

## **FALL ON ICE, POOR POSITION, INADEQUATE EQUIPMENT, INEXPERIENCE**

### **New Hampshire, Meadows Cliffs—Rumney**

On January 27, 1990, Mark Jacobson (23) and Zvi Cohen (22) were ice climbing in the Meadows area in Rumney, New Hampshire. They completed one climb, rappelled off, and began to look for another route. As the temperature had risen above freezing and the cliffs faced the sun, few climbs were in shape. They proceeded to the far right area of the cliff where Cohen soloed a short climb and Jacobson followed with a belay. They then decided to walk along the top of the cliff in the woods to look for another climb or to rappel off. As they were walking in the woods, Cohen decided to take a closer look at two other climbers who were finishing up on Centerfold. Cohen walked closer to the edge of the cliff onto a slab covered with wet leaves and dirt.

The two climbers, Robert Augart (23) and John Morris (21), saw Cohen and warned him that it was not safe to stand there. Cohen responded by turning around and taking a few steps back up the ledge, when he slipped and fell onto his side. He was unable to arrest his slide, since he was not wearing crampons or carrying an ice ax. He fell approximately 25 meters, and was knocked unconscious. Morris rappelled down to see if Cohen was all right. He did not respond, so Morris ran to his car and drove to a nearby house and called for help. Jacobson walked down the side of the cliff as Cohen was carrying their only rope. Jacobson met the rescue team and led them to the victim. During the rescue a large part of Centerfold collapsed, nearly hitting Cohen and the rescue team. Despite the fact that Cohen was less than 200 meters from the road when he fell, it took over an hour to get him to the road. He died several hours later in a hospital in Plymouth. (Source: Robert Augart and Mark Jacobson)

### **Analysis**

Cohen had been rock climbing for two years, but this was his first season of ice climbing. He had picked up the technique of vertical ice climbing very quickly and was confident in leading. He had less experience in evaluating changing conditions and terrain. More winter climbing experience might have led Cohen to reconsider his position at the edge of the cliff, or at least to wear his crampons or carry an ax in hand. (Source: Robert Augart and Mark Jacobson)

## **AVALANCHE**

### **New Hampshire, Mount Washington, Tuckerman Ravine**

On March 30, 1990, the Mount Washington area received about 20 cm of new snow, with winds greater than 65 kph from the south. The winds continued through the night.

At 0800 the next morning, with 20-40 cm of overnight wind deposited snow noted in gullies and catchment areas, USFS Snow Rangers stationed in Tuckerman Ravine posted avalanche hazards as "HIGH", unchanged from the previous day, for all the skiing routes above the Little Headwall." This information is prominently displayed in two places: at the trailhead by the AMC base camp in Pinkham Notch, and at the Hermit Lake shelter at the base of the ravine.

At 1000, a nearby gully (Express) avalanched spontaneously. About the same time, we observed a solitary skier, carrying his skis, climbing near the top of Left Gully, which rises about 275 meters from the floor of the ravine toward the southwest. Two additional skiers were about 180 meters below him. Because of the highly unstable

conditions, and the cornice at the top of the gully, we monitored the progress of the three closely. The average slope was about 30 degrees and was steeper at the top where it ran into the cornice.

Our radio reported that another gully (Dodge's) avalanched naturally, just as the uppermost skier was putting on his skis below the cornice. He then started descending traverse and initiated a turn on the 40+ degree slope. Immediately, the entire upper third of the gully erupted in a soft slab avalanche, leaving a 35 cm crown line.

The dust cloud obscured vision from below while the slide ran the full length of the gully. Scouring the snow cover down to the sliding surface of frozen granular, the slide split into two deposition zones, each about 75 meters long, 40 meters across, and five meters deep at the toe. We observed the entire episode to take about nine seconds. The distance traveled was about 600 meters, thus the slide had an average velocity of 240 kph.

The skier was sitting on the snow at the upper end of the left deposition zone. Other than having the wind knocked out of him, there was no evidence of immediate or developing trauma. He was unscathed except for bruises and loss of a ski. We saw that his trajectory took him across a large boulder that split the slide. During the slide, he was tumbled and intermittently buried, and was convinced he would not survive.

As the day progressed, four additional large avalanches were observed, with three of them initiated by skiers. By sheer good luck, none was directly involved. (Source: Roger Damon, Jr., Mount Washington Ski Patrol, NSPS National Avalanche Instructor)

### **Analysis**

The victim's awareness of avalanches was nil, and he had not noticed either of the signboards posting the current assessment of avalanche hazard. The two skiers below him were far enough to the right side to avoid involvement. They continued their ascent, and were a cause for concern for some time.

To avoid such accidents, one needs to have: (a) an appreciation of the effects of terrain, weather, and wind that combine to create avalanche hazards, and (b) skills in individual conduct in avalanche-prone terrain, including avalanche recognition, route selection, safety precautions, using islands of protection, carrying location indicating devices, mutual observation, and immediate actions if a party member is avalanched.

This episode involved a solo skier who was above anyone who would have observed his "last seen point." Thus, had he been buried, a successful rescue would have been arduous at best.

It typifies the avalanche accidents that usually result in injury and/or fatality. It also highlights our unique situation in Tuckerman Ravine, where usage is counted in the thousands of people on a busy weekend. Some of those believe that posted warnings are obviously meant for people other than themselves. (Source: Roger Damon, Jr., Mount Washington Ski Patrol, NSPS National Avalanche Instructor)

*(Editor's Note: This is not a climbing accident, but is presented as an example of how skiers used to groomed ski areas can quickly get in trouble when out of that controlled mountain environment.)*

### **FALL ON ROCK, NO HARD HAT New Hampshire, Cathedral Ledges**

On May 9, two climbers were going up Standard on Cathedral when the leader fell from Cave Wall about 1700. He suffered a concussion and felt lower back pain. The