that it did in-fact have a plan to evacuate injured employees that involved a helicopter rescue-service located near the park. OSHA pointed out that on the day of the accident, clouds and bad weather prevented evacuation by a helicopter and thus the back-up plan was not adequate. Also absent was a secondary method for rescuing and evacuating injured employees from a remote area. OSHA concluded that work should not have been allowed, or adequate rescue personnel and equipment should have been a part of each work group.

## OSHA cited the U.S. Agency for having an employee working in "remote, difficult to access terrain" without CONSTANT radio communication.

employees who were loading a snow cat onto a highway trailer. As they were doing so, the vehicle slipped on the ice-covered loading ramps. One employee suffered a serious injury when he became pinned between the snow-vehicle and the towing truck. While the accident was attributed to the steel track cleats slipping on the steel decked trailer bed, the underlying reason was that the employees had not been properly trained on loading snow vehicles.

Within the utilities, very few employees are routinely expected to work during severe weather conditions or to work beyond the reach of rapid rescue should an emergency arise. Although OSHA has recently cited employers for having employees performing hazardous duties beyond the reach of rapid rescue, this has not yet had any noticeable affect on working conditions. An example of this is one case where a snow-vehicle brought a telecommunications company employee and an outside contract equipment-service technician to a

### From OSHA with Love

OSHA recently issued two citations against a U.S. Government Agency relating to remote work sites which pose difficult questions for many utility companies. Both citations were issued due to a fatal injury accident involving a U.S. Government employee working in a remote area of a national park.

In the first citation, OSHA cited the U.S. Agency for having an employee working in "remote, difficult to access terrain" without CONSTANT radio communication. The remote area in question was covered by the U.S. Agency's hand-held radios that were present and in use at the time of the accident. There were however, certain isolated spots where radio coverage was blocked by terrain or other factors. OSHA cited the Agency in spite of the hand-held radios and extensive repeater system in the park, stating that less than 100 percent coverage was inadequate. OSHA offered, as part of the citation, suitable methods for solving the problem, including;

To deal with the problems posed by this issue, SOTC worked with its utility clients to form informal partnerships with other companies, utilities and search and rescue groups to provide back-up evacuation in the event a utility company employee is injured and the utility's snow-vehicle or ATV is disabled or otherwise unable to evacuate the victim. The availability of a nearby helicopter rescue-service would also provide an answer to this issue; as long as work was only conducted when weather conditions made helicopter use possible.

### Work the Plan

Many utilities have developed unique, creative and effective ideas to combat the problems discussed above including trip tracking, training requirements, operations guidelines, minimum equipment standards, back-up communications, personnel selection guidelines and storing survival supplies at remote sites. Unfortunately, there is still no document to share their unique approaches to solving the problems of employee safety during snow-vehicle operations and remote-site work.

The SOTC plans to create such a document. To accomplish this, Sealy's asking for the help of safety and operations managers from utilities and government agencies conducting snow-vehicle operations. The project has received the support and input of the U.S. Departments of Energy, Agriculture and Transportation as well as some major utilities such as BPA and WAPA, including PG&E, AT&T, SBC, Citizens Communications, U.S. West, and Verizon. SOTC is now asking for help from other utilities to find out what problems they have experienced as well as what procedures and solutions they have implemented. With this information they believe that within 12 months, SOTC can create a "best practices" document. The bottom line would be a reduction of injuries and fatalities in this critical area of utility operations. Proof of this

is in the fact that over the past 15 years, SOTC has trained thousands of snow-vehicle operators and no student completing the training has suffered an accident resulting in injury or fatality during snow-vehicle operations. ♦

Art Seely is Pres. of Snow Operations Training Center LLC, specialists in training on the use of all-terrain vehicles, snow cats and snow mobiles, tower and antenna safety, helicopter passenger, helicopter external load operations, and driving and trailering on ice. He is also a member of the NSC's Utilities Division. He can be reached at SOTC LLC, 5231 S. Santa Fe Dr. #2000, Littleton, CO 80120. (303) 734-0772. [www.sotc.com](http://www.sotc.com)

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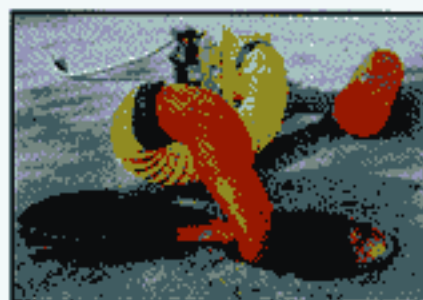
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