The Air Force's
first
High Altitude Rescue Team (HART)

The Air Force's HART mountaineering concept development emerged from several legacy high altitude reconnaissance programs of the late 1940s and 1950s and the occurrences of incidents and events that were either extensively classified or irretrievably forgotten as mountaineering rescue and recovery activities were never adequately documented at the time. This history attempts to prevent the complete irretrievable loss of the history of a unique operational capability.

Although USAF Pararescue teams were accomplishing the occasional high altitude mountain search and rescue operation since the late 1940s, it was national security concerns becoming more inclusive of third world political unrest and terrorist groups that expanded an assortment of high altitude and orbital reconnaissance programs into a global mission need. These global high altitude and orbital reconnaissance activities increased the risk of sensitive materiel and devices going down in remote areas at an elevation too high and perilous to be a simple no mountaineering expertise required helicopter recovery operation. Concurrently the United States was withdrawing from many overseas locations resulting in bases and other forward located permanent operating locations being closed and abandoned. This had similar effect of various military aircraft (reconnaissance, bombers, fighters, helicopters) becoming more reliant on aerial refueling capabilities to fly long-range missions. The cumulative effect resulted in significant increase of operational risks of manned aircraft also going down in remote areas at an elevation too high and perilous to be a simple no mountaineering expertise required helicopter recovery operation.

By 1976, the unmanned high reconnaissance missions and long distance logics supply and resupply route over mountain ranges such as the Andes (South America), Sierra Madre de Chiapas (the state of Chiapas in Mexico across Guatemala and into El Salvador and Honduras), Toba Kakar Range (Afghanistan, Pakistan) and others were becoming more frequent. This intensified anxiety at the highest command levels an undesirable and unintentionally incident would happen in remote and rugged high altitude mountainous terrain.

The HART capability concept was proposed in 1977 and became an available operational capability in 1978. The Air Force's HART was a designated by name 6 to 8 man globally deployable response team. This team's capability tasking was to be deployable ready within an eight-hour notice to conduct high altitude mountaineering rescue and recovery/destruction operations on snow, ice, and rock at elevations up to 22,000 feet above sea level for a self-sufficient period of no less than 20 days. Insert of team and equipment can and will be by parachute if mission requirements dictate. A minimum of two members of the team will have capability to destroy sensitive equipment using explosives and these individuals will attend an approved DOD school for this purpose.

Although Air Force Pararescue personnel were trained to parachute into mountainous regions (such as the Alps) to conduct high altitude mountaineering operations as result of an International High Altitude Training Exercise conducted during the last week of June 1952 high in the Italian Alps near Solda Italy[1], the need for these high altitude mountaineering capabilities was somewhat diminishing until 1977. Commercial and military aircraft performance and flight

characteristics had become more mechanically reliable and able to fly over highest mountain ranges rather than relying on flying through mountain passes. In-flight navigation systems, in-flight weather aids and navigational maps and charts had also improved significantly to reduce significantly the accidentally flying into a mountaintop or mountain ridge.

An assortment of manned and unmanned high altitude reconnaissance operations, unmanned space orbiting reconnaissance operations, and expanding globally national security anxieties evolved and progressed in a manner during the mid-1970s to result in the 71st Aerospace Rescue and Recovery Squadron's Pararescue team, Elmendorf AFB Alaska providing the Department of Defense a new unique operational capability that satisfied a mission need. The coincidental 24 January 1978 unintentional orbital decay and reentry of nuclear-powered Soviet satellites Cosmos 954 into a remote area of the Northwest Canadian Territory near Great Slave Lake[2] may have favorably influenced the decision to approve and considerably fund HART concept development and HART training operations from 1977 thru to 1980.

A BROKEN ARROW incident in the early 1950s provides the earliest documented influences at why USAF Pararescue occupation has required mountaineering rescue skill sets. On February 13, 1950, B-36B (serial 44-92075) departed Eielson Airbase, Fairbanks Alaska to Carswell Air Force base at Fort Worth, Texas. It never got there.[3] Having significant mechanical problems that included three of its engines being on fire, the crew jettisoned an unarmed Mk 4 nuclear bomb off the coast of British Columbia before the crew bailed out over Prince Royal Island. The B-36 was presumed to have sunk somewhere in the Pacific Ocean. Unexpectedly the B-36's crash site was found in August 1953 at a high elevation of approximately 6,000 feet on Mount Kologet, British Columbia, Canada, a very remote and rugged mountainous terrain area. In early September 1953 the US Air Force sent an investigation team to the wreckage. The team under Capt. Gardella included Captains Horrace Skelton and James Bailey, helicopter and weapons officer respectively and three sergeants: pararescue technician Charles Toulbert, pararescue technician Harold Harvey and weapons technician Jerre White. Their mission was to salvage certain parts of the plane. In early August 1954, another Air Force Team visited the wreckage. The purpose of the trip was the same as the earlier one: to salvage certain parts and destroy the remainder. Sensitive materials such as radar, the bomb sighting and tail gunner's electronics were recovered. Then several cases of explosives were used to blow up the wreckage. This incident is the earliest strong example of the unintended and unexpected probabilities involving aircraft carrying conventional, nuclear, biological or chemical weapons needing somebody to make safe and provide security of any such devices or materiel. The provide security was to ensure anybody finding their way to the remote incident location were not endangered or had access to take souvenirs that could be misused.[4] This incident certainly influenced the Department of the Air Force putting policy in place by May 1958[5] that clearly

prescribed the Air Rescue Service will assist in retrieving hazardous cargo (special weapons) in accordance with Air Force Regulation 55-14. Consequently, Pararescue's employed from the aircraft to perform surface operations utilization purpose included recovering sensitive materiel and hazardous cargo (special weapons) can be traced back to August 1953.

The greater influences behind the need for a dedicated HART capability originates post-World War II during the early 1950s intelligence gathering began depending predominantly on technology rather than espionage, which relied on agents. This transition was committed to on 28 September 1952 when RB-47B (converted B-47B) aircrews began flying long range ferreting missions around the periphery of and sometimes inside Soviet territory (eastern U.S.S.R). As the Cold War need to obtain information about Soviet intentions and capabilities increased methods of doing strategic reconnaissance expanded to include use of extreme high altitude balloons and orbiting satellites.

As the Cold War continued, potential threats to national security expanded to include third world crises and tensions, international terrorist threats, illicit drug trade, anti-American assaults and proxy warfare that by 1977 were branded as being low-intensity conflict (LIC) and unconventional conflict. Concurrently U.S military force reductions and base closures both within the United States and abroad in other countries was forcing more reliance on in-flight refueling capable aircraft as the presence of U.S. military air bases overseas to operate from particularly in South America, Africa, East Asia, Central Asia, and West Asia regions diminished. The longer distances involved significantly increased probability of some manned or unmanned aerospace vehicle or device unintentionally going down in remote and rugged high altitude terrain within territories of a foreign country lacking permanent U.S. military installations and forward operating locations.

During the period from 1945 to 1977 more than forty (40) reconnaissance aircraft performing such clandestine missions were shot down[6] and other source indicate several hundred went missing over or near international borders of interest (includes just outside the twelve-mile limit defining international waters).

Consequently, awareness existed at the highest levels of leadership within DOD of a developing critical mission area deficiency existing when the 71st ARRS Pararescue team proposed to the Air Staff the need for a dedicated globally deployable high elevation mountaineering expedition capability. This unit level originated initiative resulted in the 71st Aerospace & Recovery Squadron's (Elmendorf AFB, Alaska) Pararescue team providing the Department of Defense its first and only rapid response and globally deployable mountaineering HART capability.

Until the mid-1980s photoreconnaissance from manned aircraft and unmanned balloons and satellites depended on high-resolution film. This dependence on film resulted in the problematic air-to-air retrieval of film capsules and other devices descending by parachute after being jettisoned

from an orbiting satellite or unmanned extreme high altitude balloon. Problematic meant aircraft had to be there to catch the gondola or capsule as it was descending under parachute and if there not miss the catch. If the aircraft was not there or missed the catch, or the jettison drop was in an unintended location the recovery of the materiel became a surface operation. USAF Pararescue personnel's involvement in surface recovery of such materiel spanned from the scheduled "catch a falling star operations" done by pararescuemen assigned to the 6594th Test Group, Hickam AFB Hawaii[7] to the unintended done astray recovery events.

Unmanned extreme high altitude balloons and one-time use high resolution photography satellites replaced boarder penetrating over flights of Soviet territories done by manned aircraft as the result of a U-2 being shot down over the Soviet Union on May 1, 1960. As digital imaging and other supporting technology was not adequately developed and available until the mid-1980s, getting what was photographed or collected depended physically on catching a jettisoned film canister or equipment gondola as it descended under parachute. Although the air-to-air recovery techniques and methods to do this was operational by the end of August 1954,[8] the unpredictability behavior of high altitude wind currents, recovery zone weather and unanticipated timer and/or pressure sensor device failures often complicated mid-air retrieval being there to catch the devices descending under parachute.

On 19 August 1960, a C-119 configured with a mid-air retrieval system (MARS) was used to accomplish the first air-to-air recovery (ATAR) of a film capsule jettisoned from an orbiting satellite. JC-130 and HC-130 aircraft began replacing the C-119 in 1961 and the C-130 aircraft were used to routinely accomplish air-to-air recovery (ATAR) operations until 30 September 1986.

When the air-to-air recovery attempt of the payload was unsuccessful, the recovery of this sensitive materiel became a ground or water surface operation.

Range limited remotely piloted unmanned reconnaissance drones were also developed and used during the 1960s.[9] These drones were operated from a launch aircraft such as the DC-130 and were typically mid-air retrieved by a CH-3 or CH-53 helicopter in a designated recovery area. At the peak of operations such drones made 30 to 40 flights per month over North Vietnam and adjacent communist forces controlled areas of Indochina. No less than 578 drones were lost over China and North Vietnam: 251 were shot down, 80 were declared missing in action, 53 were lost during recovery, 30 during winching up and the rest to different reasons.

The 21 June 1971 enemy shooting down of Jolly Green 54, HH-53 serial number 66-8285 come distance north of the Plains of Jars, Laos during an attempt to recover an AQM-34 Buffalo Hunter unmanned reconnaissance drone that didn't make it home is an example of an unscheduled gone astray materiel recovery mission.

Although the Jolly's flight engineer and one of the two pararescuemen were severely injured in the crash, all were rescued.

Pararescueman Jon K. Hoberg was being lowered or raised by hoist when the Jolly went down and was struck in the face by a rotor blade. Charles D. McGrath was the second pararescueman and this was his first combat mission. Both the drone and the downed 40th ARRS HH-53 were subsequently destroyed by air strike to prevent sensitive material from falling into enemy hands.

The combined history of rescue and recovery operations supporting strategic-and-tactical reconnaissance and increasing third world crises-and-tensions inadequately explain how and why the 71st ARRS Pararescue Team was able to develop and establish a mountaineering high altitude rescue team (HART).

How and why the 71st ARRS Pararescue Team had high altitude mountaineering experience credibility in 1977 was direct result of the team routinely accomplishing rescues of civilian mountain climbers off the high altitude slopes of Mt. McKinley, Mt. Foraker and other peaks near Mt. McKinley.

Much of the increasing occurrence of doing high altitude mountaineering operations was also directly linked to the 71st ARRS pararescuemen doing joint high altitude rescue missions as crewmembers on Army CH-47 helicopters that arrived in Alaska in 1970. The ability to hover or land helicopters on or in mountainous terrain at elevations at and above ten thousand feet above sea level was nonexistent in Alaska prior to this.

The Army's 242nd, ASHC, 222nd Combat Aviation Battalion began modifying its CH-47C model helicopters to operate at high altitudes immediately after relocating from Vietnam to Fort Wainwright Alaska in 1970. The modification resulted in such significant flight performance improvements these helicopters were capable of flying over the 20,320 foot summit of Mt. McKinley. The unit's official history discloses its first high altitude rescue was accomplished at the 17,800 foot level on Mt McKinley in 1971. The unit's aircrews soon afterwards began to frequently practice training landings to a site located at the 18,000 foot elevation of Mt McKinley.


17,400 feet on the Cassin Ridge of Mt. Mckinley

The Army quickly discovered the CH-47 helicopter and its aircrews had a mission short coming of lacking a high altitude mountaineering rescue capability to put on the ground by hoist to recover the injured or to go out of the landed helicopter onto the mountain to bring the injured to the helicopter. This resulted in the 71st ARRS Pararescue Team being tasked to provide this capability. This caused more frequent utilizing of Pararescuemen to do hazardous technically and physically demanding high altitude mountaineering rescue and recovery operations in Alaska.

One such mission, Elmendorf RCC number 159 happening on 28 July 1979 gives typical example of the involved risks. On that mission pararescueman SSgt Gilbert Vaillencourt rode down the cargo winch from a CH-47 having less than 20-minutes of fuel while it was hovering out of ground effect at 16,400 feet. With rotor blades spinning within 10 feet of a near vertical slope, SSgt Vaillencourt was lowered 40 feet below the CH-47. A pendulum action of the hoist

cable was then established to swing the lowered pararecueman into the slope with expectation would swing into and gran the distressed climber.

Mission difficulties began increasing during the 5 to 10 minutes it took SSgt Vaillancourt to secure the distressed climber to the penetrator and to cut the ropes preventing the climber's fall down the mountain. These difficulties began with an electric system malfunction that put the intercom and supplemental oxygen systems out of action. The loss of the intercom only caused the inconvenience of the crew having to communicate through hand signals while the loss of supplemental oxygen significantly increased the dangerous risk of hypoxia impairing the consciousness of one or more crewmembers. The intensity of what else can go wrong increased when one of two engines flamed out resulting in the pilots putting the CH-47 into a powered autorotation descent while the lowered pararescueman and distressed climber were about to be pulled through the cargo hatch. The other on-board pararescueman used brute strength to get SSgt Vaillancourt and the distressed climber completely into the helicopter. SSgt Vaillancourt's extraordinary heroic accomplishments resulted in him being awarded the Distinguished Flying Cross. Air Medals were awarded to the Army crewmembers and the other PJ involved in getting tis rescue done. At the time, this was the highest hoist rescue; several years later a CH-47 accomplished a hoist rescue at 18,200 feet.

CMSgt John Tobey and SMSgt Gene Nardi provided the push and shove power leadership at the 71st needed to get the HART concept mission need proposals through squadron, wing, major command and Air Force headquarters staffs. It was SSgt Robert LaPointe however who was the primary principle leader developing concepts of operations and selecting the first core team members who would do HART concept demonstration and validation and subsequently who would be the members of the first operational mountaineering HART. SSgt LaPointe being the concept originator and contributing efforts to get HAT members trained, qualified and equipped not only culminated with the Department of Defense getting its first high altitude mountaineering rescue and recovery team but also in him being nominated for and selected as one of the air Force's twelve outstanding airmen of the year for 1978.

An operational and available HART capability is more than the sum of the technical climbing and climbing experience expertise of its members. There is logistics and leadership to doing an expedition into remote and rugged high altitude mountainous terrain that differs from just climbing a high mountain peak. Often, no previous climbing routes exist to get where something went down and the purpose for being there is not for self-gratification objective of adventure of pioneering a new climbing route or successfully completing an admirable recreational in nature summit climb. Such operations are also impractical without overhead photographic reconnaissance to determine feasible and least risk route selection. Logistically high altitude military rescue/recovery climbing operations are expedition in nature requiring relay packing of equipment and supplies up-and-down the mountain and airdrop resupply is often a support requirement. All gear must be readily available and in serviceable (inspected/maintained) condition.

Climbers conducting such operations are not performing a short 2- or 3-day operation. A low altitude climber can make flagrant errors in diet without catastrophe; the same is not true at high altitude. Large meals and foods difficult to digest demand attention at high altitudes the body's system cannot spare and illness results. Improper diet means not enough stamina and

unpalatable food in any quantity means low morale and unpleasant memories. Often only trial and error can teach a person what foods his or her body can tolerate at high altitude. However, more importantly gathering the foods ad hoc to conduct the unexpected high altitude rescue or recovery operation is a recipe for tragic mission failure.

The physiological acclimation to the less dense high altitude atmosphere has increased debilitating and death risks of acute mountain sickness, hypothermia, dehydration, high altitude pulmonary edema, high altitude cerebral edema, retinal hemorrhages and other medical risks. Each climber has individual susceptibility and each climber regardless of age and level of physical fitness has no assured immunity from an incident on any given climb. Many of these medical concerns share early common symptoms of impaired muscle coordination and deteriorating mental abilities. Susceptibility to acute mountain sickness (AMS) demonstrates great individual variability because of genetic differences. A past history of AMS is the best predictor and is a strong argument for a HART screening and selection requiring individuals that have actually performed mountaineering activities above 18,000 feet to be used on operations over 18,000 feet.

High altitude mountainous terrain is a foreign environment requiring both physical and psychological strength to successfully accomplish the mission and to maintain the climber's life itself. The better the physical condition, the better the body can supply necessary fuel and the better the chance of avoiding hazardous exhaustion.

RESCUE Review

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Mt. McKinley; second time for AF team

Rescue men climb to top

By Capt. Richard B. Hodges
21st Composite Wing, IO

ELMENDORF AFB, AK—Capt. Al Nickerson, an HC-130 Hercules aircraft commander with the 71st Aerospace Rescue and Recovery Squadron (ARRSq.), here, banked his gray and orange rescue airplane into a tight turn. Operations Officer Lt. Col. Dick Hoover, sitting in the copilot's seat, punched the radio button. "Pararescue, Pararescue, this is Air Force Rescue Eight Two Four.

Congratulations. I've got a message to read to your from (Maj.) General (Ralph S.) Saunders. 'I've been following your progress. I salute you upon obtaining your goal. All of us in Rescue are proud of you. Have a safe trip back.'"

Colonel Hoover had just relayed comments from the Aerospace Rescue and Recovery Service (ARRS) commander to five Air Force pararescue specialists atop the summit of Mt. McKinley, North America's tallest mountain. Later that day direct communication by radio-telephone was established and General Saunders personally passed his congratulations to the team.

TSgt. Robert L. LaPointe, a pararescue specialist and team leader with the 71st ARRSq., acknowledged from the 20,320-foot peak. It was Sergeant LaPointe's third and toughest climb of Mt. McKinley; it was the second climb by an Air Force team, and the first by the Air Force's only certified high altitude rescue team.

The "total force" climb included eight PJs from the 71st ARRSq.; one Air Force Reservist from the 303rd ARRSq., March AFB, CA; and a climber from the Air National Guard's 102nd ARRSq., Suffolk City Airport, NY. The seasoned mountain climbers began their climb May 22 from a 7,000-foot base camp.

The climb was to provide realistic high altitude rescue training as well as refine arctic mountain climbing techniques. After the climb, the team members were certified as the Air Force's only high altitude rescue team and ready for deployment to anywhere in the world.

Led by Sergeant LaPointe, five members of the 10-man team reached the summit June 9. They were: TSgt. Terry L. Wetzel; SSgt. Daniel L. Hodler; and Sgt. John F. Cassidy, all of the 71st ARRSq. Also reaching the top was TSgt. Michael French, an Air Force Reservist of the 301rd ARRSq.

Prior to the climb each team member had to receive permission from the National Park Service at Mt. McKinley. "Each of us had to send in our past climbing histories along with a physician's release," explained Sgt. Paul K. Koester, a 71st ARRSq. pararescueman.

Each man was assigned a specific job. Sergeant LaPointe was the overall team leader and Sergeants Wetzel, Koester and French assisted as rope leaders. Sergeant Koester was also assistant expedition leader.

"This was my evaluation as a team leader," said Sergeant Koester, who passed his "check ride" and expects to lead his own team in the future. It was also an evaluation of Sergeant Wetzel's leadership abilities. He too passed the "check ride".

Other team members were in charge of radio communications while "rope leaders" were responsible for two or three men on a rope. Other climbers had first aid or repair kit responsibilities. Each man carried up to an 85-pound load.

Two of the men, Sgts. Bruce Hickson and Thomas A. Crouch were taken off the mountain by a special Army high altitude CH-47 Chinook rescue helicopter at the 18,000-foot level on June 8th. Both suffered acute mountain sickness (AMS) and cerebral edema. Team leader Sergeant LaPointe radioed the Elmendorf AFB Rescue Coordination Center for the emergency evacuation. According to Sergeant LaPointe, "Sergeant Hickson needed medical attention and I felt it necessary to send a pararescueman back to the hospital with him and Sergeant Crouch." Sergeant Crouch also had crebral edema and was too ill to help Sergeant Hickson. Someone would have to go to help. It was a tough decision to make after 16 days of all-out climbing. The man to go back would lose his chance to reach the summit after climbing to within 2,000 feet of it. Sergeant LaPointe was spared the decision. TSgt. George P. Gonzalez, a 26-year-old Air National Guardsman, volunteered to help

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TSgt. Robert L. LaPointe on Mt. McKinley's 20,320-foot summit. (U.S. Air Force photo by TSgt. Michael French)

Consequently, much emphasis was made in the concept proposal of the training and qualifications members of a useful HART must have. During 1977, the selected HART team members not only participated in formation group runs and group conditioning drills, but spent several learning activities hours a day achieving specified learning objectives. Not only is the high altitude elevations environment hostile to sustaining the internal environment of the body within certain levels for the cells to live and function normally, the makeup of the high altitude elevation mountain environment itself is in constant stability and instability change. In such an operational environment, it is imperative technical knowledge and skill proficiencies are brought to the highest levels of performance completeness and accuracy. The qualification training extensively

covered recognizing, diagnosing and treating high altitude caused medical maladies specifically onset signs of impaired cognitive ability, learn how to evaluate snowpack stabilities and mechanical properties of avalanche, learning visual weather observation using cloud formation, altimeter to recognize imminent weather change, HF radio operations, and a host of other technical subject areas.

The mountaineering HART's May-June 1978 mission ready certification ascent of the 20,320 foot summit of Mt McKinley Alaska resulted in the first and only mission ready mountaineering HART in the Air Force and in the Department of Defense. The pararescuemen on this climb were SSgt Robert LaPointe (team leader), TSgt Terry Wetzel (assistant team leader), TSgt Michael French, TSgt George Gonzales, SSgt Daniel Hodler, Sgt John Cassidy, Sgt Gerald Hoag, Sgt Paul Koester, Sgt Thomas Crouch and SrA Bruce Hickson. The five members attaining the summit on June 3, 1978 were LaPointe, Wetzel, French, Hodler, and Cassidy.

This operational readiness evaluation resulted in the June 15, 1978, change 1 to the December 1, 1977 ARRSR 55-11, Pararescue Operational Regulation. The implemented policy stated "The 41st RWRW has the primary responsibility of maintaining by name, one eight-man high altitude team capable of recovering sensitive equipment. This team will consist of six 71st ARRS assigned pararescuemen plus one National Guard and one reserve pararescueman. The 71st ARRS has the added responsibility of training and maintenance of equipment for this team."

The West Buttress route used to ascend Mt McKinley in 1978 lacked technical difficulty, but the purpose of the climb was to show twenty days self-sufficiency and the ability to conduct sustained rescue and recovery operations at elevations above 10,000 feet. It was decided by TSgt Lapointe that a more technical difficulty climb was needed in 1979 to clearly demonstrate the expertise of the capability available to DoD. The mountain chosen was the 12,337 foot high Mt Deborah in the Hayes Range, Alaska.

Very few attempts to climb Mt Deborah had been made between 1954 when it was first successfully climbed and 1979. Its remoteness and lack of terrain suitable for a landing strip made it difficult to get to, additionally unpredictable weather and considerable presence of unstable rock, snow and ice made for a dangerous climb. The pararescuemen on this climb were Robert Lapointe, Terry Wetzel, Daniel Hodler, Russell Tanner, John Cassidy, Tom Crouch, TJ Bruce, and Paul Koester.

The obstacle of remoteness was not a difficulty for the 71st ARRS H-3 helicopter being used to transport the team and equipment to the base of the mountain. The weather and unstable rock, snow, and ice were the only difficulties the team needed to deal with.

The expedition establishes base camp on Yanert Glacier during the second week of August 1079. High winds, sleet, and limited visibility unexpectedly came between the sorties transporting the team and equipment to base camp on the same day as planned. Four of eight climbers not only dealt with extreme weather conditions that broke tent poles during the first night at base camp, they also had uncertainty of how safe they were from avalanche dangers. While 50 to 80 mile per hour winds with rain and sleet battered the tents, the climbers heard the deafening roar and felt the vibrations of frequent and unpredictable fall of small and large ice, snow, and rock avalanches from the vertical and near vertical slopes in close proximity of the base camp. The

weather cleared the next day and the remainder of the team arrived at the battered base camp. Unfortunately, following the rain was several days of cloudless skies and very warm weather that deepened melting and further destabilized the snow, ice and rock. This hazardous condition eventually thwarted the climb, as a stable route wasn't found through the 1000-foot ice face that had to be gotten through to get to the higher elevations of the mountain.

Attempts were made for three days to find a passable route up the ice face. Several members of the team barely avoided being crushed by falling ice on the third day of trying to find a route up the ice face. The climbers avoided serious injuries by taking what little cover they could under over hangs as the ice passed by. The increasing frequency and amount of ice, snow, and rock falling off the mountain sides and ice faces as the climbers retreated back to base camp made it evident it was just too dangerous to push forward with any more attempts. It was discovered during a medical exam a few days after returning to Elmendorf AB, that TSgt Terry Wetzel had gotten a hair-line fractured pelvis from the ice block hat struck him; no other Mt Deborah expedition member had any documented injury resulting from the Mt Deborah climb.

High altitude mountaineering training opportunity for all pararescuemen came to a halt a few months after the Mt Deborah climb when HQ Air Rescue & Recovery Service imposed a training restriction forbidding pararescue personnel from conducting mountaineering training on high altitude terrain above 10,000 feet. The decision was risk assessment driven as the 15 June 1980 ARRSR 55-11 Pararescue Operational Regulation discloses the policy was implemented to "avert risks of high altitude induced illnesses and disability which can effect both the inexperienced and experienced pararescueman alike. The restriction is necessary as indications are that substantial disability and loss of effectiveness are likely to occur in 50 to 80 percent of men rapidly brought to mountain elevations in excess of 12,000 feet." It interestingly added the restriction "only personnel specifically identified that have actually performed at elevations above 18,000 feet will be used for operations over 18,000 feet."

It wasn't until the Aerospace Rescue and Recovery Service merged with Air Force special operations to form 23rd AF did commissioned officers lacking alpine mountaineering experience and qualifications doing risk assessments against operational mission needs reluctantly agree pararescuemen needed to get back into doing rescue and recovery mountaineering training above 10,000 feet. The 1 August 1989 MACR 23-13, 1730th Pararescue Squadron (PRS) identified Detachment 4, 1730th PRS RAF Woodbridge United Kingdom and Detachment 5, 1730th PRS Elmendorf AFB AK are designated to conduct high altitude mountain rescue and recovery in support of US Air Force and theater requirements.

Although Air Force high altitude recue/recovery mountaineering training expeditions are no longer put on a mountain each year to summit a high altitude mountain peak, the Air Forces capability to do extended ground rescue and recovery operations above 10.000 feet MSL is being sustained by pararescuemen assigned to the Alaska Air National Guard's 212th Rescue Squadron, Elmendorf AFB, AK.[10]

Missions having need of persons with considerable mountaineering skills and experience do happen unexpectedly and such ground activities and deeds are often not highlighted in official air Force records afterwards as they should be. Sometimes such skills have nothing to do with mountains, but with searching through collapsed and damaged manmade structures. A collapsed and damaged structure example is the October 17, 1989 San Francisco Bay area 7.1 earthquake. Pararescuemen from the 129th and 41st Rescue squadrons arriving at the disaster the disaster area were used to crawl through and around the collapsed I-880 freeway and other structures to survey damage and to access and recover both survivors and bodies.

In August 1989 pararescuemen were sent to Ethiopia to search for and rescue Democratic Congressman Mickey Leland and others of his staff who were passengers on a missing aircraft. The aircraft carrying the Congressman Leland delegation had flown into the side of a remote 5,600-foot mountain in western Ethiopia and it was clear when it was found that there were no survivors. Mission commanders were reluctant to involve the pararescuemen in mortuary body recovery and accident investigation operations. However, this reluctance quickly disappeared after the mountain revealed the safety need to prevent injuries and death caused by persons lacking mountaineering skills falling down the steep mountain slope. The Pararescuemen were the only ones available in the mountainous region of western Ethiopia having both the mountaineering experience and more importantly the mountaineering equipment with them.

This mission has significance as it demonstrates the limitations of helicopters in supporting and accomplishing the rescue and recovery operations when the rugged mountainous terrain lacks area to establish a landing zone at the incident location. All insertion and extraction of personnel and equipment and extraction of bodies and materiel (personnel) effects depended on the a hovering helicopter having a hoist capability. Additionally the terrain was such that the most effective and safe route to and from the crash site required the hoist insertion and extractions at the top of the mountain. Roped descent and ascent climbing lanes were put in by the pararescuemen that were used by the mortuary body recovery team and other official crash site visitors. The pararescuemen also established the on-scene communications capability and provided crash site security.

High altitude rescue and recovery mountaineering particularly with its almost always being a fidget unpredictable weather environment with altitude exposure to frostbite, dehydration, hypothermia, acute mountain sickness, falls and avalanche is no place for inexperience, poor leadership, over estimation of strength, and faulty or inadequate equipment. The jeopardy is comparable to the risks encountered during actual combat operations.

High altitude rescue experience and training enhances combat readiness to accomplish real-world mountain warfare CSAR missions in rugged high-altitude terrain. Operational Risk Management includes knowing the degree of technical and performance risk involved and how and why an operational capability came to be mission-relevant. All these elements evolve into a

performance readiness of having military members with the training, experience, and judgment when the mission objective involved rapid response to getting something unexpected or unplanned done on the ground.

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[1] Department of the Air Force-Air Rescue Service. HQ Air Rescue Service Historical Data 1 January – 30 June 1952. 4 ["The report of Captain Davla on the exercise recommended tree jumps by Pararescue personnel in such areas, aerial resupply despite more rapid descent in the particular area and that personnel conducting missions in such areas be trained in mountain climbing and be in top physical condition."]

[2] Weiss, Gus W. The life and death of COSMOS 954. *Studies in Intelligence*, 22, 1 (Spring 1974), pp. 1-7. Approved for release 1994 CIA Historical Review Program. Online http://www2.gwu.edu/~nsarchiv/nukevault/ebb267/10.pdf Accessed 22 August 2013

[3] Septer, Kirk. Lost Nuke: The Last Flight of Bomber 075. Heritage House Publishing: 2012.
Davidge, Doug. Environmental impact study of crashed bomber. Unpublished. Online http://www.cowtown.net/proweb/brokenarrow2.htm accessed 20 August 2013
Ricketts, Bruce. Broken Arrow, A Lost Nuclear Weapon in Canada. Unpublished. Online http://www.mysteriesofcanada.com/BC/broken_arrow.htm accessed 20 August 2013
ASN Wikibase Occurrence # 72552. ASN Aviation Safety WikiBase online . http://aviation-safety.net/wikibase/wiki.php?id=72552 accessed 20 August 2013.

[4] The AFECD Pararescue Specialty description: Performs, plans, leads, supervises, instructs, and evaluates pararescue activities. Performs as the essential surface, air link in Personnel Recovery (PR) and materiel recovery by functioning as the rescue and recovery specialist on flying status as mission crew or as surface elements. Provides rapid response capability and operates in the six geographic disciplines: mountain, desert, arctic, urban, jungle and water, day or night, to include friendly, denied, hostile, or sensitive areas. Provides assistance in and performs survival, evasion, resistance, and escape (SERE). Provides emergency trauma and field medical care, and security. Moves recovered personnel and materiel to safety or friendly control when recovery by aircraft is not possible.

[5] Air Force Regulation 20-54, 28 May 1958. ["1. Mission …The Air Rescue Service will also: … c. assist in retrieving and safeguarding hazardous cargos (special weapons) in accordance with AFR 55-14."]

[6] Boyne, Walter J. Air Warfare, An International Encyclopedia. ABC-CLIO, Inc., Santa Barbra California: 2002. Volume 1, page 140, ["by one count 4o US aircraft were shot down between 1947 and 1977, most while on intelligence-gathering ferret flights."]

Parados, John. High flying spies. The Bulletin of Atomic Scientist: September 1992. Online http://www.project1947.com/gr/s92.htm accessed 20 August 2013. ["Recent news accounts about missing Americans suggest that up to 50 airmen may be unaccounted for from the Cold War reconnaissance missions. Interested observers have made other loss estimates, all much higher. One source records a total of 38 incidents between 1950 and 1966, with 26 aircraft shot down or forced to land, and 108 airmen killed and an unknown number missing. Another report gives a total of 225 airmen killed or missing from 1950 to 1967. A third puts losses at between 100 and 200, while yet another source estimates that at least 32 aircraft were shot down between 1950 and 1984, including four Nationalist Chinese U-2s. This source estimates that 140 U.S. servicemen were killed."]

Eger, Christopher. Soviet and US air combat1950-1991. Last updated: Mar 25, 2013 Online http://suite101.com/article/soviet-and-us-air-combat-19501991-a15047 accessed 20 August 2013. ["The bloodiest period started in 1950 when Soviet fighters shot down a US Navy patrol craft over the Baltic Sea off of what is now Latvia. From then until 1962 the blood flowed as American aircraft penetrated Russian airspace and paid the price. In a twelve year period 19 more US planes, mainly reconnaissance aircraft, were destroyed in one sided fights with Russian MiGs."]

[7] History of 6594th Test Group: Activated 1 November 1953, Decommissioned September 30, 1986. Unpublished manuscript, author writer unknown (unclassified). Online http://www.dtic.mil/dtic/tr/fulltext/u2/a248695.pdf accessed 18 March 2012. [page 5-- Both methods of surface recovery--recovery **by** helicopters operating off ships, and recovery by pararescue people jumping out of aircraft--continued in use. The first method constituted the

primary method of recovery and the second method constituted the secondary, beck-up method. Page 9 – Once the training program was completed-.-apparently in 1973--the Test Group took over the entire secondary surface recovery function from the 76th ARRS. From that point on, the pararescue personnel used in the back-up method of surface recovery were assigned to the Test Squadron and were flown to the scene in one of the Squadron's own planes. Page 88-- If the Group's helicopters could not support a mission, the Navy provided a backup surface recovery capability. Once the recovery system was located, four pararescuemen would jump from a JC-130 and prepare the capsule and parachute.

[8] Walzenbach, Donald E. Unlikely Relatives, observation balloons and reconnaissance satellites. online http://www.foia.cia.gov/sites/default/files/document_conversions/89801/DOC_0000253109.pdf accessed 20 August 2013. 22.

[9] All American Engineering Co. (AAE) and Sikorsky Aircraft had demonstrated the feasibility of using helicopters for midair recovery in 1959. An H-43 from Holloman AFB, NM was fitted with a system designed to perform midair recovery of test packages and in 1961 made the first ever midair recovery of a parachute-borne object by a U.S. Air Force helicopter. Online http://rotorheadsrus.us/documents/524.html accessed 20 August 2013.

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[10] Air National Guard Maj. Guy Hayes, Alaska National Guard PAO. Alaska National Guardsmen first to summit Mount McKinley in 2013. 5/16/2013. Online http://www.jber.af.mil/news/story.asp?id=123348942 accessed 20 August 2013. ["The nature of climbing Denali provided our team the training we needed in terms of being able to survive in those types of climates. We went out there to train, with the added benefit of summiting Denali if possible." … "This training and environment will prepare our team for the real hard core, dangerous winter missions where we have to stay alive and keep the patient alive for a couple of days or longer. It's critical to our ability to operate in Alaska." … In addition to this team, the Alaska Air National Guard's 212th Rescue Squadron, also known as Guardian Angels, plans to send two more expedition teams to Denali this climbing season to conduct training in winter rescue and glacial climbing operations."]

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Analysis of cost recovery for high-altitude rescues on Mt. McKinley, Denali National Park and Preserve, Alaska. Report to Congress, National Park Service: August 2001. Online http://www.traditionalmountaineering.org/MRstudy.pdf accessed 18 March 2012 ["Appendix A of Regulation 525-4 lists the U.S. Army's responsibilities. It states that the U.S. army has … the sole responsibility for conducting high-altitude helicopter rescue operations for (USARAK) [and to] provide trained and equipped SAR teams for employment as directed and per the internal standing operating procedure." … "SAR missions on Mt. McKinley provide unique and valuable training opportunities for the military. These missions prepare military personnel for other SAR operations, such as commercial airliner emergencies in high-altitude mountains. Lt. Col. Parkhouse, former commander of the Air Force National Guard 210th Combat Rescue squadron, stated in congressional testimony that, "I cannot think of better training for the combat mission than going out and performing actual search and rescue missions." Para-jumpers from the squadron describe these missions as "combat multipliers." Combat multipliers increase their skill and capability to respond to other rescue and military maneuvers."]

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intelligence operatives), the Nanda Devi expedition encountered a lot of trouble. Due to adverse weather conditions, the group had to be airlifted after abandoning the device at a campsite, with the hope that people could come back and plant the sensor in the right place."] see also Aid, Matthew and Jeffrey T. Richelson. U.S. Intelligence and China: Collection, Analysis, and Covert Action. Online http://nsarchive.chadwyck.com/collections/content/CI/intell_and_china_essay.pdf accessed 20 August 2013

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