THE MOBILITY FORUM

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THE MOBILITY FORUM

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— REGULAR FEATURES —

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DIRECTOR'S CORNER

Well, we've closed out another calendar year and have moved into the "real" new millennium. The results of the last year were not the finest in the command when compared to earlier years, but I can't say they were all that bad. Even though our numbers ran slightly higher, the consistency in the way AMC personnel completed their mission tasks safely was outstanding. We continue to operate worldwide, in some of the most austere locations, with relative ease. We find ourselves at the leading edge of every operation...none do it better than our mobility professionals.

We still have challenges, with one of the biggest being WEATHER. Most of us have received a good dose of winter weather already this year. Here in the mid-west we have been re-introduced to "real" winter weather. Most of the country is experiencing the worst winter in 5 years.

Average temperatures have been running 15-30 degrees below normal. We've had more snow to date than the last 5 years cumulative.

We still have challenges, with one of the biggest being WEATHER.

Yes, all those years of avoiding the frozen north are catching up to me and to several others. You need to take special precautions to combat winter weather.

As good parents, we bundle up our children before we send them to school or out to play. Yet we'll go to the store, run errands, and even take trips without the proper protective clothing, or even emergency equipment.

After all, we'll be warm in the car and only plan to get out long enough to run into the building. That works great until something happens that makes it necessary to leave the safe warm confines of our car to deal with a problem. Now we face exposure, hypothermia, frost bite, and in some cases DEATH.

Please don't take winter weather for granted. Even the shortest unprotected exposure to the elements can cause uncorrectable damage. Follow the rules; layer your clothes, stay as dry as possible, and plan for the worst so if it happens you'll be ready. It's easier to take clothes off if you get too warm than it is to put clothes on that aren't available if you're cold.

Think ORM...it's one thing to have "Jack Frost"' nipping at your nose; it's another to have him biting on your backside.

- Col Dave Ziegler

2001 Mobility Forum

Writing Contest

SUSPENSE: Postmarked NLT 30 April 2001

SUBMIT TO: 2001 TMF Writing Contest
HQ AMC/SER
510 POW-MIA Drive Room E117
Scott AFB IL 62225-5020

FORMAT: Identify entries by title only. Attach a cover sheet indicating author's name, rank (when applicable), unit, home address, DSN, Commercial telephone and fax numbers, e-mail address (if applicable), and a brief biography. You may submit a photograph of yourself as well as any photos/graphics relating to your entry, if available.

LENGTH: Original, previously unpublished fiction or nonfiction. Entries should not exceed three single-spaced pages, including photographs/graphics.

CONTENTS: **Entries should contain one or more of the following messages: safety, risk management, CRM, tanker and airlift operations, and SAC/MAC/AMC heritage.**

ELIGIBILITY: Military and civilian employees of the Department of the Air Force and Air Reserve Components. All other entries are judged under a Special Category.

REWARDS: Winners will be published in The Mobility Forum.

by TSgt Steve Longoria
60th Air Mobility Wing

Workplace violence is the leading killer of working females, (35% of their fatal work injuries) and the second leading killer of males (source: U.S. Bureau of Labor Statistics). For each murder, there are countless other incidents of workplace violence in which the victim is harassed, threatened or injured, sometimes seriously. It can be hard to separate unusual behavior and idle threats from a real intent to inflict injury or even death. But what can each of us do to stop the psychological bumps and bruises of everyday situations from turning into bloodshed? What can we do to protect our people?

Management of the "people" risks is a central issue. These days, violence is all around us, reaching into our everyday lives, affecting our work place and our homes. What was once a vision in someone's nightmare has become reality. We routinely hear about such stories as Sgt. William Kreutzer Jr., the NCO who gunned down 19 of his fellow soldiers at Ft Bragg on Oct. 27 1995. Or the four students and teacher

killed when two boys, one 11-years old, the other 13, went on a bloody rampage at Westside Middle School in Jonesboro, Arkansas on March 23, 1998. We look at these events and say to ourselves "What's the world coming to" or "Boy, I'm glad that didn't happen here." BUT...how do we know it can't happen here, or on her base, or on yours? Have we created the safe workplace, schoolyard or home life to ensure it doesn't?

Though Sgt. Kreutzer is now confined on death row at a maximum-security facility in Fort Leavenworth and takes full blame for the deaths of his co-workers, he continues to speak out. In a telephone interview from Fort Leavenworth to the Associated Press in October 1997, Kreutzer stated "For every one like me who actually did it, there's probably 100 people out there who fantasize about it. I believe that it's inevitable unless they (Army) take some major steps to help their soldiers." This begs the question: What are we doing to help our airmen, civilian employees and family members in the Air Force?

In the planning and management of any venture, each of us must look beyond our internal paradigms. Get out of the box and think. What can we do to prevent these tragedies from happening? Granted, we may not have all the answers, but each of us has the ability to help develop a plan of action to minimize the risk. Managing risk in the safety realm has not historically lent itself to the criminal arena, though with the advent of the OSHA/NIOSH "Workplace Violence" priority campaign, we have crossed that threshold. (OSHA 3148-Guidelines For Preventing Workplace Violence For Health Care And Social Workers; Federal Register#: 61:4029-4067, dates 2 Feb 96, and NIOSH document, Violence in the Workplace-Risk Factors and Prevention Strategies-Current Intelligence Bulletin 57, June 1996.) Ok, so what can we do to proactively address this concern? Let's look at the big picture.

The foremost concern is to recognize overstress. Some stress is good, but overstress is deadly. Most people are exposed to more overstress than they realize. Many of our civilian workers are getting laid off their jobs; some people do not have enough money to pay bills; and some have family problems. Our bodies, however, have a much broader definition of stress. TO OUR BODY, STRESS IS SYNONYMOUS WITH CHANGE. Anything that causes a change in our life causes stress. It doesn't matter if it is a "good" change, or a "bad" change, they are both stress.

Even IMAGINED CHANGE is stress (An imagined change is what we call "worrying"). If we fear that we will not have enough money to buy food—that is stress. If we worry about a future operational tasking—that is stress. If we think that we may receive a promotion at work—that is also stress (even though this would be a good change). Add the myriad of things that occur to our families and friends that personally affect us, whether the event is good or bad, and we can see that any real or imagined change in our lives is stressful. Now take this information and think about all the people in our homes, in our offices, in the unit, on the base, and so on. What a huge dilemma! What overstress!! So what do we do about it?

First we must open the lines of communication. These stressors did not happen overnight. They will not be cured by a supervisor or commander screaming "Get back to work!" or a parent scolding a child for not doing homework. To be successful, stress minimization and violence prevention efforts must have commitment from top management and must involve supervisors, workers and union representatives (and at home must involve ALL family members). Commitment and involvement by management are essential to provide the organizational resources, along with the motivating forces, necessary to deal effectively with this risk. Workers should be involved, both individually and collectively, through participation in worksite assessment, assisting in the development of clear effective procedures and by identifying existing and potential hazards.

To accomplish this, each unit (and eventually each family) must develop a Needs Evaluation Team or NET. It should be the responsibility of the NET to gather or "catch" all the concerns encountered by all members. This can be in the form of a questionnaire or open survey, whereby all personnel are encouraged to provide input on the existing stress climate, without any real or perceived repercussions resulting from this input. The NET should collect all inputs, collate those that are the same (but leaving none out) and send them back out to coworkers for prioritization. Once they are returned, the NET should rank

order them, using a Preliminary Hazard Analysis, and then use other Operational Risk Management tools to identify those areas that could potentially lead to overstress and possibly escalate to violence.

Worker knowledge and experience should be used at every level of this process and incorporated into any written Risk Control Measures for management to evaluate. Those areas with far-reaching impact should be crosstelled through all organizational levels to assist everyone, while others may lend themselves only to local implementation. A Workplace Violence Awareness and Prevention Plan must also be established in order to minimize injury to our personnel in the event proactive measures are not good enough (check out OSHA's web site, http://www.osha-slc.gov/SLTC/Workplace Violence/index.html to help develop this plan). A comprehensive conflict resolution program to help people deal with their problems peacefully should also be established, in concert with the proper military and community agencies. All of these recommendations must be put in place to meet the needs of our people with respect to mission accomplishment.

Therein lies the key. Many "leaders" see only the mission, when in fact the mission is inherently our people. For without them planes do not fly, Base Entry Control Points are left unprotected, and personnel do not get fed. People. The ones who are overstressed with varying work schedules, personal concerns, and high-ops tempos. The same people who may injure innocent victims because others failed to act on the indicators that lead to violence (Remember Sgt. Kreutzer?). People who ask for a day off to mentally unwind, only to be told by a supervisor, who didn't even bother to look at the work schedule, that time off was unacceptable. People whom we work with daily, rely on constantly, and ask immense favors of routinely, are the same people who accomplish the mission. As Air Force professionals, do not shun the opportunity to help and protect them, for in doing so, we accomplish our mission of minimizing workplace violence. We can then answer positively when people ask us—***ARE WE SAFE?***

The Barren Tree

Once there was life
A laughter, a song
Then silence entered as alcohol came along
Just one sip, no maybe two
Let's have another, not many, a few

But the day was long
Heck what could go wrong?
So another sloshed into my throat
Then the moment came, as other folks went
My head very cloudy, my money all spent

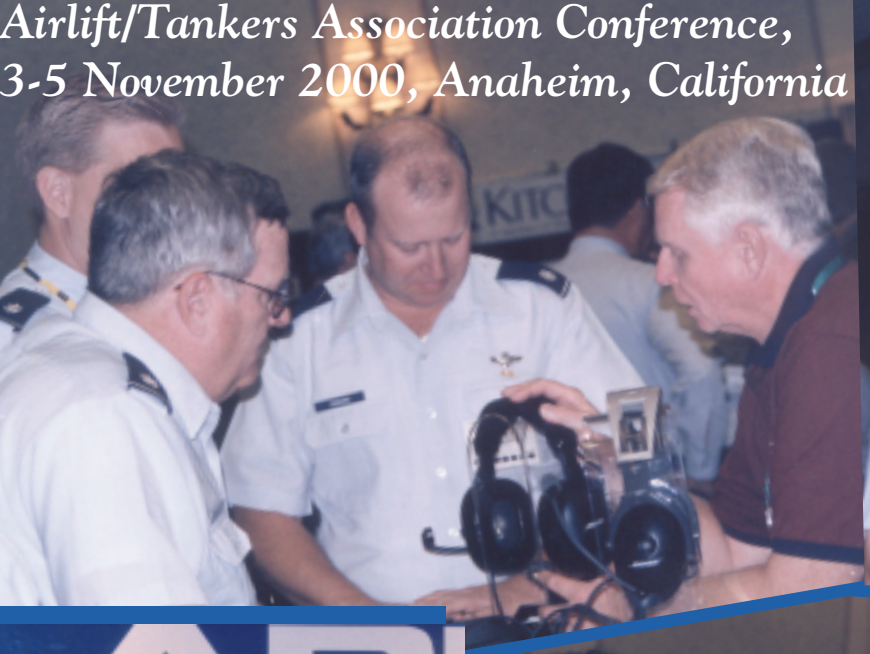
But I was determined to party all night
Forgetting my buddies who tried with their might
To steal away my keys, as I drove out of sight
Yes a laughter, a song, but not for me
Instead I lie buried under the Barren Tree.

The Tree of Life
Once there was a sadness
A silence, such gloom
Alcohol had come to envelop the room
It came like a shadow and offered a tip

A toast to merriment, just take a sip
Stop! said my pal, remember what was told
Winds are a'changing, time to be bold
Offer alternatives, provide some food
Spread clean sobriety to alter the mood

As revelry goes on into the night
We'll pause in wonder and such delight
For the gloom that once blinded my sight
Is cast aside with our combined might
Proving we can silence the Reaper's scythe
And share friendships by the Tree of Life.

Airlift/Tankers Association Conference, 3-5 November 2000, Anaheim, California

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LOCK OUT TAG OUT

by SSgt Bart Craven
319th Air Refueling Wing Safety Office

Lock Out Tag Out refers to the placement of locks or tags on energy-isolating devices. This method is used to protect employees from hazardous energy releases. Employees such as laborers, miners, airmen and electricians are just some of the workers exposed to hazardous energy releases. Only recently has the working force emerged as a potent voice in the protection against the release of hazardous energy. Below are the basic program management tools we use to prevent hazardous energy releases.

RISK VERSUS BENEFITS
MACHINE + POWER = WORK + HAZARDS

Lockout/Tagout Program

In the ongoing process to limit personal injury associated with equipment repair and maintenance, it's every organization's primary objective to make repairs to equipment in a safe and proper manner. The guidelines and procedures outlined here have been developed to ensure that a machine or piece of equipment is isolated from all potentially hazardous energy sources before servicing is performed.

Purpose

The purpose of the Lockout/Tagout Program is to assure compliance with all applicable OSHA and AFOSH regulations and limit the number of accidents and losses associated with servicing and maintenance activities.

Objectives

The objectives of the Lockout/Tagout Program include:

- Ensure specific lockout/tagout procedures are developed for all pieces of equipment and machinery in which the unexpected energization, start up or release of stored energy could cause injury to employees.
- Ensure "Affected employees" recognize the various types of equipment used by "Authorized employees" and understand the use and purpose of lockout/tagout equipment.
- Ensure that "Authorized employees" are properly trained and implement the lockout/tagout system according to

TAG OUT

developed procedures.

- Ensure only authorized employees lockout or tagout machines or equipment.
- Ensure every new or transferred employee, and any other employee whose work operations may be in the area, are instructed in the purpose and use of lockout/tagout procedures.
- Ensure contracting employees are given correct and proper notification of required lockout/tagout procedures used by their orqanization and that any contracting company operating within that organization coordinates and adheres to these guidelines.

Defining: Affected Employee

An employee whose job requires him/her to operate or use a machines or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Defining: Authorized Employee

A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment.

Application

This program applies to the control of hazardous energy during servicing and/or maintenance of machines (drills, metal grinders, sheet metal presses and other energy driven equipment).

Servicing and/or maintenance which takes place during normal machine operations is covered by this process if:

- An employee is required to remove or bypass a guard or other safety device;
- An employee is required to place any part of their body into an area, on a machine or piece of equipment where work is actually performed, upon the material being processed (point of operation), or where an associated danger zone exists during a machine's operating cycle.

Regulations/Requirements

Requirements and regulations pertaining to Lockout/Tagout are found in OSHA CFR 1910.147 and AFOSH 91-45.

Responsible Parties

(Functional Managers, Section Chiefs, Supervisors, Employees, Wing Safety Office)

Functional Mangers

Functional mangers are responsible for developing the written lockout/tagout program and ensuring that training is scheduled. They serve as the first contact for issues concerning the departmental lockout/tagout program.

Section Chiefs/Supervisors

The section chiefs/ supervisors will develop written equipment specific procedures and review the proficiency of their subordinates in following developed procedures. The area supervisor will also be responsible for following emergency procedures for lock and tag removal in the absence of the employee who attached the lock and tag.

Authorized Employees

Authorized employees are responsible for locking and tagging out equipment and machinery in accordance with established procedures. They are also responsible for notifying "affected employees" before these procedures are implemented and when the equipment is placed back into service.

Affected Employees

Affected employees are responsible for recognizing the various types of lockout/tagout equipment used by authorized employees and ensuring that this equipment is not tampered with and is only removed by the authorized employee.

Wing Safety Office

Your wing safety office is responsible for auditing departments annually that have implemented lockout/ tagout programs. Upon request, they'll help you develop equipment-specific lockout/ tagout procedures, train affected and authorized employees, and assist with lockout/tagout equipment selection.

Training

Authorized Employees

Authorized employees will receive training in the recognition, magnitude and types of hazardous energy sources found in their organization. These include, but are not limited to, electrical, mechanical, hydraulic, pneumatic, chemical, and thermal. In addition, authorized employees will receive training on the methods and means necessary for isolating and controlling these hazardous energy sources.

Authorized employees will also be trained in the use and limitation of tags. The following topics will be addressed:

- Tags are essentially warning devices and donít provide physical restraint that is afforded by the use of a lock;
- Once a tag is attached to a piece of equipment it is not to be removed by anyone except the authorized employee attaching the tag and is never to be ignored, bypassed or otherwise defeated;
- Tags must be legible and understandable by all authorized employees, and all other employees, who work or may work, in the area;
- Tags will only be attached to equipment using a white nylon tie, and must be securely attached to energy isolating devices so that they will not be inadvertently or accidentally detached during use;
- Tags may evoke a false sense of security and their meaning and limitations need to be thoroughly understood.

Affected Employees

In the Air Force, "Affected Employees" are considered to be persons directly operating a machine or piece of equipment. These employees will be instructed in the purpose and use of the hazardous energy control procedures used by authorized employees, and about the prohibition of attempts to restart or reenergize machines or equipment that are locked/tagged out.

Affected employees will also be trained in the use and limitation of tags. The following topics will be addressed:

- Tags are essentially warning devices and donít provide physical restraint that is afforded by the use of a lock;
- Once a tag is attached to a

piece of equipment it is not to be removed by anyone except the authorized employee who attached the tag and is never to be ignored, bypassed or otherwise defeated;

- Tags must be legible and understandable by all authorized employees, and all other employees who work, or may work, in the area;
- Tags will only be attached to equipment using a white nylon tie, and must be securely to withstand at least fifty pounds of pressure attached to energy-isolating devices so that they will not be inadvertently or accidentally detached during use;
- Tags may evoke a false sense of security and their meaning and limitations need to be thoroughly understood.

Training Frequency

All affected and authorized employees will be trained at least annually. In addition, retraining will be provided whenever there is a change in their job assignments, a change in the equipment or process that may present a new hazard, or when there is a change in energy control procedures. Additional training will also be conducted whenever a periodic inspection reveals that there are deviations from or inadequacies in the employee's knowledge or use of the established energy control procedures. Training will reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

Random/Periodic Evaluations

The lockout/tagout program will be randomly/periodically evaluated by the functional managers. Random/periodic evaluations will be made to ensure that lockout/tagout procedures are being effectively and properly implemented. Each employee who has been issued locks and tags will be evaluated at least annually. Once an evaluation has been completed, the employee performance will be noted on the AF Forms 55. Employees will be retrained if deficiencies are noted.

Standard Lockout/Tagout Devices Used

The following standardized equipment is used for lockout/tagout procedures:

- Master hasp for multiple lockout/tagout applications: [color/description]

Key type locks used by Authorized employees to lockout equipment: [brand of lock] [shackle size of lock] [color of lock] [part number of lock]

- Tags will be used in combination with locks, or separately, as established procedures demand. Tags will only be attached using nylon ties. Nylon ties will not be reused. Tags will have the employee's name written on the tag in permanent black marker and able to withstand inclement weather. [statement printed on tag] [organization that the ordered tags to be placed]

Proper Use of Equipment

Lockout/Tagout devices will not be used for any purpose other than controlling hazardous energy. It is improper and against the rules to use lockout/tagout equipment to lock lockers, tool boxes, etc.

Most commonly, all equipment will be locked and tagged in order to control any hazardous energy sources. If an energy-isolating device is not capable of being locked out, a tagout system will be utilized and documented procedures will demonstrate that a level of safety is achieved equivalent to that obtained with the full lockout/tagout system. Additional means will be considered as part of the written demonstration such as: the removal of an isolating circuit element, blocking of a control switch, opening of an extra disconnecting device, or the removal of a valve handle to reduce the likelihood of inadvertent energization and blocking/bleeding valves. Also skillets (pancakes) can be placed in pipelines joints to prevent the flow of liquids or gases.

General Energy Control Procedures

OSHA and AFOSH regulations state that it isn't necessary to document a specific procedure for a particular machine or piece of

equipment when all of the following conditions are met:

- The machine has no potential for stored or residual energy or re-accumulation of stored energy after shut down which could injure employees.
- The machine or equipment has a single energy source which can readily be identified and isolated.
- The isolation and locking out of that energy source will completely deengerize and deactivate the machine or equipment.
- The machine or equipment is isolated from that energy source and locked out during servicing or maintenance.
- A single lockout device will achieve a locked-out condition.
- The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance.
- The servicing and maintenance does not create hazards for other employees.
- No accident involving the unexpected activation or re-energization of the machine or equipment during servicing or maintenance can occur.

A general procedure for the lockout/tagout of equipment that meets the above requirements is listed in OSHA CFR 1910.147 and AFOSH 91-45. This procedure is established to provide some guidelines for equipment and machinery that do not need to have a specific and separate written lockout/tagout procedure. In order to exceed OSHA requirements, every effort will be made to document specific procedures for ALL equipment used by any organization.

General Procedure for Equipment/Machinery Not Requiring a Specific Procedure

STEP 1: Notify all affected employees that lockout/tagout is going to be utilized and the reason.

STEP 2: If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.).

STEP 3: Operate the switch, valve, or other energy isolating devices so that the equipment is isolated from its energy source.

STEP 4: Lockout/Tagout the energy isolating devices.

STEP 5: After ensuring that no personnel are exposed, and as a check on having disconnected the energy source, operate the push button or other normal operating control to make sure the equipment will not operate.

STEP 6: Return the operating control to the "neutral" or "off" position after the test. The equipment is now locked/tagged out.

General Procedures for Multiple Employee Lockout/Tagout

Employees may at times be required to repair/service equipment that requires the expertise of more than one person. For these applications, a Multiple Employee Lockout procedure will be used. The following steps will be followed to properly lockout/tagout equipment that has more than one employee performing maintenance and service:

STEP 1: One authorized employee will place all the required locks/tags on the equipment/machinery being repaired or serviced. Locks and tags will be placed on the equipment by following a written procedure developed for the particular piece of equipment.

STEP 2: All keys are then placed into a lock box by the one authorized employee.

STEP 3: A multi-lock hasp is then placed on the lock box and all other employees performing maintenance/service on the piece of equipment lockout/tagout the box of keys.

STEP 4: If maintenance/service of the equipment will occur on different shifts and with different employees, the employees on the leaving shift will meet with the employees on the incoming shift to change out locks. A new authorized employee will be designated for the new shift and will be responsible for the locks, tags and keys that are directly on the equipment.

STEP 5: Once an employee has completed their work on the locked out piece of equipment, they will remove their lock and tag from the group lockout box.

STEP 6: Once all employees have removed their locks and tags from the group lockout box, the authorized employee that placed the locks on the piece of equipment will be able to access their key and can proceed to unlock the entire piece of equipment.

General Procedures for Lock or Tag Removal

Each lockout or tagout device will be removed from each energy isolating source by the employee who put the device on the equipment. EXCEPTION: When the employee who applied the lock or tag is not available to remove it, the following procedures will be followed:

STEP 1: Supervisor will be contacted and notified of the situation.

STEP 2: Verification that the employee who applied the lock or tag is not at work.

STEP 3: An attempt will be made to phone the employee who applied the lock or tag. If telephone contact is made with the employee, they will be instructed that their lock or tag needs to be removed and that they must report to work to remove the lock or tag. If telephone contact is not made, the course of action will continue to Step 4.

STEP 4: Supervisor will inspect the work area to ensure that non-essential items have been removed, machine components are operationally intact, all employees have been safely positioned or removed, and that affected employees in the area have been notified that the lock and tag are being removed.

STEP 5: No employee may remove a lock or tag belonging to another employee or contractor, unless specifically directed by the Functional Manager, Supervisor or Wing Safety.

STEP 6: Before the employee who applied the lock or tag that has been removed returns to work, they will be retrained on proper lockout/tagout procedures, instructed on the situation that arose and then steps taken to remove the lock and tag.

NOTE: AN ANNUAL REVIEW OF THE EMPLOYEE'S 55'S MUST BE CONDUCTED AND ANNOTATED ON THE AIR FORCE FORM 55'S. BY LISTING THE DATE CONDUCTED/EMPLOYEE'S NAME/EQUIPMENT USED/COMMENTS PROVIDED/TRAINING ACCOMPLISHED AND ANY NEW PROCEDURES.

As you can see there are numerous variables to Lock Out/Tag Out procedures. Man, Machine and Media are the main players in this operation. As we all know man is the main player that is most difficult to change but this can be accomplished by in-depth initial education and training along annual refresher training. If you carefully follow the steps listed above you and your workers will be protected from the chance of hazardous energy release mishaps within your workcenters.

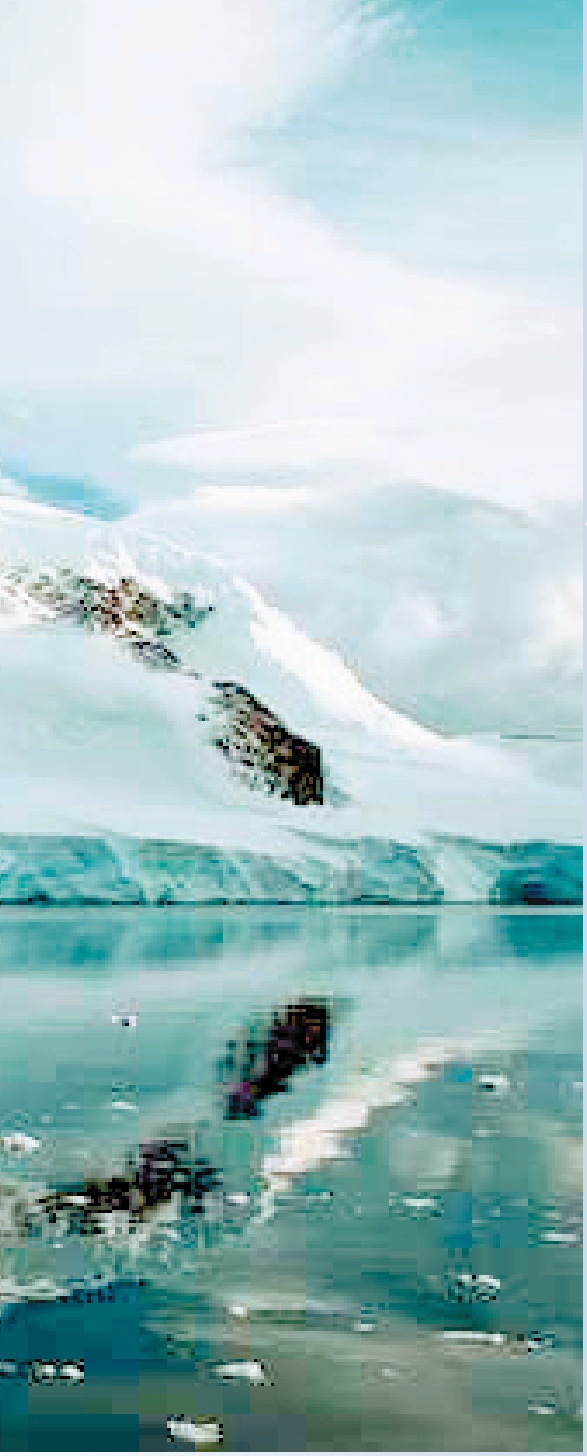
A Different Kind of War

By Maj Christopher T.C. Miller
Advanced Airlift Tactics Training Center, St. Joseph, MO

I had the unique privilege of serving with the 109th Airlift Wing, New York Air National Guard, during their annual deployment to Antarctica for Operation Deep Freeze. Anticipating a long, tedious deployment with little in the way of excitement, I was both pleasantly and painfully surprised by the intensity of the mission and the opportunities available for fun.

From a tactical perspective, there was very little in the Antarctic-flying environment I could relate to my primary duties at the Advanced Airlift Tactics Training Center (AATTC). However, looking back on my experiences from a broader perspective, I realize that much of the 109th's performance in this demanding environment is applicable to what we teach at the AATTC.

"It's a different kind of flying," Lt Col Paul Sheppard told me over the phone when I first volunteered to go. "I think you'll have a good



time, but it'll open your eyes a little."

Little did I know...

The kickoff point for Operation Deep Freeze was Det 13 (ANGRC) at Christchurch, New Zealand. I was issued my extreme cold weather gear and given my first insight into the actual operations on the icecap. Twice, my flight to McMurdo Station was called off for winds/weather, an occurrence not uncommon in this part of the world. Since there are almost no navaids, and no alternates available, allowable cabin loads (ACL), along with fuel loads are figured to the proverbial "gnat's ass." In addition, crews operate under very restrictive weather requirements to ensure mission success in a very demanding environment. Fortunately, both my flights were called off on the ground, and I was not subjected to the agony of the dreaded 'boomerang flight.'

"The navigator figures out the farthest south the plane can fly and still return to Christchurch with 8500 overhead," explained Maj Ernie Grey, a senior navigator with the 109th. "If the arrival weather forecast doesn't meet certain minimums when the crew calls from that point, the airplane 'boomerangs' and returns to Christchurch."

Finally, packed in with about two dozen other passengers and four pallets of cargo on a 155,000 pound aircraft, we got airborne for the 8-1/2 hour flight to McMurdo.

McMurdo Station is a National Science Foundation (NSF) post on Ross Island located at the edge of the permanent ice shelf in McMurdo Sound. The ice runway at McMurdo is on the 'annual' ice about 3 miles offshore, and is designed for airplanes with wheels. When the annual ice begins to break up (early December), operations are moved to Williams Field (Willie) on the permanent ice, about a 30 minute drive inland. Willie is cut into the thick layer of snow that has accumulated since 1965. It is usable only by aircraft equipped with skis. A third airfield, Pegasus, is a low-maintenance, hard to get to, unmanned airfield on the far side of the permanent ice that had been cleared for use by larger, wheeled aircraft such as the C-141, C-5, and C-17. The active airfield is equipped with a portable TACAN and a PAR, but the primary instrument approach used is the navigator airborne radar approach (ARA). Operations are further complicated by the fact that all navigation, including instrument approaches, are done in grid due to the high latitudes.

I rode along as an auxiliary crewmember (ACM) on a flight to the South Pole - one of the more common missions flown by the 109th. The first thing I learned was that all aircraft depart McMurdo for the Pole weighing 155,000 pounds. Whatever weight is not utilized in ACL is used for tankering fuel. I thought this was a little odd until I learned that the excess fuel is downloaded into bladders at the destination for use in local machinery and for twin otters transiting the continent.

"By the time a gallon of gas reaches the Pole, it's worth about $35," Lt Col Sheppard explains. My second surprise came on descent into South Pole Station when the aircrew started running a slightly modified version of the descent checklist which included donning oxygen masks. As I was donning my own, I heard the flight engineer and the navigator discussing the weather - the pressure altitude and the Pole that day was 10,300 MSL with an altimeter setting of 28.30. I learned that there is nearly 2 miles of snow and ice accumulated over the Pole (the actual terrain is estimated between 50 and 60 feet MSL), and it had taken over 4000 years to build up. The temperature that day was -33 degrees C... a warm day according to the crew.

What was really impressive though, was the level of crew coordination I saw on the

approach to the Pole. On the 3 hour flight to the pole, we periodically passed position reports to MAC Center on HF radio. There was a TACAN at the Pole, but it was NOTAM'd unreliable. Radar is nonexistent. The primary approach is the ARA, which the navigator commences as far out as 50 miles. In order to land on skis without overstressing the gear, the descent rate is about half that of a normal approach. Lack of terrain features, colors, and a discernible horizon make it difficult for the pilot to have any real depth perception. Once lowered, the skis have to be visually checked; so the loadmaster pulls off the flight deck ladder to view the nose ski. Throughout the entire descent profile, as the navigator called out headings and altitudes, the copilot essentially flies the plane gently onto the ground. Of course, once you're on the ground with skis, nose-wheel steering is extremely limited, and brakes are useless. Consequently, all steering and stopping is done using the throttles.

On the ground, concurrent operations are used, and everyone has a job. The loadmasters offload and onload cargo. The flight engineer mans the fueling panel outside. The navigator acts as a safety observer. The copilot runs the fuel panel inside. The pilot ensures that the plane doesn't move - it's standard procedure that engines stay running at the downrange locations in order to avoid getting stuck. Typical ground time at the Pole is 45 minutes. This crew beat it by half, getting airborne a mere 22 minutes after touchdown.

"With a good crew, 20 to 25 minutes is pretty much the norm," said Maj Steve Fifield, the pilot. "The longer we sit, the less fuel is available for download."

On the way home, with my mind on the 2-mile deep snow and ice, I asked about the elevation of the Trans-Antarctic Mountain range below. "They're about 12 to 15 thousand feet," said Capt Jim Palmer, the navigator. "But remember - you're only looking at the tops."

As Antarctic missions go, the Pole is pretty 'vanilla.' Other sites include Byrd Camp - the longest continuously-manned camp on the continent, Midpoint Charlie - a midway refueling stop for twin otters transiting the ice, and numerous other NSF and U.S. Geological Survey (USGS) research stations. All of these camps have several things in common: First, there are no navaids available at any of the locations. Second, they are minimally manned by people who rely solely on airlift for their very survival. Third, the skiways are these locations are not the well groomed, smooth-snow areas found at Willie or the Pole. Depending on the weather, winds, and equipment availability, these sites can have anything from a halfway decent skiway to virgin snow for landing. Each condition provides the aircrew with unique considerations for their operations.

Consider for a moment, a trip to Byrd Camp on a relatively average day. The winds at Byrd had been steady at 15 to 20 knots for about 3 days. Additionally, fog and low ceilings made for poor visibility within 100 miles of the camp. The navigator lined up his ARA to provide an initial pass over the skiway for a safety check, then a box pattern to final. Throughout the approach the crew coordination was again phenomenal, and the ground operations went as smoothly as I had seen on "good weather" missions. When it came time for departure, however, enough loose snow had blown across the skiway, that we were unable to get up enough speed to liftoff." There are several options at this point," explained Capt Dave Panzera, the AC. "We can download fuel and/or cargo to make ourselves lighter. We can load to an aft center of gravity (CG) in order to help get the nose ski off the ground sooner. We can drive up and down the skiway to try to pack down the snow. Or we can shut down and spend the night," (an option graciously declined by the rest of the crew, as we were shifting cargo to a CG of about 29 percent, and transiting the skiway for the third takeoff attempt).

The greatest example of defeating the "threat" came on my last day in theater. There is an Antarctic phenomenon called a "herbie." This is a sudden snowstorm that appears out of nowhere, and causes whiteout conditions - a complete blending of the sky and ground to the point where nothing is visible and there is no horizon. When this happens, there are few options: holding until conditions improve, or landing in the "whiteout area" - a defined area that has been surveyed free of obstructions for 0/0 landings. On this day we were flying instrument approaches to get a couple of crewmembers recurrent before loading up and proceeding on our mission when we found ourselves on initial in the middle of a "herbie." Unable to gain sight of the airfield, and having minimal fuel onboard, the pilot elected to land in the whiteout area. Once again, the synergism among the crew was flawless, with every crewmember contributing to the approach. In effect, an "open snow" landing in 0/0 is treated like an emergency landing.

"It's like ditching the airplane on land," said Maj Joel Mayron, the AC. Maj Mayron had previously

flown in Antarctica as a Navy pilot with VXE-6, and probably had more snow landings than anyone in the air that day. "No matter how many times you practice, it's going to shake you up when you have to do it for real."

The surprise came about 8 minutes later. After settling roughly into the open snow, there was no letdown on the part of any of the crew. Here we were 5.5 miles from another human being, in whiteout conditions, with minimal fuel, and no one broke stride for a second. The navigator gave the pilot a heading to taxi, and began searching for runway markers on the radarscope. The copilot continued to try to establish communications with the tower. The flight engineer monitored fuel flows, ground speed, and engine instruments, and every other crewmember was at a window clearing for obstructions. At several points, I could not even make out the number four engine looking out the skiway, all systems normal - a testament to the level of concentration, expertise, and coordination I had seen during my entire tour.

"It's a different kind of war - a different threat," said Maj Charlie Anderson, another Navy-turned-Air Guard pilot. "They may not be shooting missiles and bullets, but the weather and the terrain will kill you just as quickly, and with less remorse."

"These are the most CRM-conscious crews in the Air Force," intoned Lt Col Karen Love, a command pilot with the 109th. "I've flown tankers and herks in several units, and I've learned to really appreciate the amount of effort these crewmembers put into safety and mission success. This is the most demanding environment any of us fly in, and no one lets down for a moment here."

Major Chris Miller was commissioned through ROTC in 1982, and was a distinguished graduate of Undergraduate Navigator Training at Mather AFB in 1983. While on active duty, he served as a C-130E AWADA navigator at Rhein-Main AB, Germany, and Pope AFB, NC, as well as a flight examiner and as Chief of Theater Airlift Combat Employment at HQ AFRES/DOC. He became a combat tactics instructor at the AATTC. He has over 4000 hours in various models of the C-130, and has participated in contingency operations in eastern Africa, Panama, Saudi Arabia, Kuwait, and the former Republic of Yugoslavia.

2000 Air Mobility Command Annual Safety Award Winners

Safety Officer Of The Year
Capt Michael T. Andrews
62 Airlift Wing McChord AFB, Washington

Safety Officer Of The Year - Additional Duty
Capt Mark A. Baroni
22 Operations Group McConnell AFB, Kansas

Flight Safety NCO Of The Year
MSgt Dennis J. Caskey
92 Air Refueling Wing Fairchild AFB, Washington

Flight Safety NCO Of The Year - Additional Duty
TSgt Shawn Meehan
22 Airlift Squadron McConnell AFB, Kansas

AMC Distinguished Flying Unit Safety Award
92 Air Refueling Wing
Fairchild AFB, Washington

AMC Chief Of Safety Aircrew Of Distinction Award
Crew of "Bass 01"
2 Air Refueling Squadron McGuire AFB, New Jersey

Distinguished Ground Safety Award - AMC Wing
305 Air Mobility Wing
McGuire AFB, New Jersey

Distinguished Ground Safety Award - AMC Group
19 Air Refueling Group
Robins AFB, Georgia

Best En Route Support Unit Safety
623 Air Mobility Support Squadron
Ramstein AB

Ground Safety NCO Of The Year
TSgt Oland T. Whitecotton
627 Air Mobility Support Squadron RAF Mildenhall

Ground Safety NCO Of The Year - Additional Duty
SRA Russell L. Campbell
660 AGS Travis AFB, California

Distinguished Weapons Safety Award
62 Airlift Wing
McChord AFB, Washington

Weapons Safety NCO Of The Year
MSgt Erith A. Hawkins II
62 Airlift Wing McChord AFB, Washington

Weapons Safety NCO Of The Year - Additional Duty
TSgt Theodore E. Anderson
2 SS Fairchild AFB, Washington

Safety Civilian Of The Year
Mrs. Bernice M. Padilla
22 Air Refueling Wing McConnell AFB, Kansas

Operational Risk Management Achievement
62 Airlift Wing
McChord AFB, Washington

AMC Safety Office Of The Year
22 Air Refueling Wing
McConnell AFB, Kansas

Welcome

Schatz Publishing

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Cold Weather Safety

by John Schatz, Safety Professional

Brrrr! There's a nip in the air today and you know what that means: it's time to put on those winter clothes, have a snowball fight, drink hot chocolate and warm up by the fireplace. Winter offers the opportunity to enjoy many fun events, but it does have its dangers. With winter comes many hazards, including frigid temperatures, icy or snow packed roads and winter storms. According to the National Weather Service, more people nationwide die in winter storms and cold weather than in tornadoes, hurricanes or lightning. Awareness and preparation is key to surviving the winter perils. This article will explore cold weather injuries and illnesses, and some of the things you can do to prevent Jack Frost from doing more than nipping at your nose.

Wintertime Lingo

During the course of a typical winter, we hear many different terms mentioned by our local news stations, TV and radio meteorologists. Some terms are familiar but others are less common. They often discuss the types of precipitation and pass on information that the National Weather Service provides in the way of watches and warnings. Listed below are a few of the most common terms:

Freezing Rain

Freezing rain is caused by rain droplets that freeze on contact with the ground or objects near the ground, leaving a frozen glaze. The temperature of the ground must be below freezing, and the rain droplets must exist in a liquid state at temperatures below freezing for freezing rain to occur.

Freezing rain can glaze roadways with ice, causing extremely hazardous driving conditions. Bridges and overpasses typically freeze more quickly than other surfaces and are particularly dangerous.

Sleet

Sleet falls to earth as ice pellets. These ice pellets are formed as snowflakes melt into raindrops as they pass through a thin layer of above-freezing air. The rain drops then refreeze into particles of ice as they pass through a sub-freezing layer of air near the ground.

Snow

Snow is frozen precipitation in the form of six-sided crystals. Snow is produced when water vapor is deposited directly into airborne particles as ice crystals, which remain frozen as they fall. When temperatures remain below freezing from the cloud to the ground, snow results.

Blowing Snow - can be snow that has already fallen and is blown from the ground by the wind, or snow that is blown as it falls.

Heavy Snow - is snow that is falling and reducing visibility to a quarter of a mile or less.

Blizzards - occur when blowing snow and/or falling snow combines with sustained winds of 35 miles per hour or greater, reducing visibility to a quarter of a mile or less for at least 3 hours.

Winter Storm Watch - significant winter weather (i.e. heavy snow, heavy sleet, significant freezing rain, or a combination of events) is expected, but not imminent, for the watch area; provides 12 to 36 hours notice of the possibility of severe winter weather.

Winter Storm Warning - a significant winter storm or hazardous winter weather is occurring, imminent, or likely, and is a threat to life and property.

Winter Weather Advisory - when a significant winter storm or hazardous winter weather is occurring or imminent.

Wintertime Illnesses and Injuries

We often think of winter as the cold and flu season, but there are other maladies that occur during this time. Probably the two most common and most serious are frostbite and hypothermia.

Frostbite

Frostbite is damage to body tissue caused by that tissue being frozen. Frostbite causes a loss of feeling and a white or pale appearance in extremities such as fingers, toes, ear lobes, or the tip of the nose. If symptoms are detected, medical help should be sought immediately. If you must wait for help, slowly rewarm the affected areas. However, if the person is also showing signs of hypothermia, warm the body core before the extremities.

Hypothermia

Hypothermia is a condition caused by the body's inability to maintain its normal temperature. Warning signs include uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion. One way to identify hypothermia is to take the person's temperature. If it is below 95°F (35C), immediately seek medical care. If medical care is not available, begin warming the person slowly. Warm the body core first. If needed, use your own body heat to

help. Get the person into dry clothing, and wrap them in a warm blanket covering the head and neck. Do not give the person alcohol, drugs, coffee, or any hot beverage or food; warm broth is better. Do not warm extremities (arms and legs) first! This drives the cold blood toward the heart and can lead to heart failure.

Besides watching out for hypothermia and frostbite, remember to take it a little easier as well, as heart attacks are more common during the winter months. The combination of cold (which stresses the body) and physical exertion is the reason for the rise in heart related problems. Be sure to watch your step, too, when walking as sidewalks and steps can become ice or snow covered, making them very slick and treacherous. Also, the same ice and snow that are making the sidewalks slick are also making the roadways slick, so remember to put good defensive driving techniques into practice during this time.

Wind Chill Chart

WIND (mph)	Temperature (° F)												
	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25
5	32	27	22	16	11	6	0	-5	-10	-15	-21	-26	-31
10	22	16	10	3	-3	-9	-15	-22	-27	-34	-40	-46	-52
15	16	9	2	-5	-11	-18	-25	-31	-38	-45	-51	-58	-65
20	12	4	-3	-10	-17	-24	-31	-39	-46	-53	-60	-67	-74
25	8	1	-7	-15	-22	-29	-36	-44	-51	-59	-66	-74	-81
30	6	-2	-10	-18	-25	-33	-41	-49	-56	-64	-71	-79	-86
35	4	-4	-12	-20	-27	-35	-43	-52	-58	-67	-74	-82	-92
40	3	-5	-13	-21	-29	-37	-45	-53	-60	-69	-76	-84	-92

Prevention A Big Key

The adage "an ounce of prevention is worth a pound of cure" is also true for winter weather safety. Listed below are some winter safety prevention tips:

Check the forecast before going outside or leaving home to find out what the ambient temperature is going to be and how fast the wind is going to blow. These two factors in combination can greatly affect how we should dress and how long we should stay outdoors. In fact, a wind-chill equivalent index was created that shows when these two forces of nature combine they can make it seem much colder to exposed skin.

Wind speeds above 40 mph have little additional chilling affect. In using the table above, values of wind chill below -10° F are considered bitterly cold. Values of wind chill below -20° F are extremely cold — human flesh will begin to freeze within one minute!

Make sure you know not only the actual temperature, but the wind-chill equivalent as well and then dress appropriately. Wear loose fitting, warm, light-weight clothing in several layers. Trapped air insulates, and layers can be removed to avoid perspiration and subsequent chill. The outer garments should be tightly woven, water repellent and hooded. Remember to wear a hat as half of body heat loss comes from the head. Cover your hands with mittens or gloves. Wear shoes/boots that are water repellent and insulated. Also make sure the shoes/boots have a good tread for gripping in snowy conditions. In extreme cold conditions it is wise cover your mouth to protect your lungs. Besides dressing appropriately, remember to be aware of how long you have been outside. It is a good idea to take frequent warm up breaks, so while you're back inside the warm area, drink a warm beverage as well. Stay away from diuretics such as coffee — they tend to remove fluids from your body and constrict blood vessels.

If you find yourself traveling the streets and highways, prevention is key. Make sure your car is in good working order. Look at your tires and make sure they have the proper tread for the conditions in which you may be driving. Add chains to your tires or have ìall terrainî tires placed on your vehicle. Create an emergency supply kit. The Red Cross recommends that the kit contain:

- •Battery jumper cables
- •First aid kit
- •Shovel
- •Basic tool kit (pliers, screwdriver, adjustable wrench) and pocket knife
- •Sleeping bags or blankets
- •Extra winter clothing (caps, socks, mittens, and boots)
- •Food supply of high-calorie, non-perishables (canned nuts, candy, nutrition bars)
- •Windshield scraper
- •Flashlight and transistor radio with extra batteries for each
- •Bag of sand
- •Brightly colored cloth
- •Cellular phone

More winter weather safety is information is available at organizations such as the Red Cross and AAA. Their web sites are listed below:

http://www.redcross.org/disaster/safety/winter.html

http://www.aaa.com

Again, wintertime is a great time of year and with a little planning and alertness you can avoid its perils. So go out and start building that snowman safely!

Wayne Glowacki

Gimli Glider

by Wade H. Nelson

If a Boeing 767 runs out of fuel at 41,000 feet, what do you have?

Answer: A 132 ton glider with a sink rate of over 2000 fpm and marginally enough hydraulic pressure to control the ailerons, elevator, and rudder. Put veteran pilots Bob Pearson and cool-as-a-cucumber Maurice Quintal in the cockpit and you've got the unbelievable but true story of Air Canada Flight 143-known ever since as the Gimli Glider.

Flight 143's problems began on the ground in Montreal. A computer known as the "Fuel Quantity Information System

Processor" or "FQIS" manages the entire 767 fuel loading process. The FQIS controls all of the fuel pumps and drives all the 767's fuel gauges. Little is left for the crew and refuelers to do but hook up the hoses and dial in the desired fuel load. But the FQIS was not working properly on Flight 143, later discovered to be due to a poorly soldered sensor. A one-in-a-million sequence of mistakes by Air Canada technicians investigating the problem managed to defeat the redundancy built into the system. This left Aircraft #604 without working fuel gauges.

In order to make their flight from Montreal to Ottawa, and on to Edmonton, Flight 143's maintenance crew resorted to calculating the 767's fuel load using a procedure known as "dripping" the tanks. "Dripping" might be compared to calculating the amount of oil in a car based on the dipstick reading. Among other things, the specific gravity of jet fuel is needed to make the proper drip calculations.

The flight crew had never been trained how to perform the drip calculations.

To be safe they re-ran the numbers three times to be absolutely, positively sure the refuelers hadn't made any mistakes-each time using 1.77 pounds/liter as the specific gravity factor. This factor was written on the refueler's slip and was used on all of the other planes in Air Canada's fleet. The factor the refuelers and the crew should have used on the brand new, all-metric 767 was .8 kg/liter of kerosene.

After a brief hop, Flight 143 landed in Ottawa. To be completely safe, Pearson insisted on having the 767 re-dripped. The refuelers reporting the plane as having 11,430 liters of fuel contained in the two wing tanks.

Pearson and Quintal, again using the same incorrect factor used in Montreal, calculated they had 20,400 kilos of fuel on board. In fact, they left for Ottawa with only 9144 kilos, roughly half what would be needed to reach Edmonton.

Lacking "real" fuel gauges, Quintal and Pearson manually keyed 20,400 into the 767's flight management computer. The flight management computer kept rough track of the amount of fuel remaining by subtracting the amount of fuel burned from the amount (they believed) they had started with. Their fate was now sealed.

According to Pearson, the crew and passengers had just finished dinner when the first warning light came on. Flight 143 was outbound over Red Lake Ontario at 41,000 feet and 469 knots at the time. The 767's "Engine Indicator and Crew Alerting System" (EICAS) beeped four times in quick succession, alerting them to a fuel pressure problem.

"At that point," Pearson says, "We believed

we had a failed fuel pump in the left wing, and switched it off. We also considered the possibility we were having some kind of a computer problem. Our flight management computer showed more than adequate fuel remaining for the duration of the flight. We'd made fuel checks at two waypoints and had no other indications of a fuel shortage."

When a second fuel pressure warning light came on, Pearson felt it was too much of a coincidence and made a decision to divert to Winnipeg. Flight 143 requested an emergency clearance and began a gradual descent to 28,000.

Says Pearson, "Circumstances then began to build fairly rapidly." The other left wing pressure gauge lit up, and the 767's left engine quickly flamed out.

> *"We're not going to make Winnipeg," he told Pearson.*

The crew next tried crossfeeding the tanks. Pearson and Quintal immediately began making preparations for a one engine landing. Then another fuel light lit up. Two minutes later, just as preparations were being completed, the EICAS issued a sharp bong—indicating the complete and total loss of both engines. Says Quintal "It's a sound that Bob and I had never heard before. It's not in the simulator." After the "bong," things got quiet. Real quiet. Starved of fuel, both Pratt & Whitney engines had flamed out.

At 1:21 GMT, the forty million dollar, state-of-the-art Boeing 767 had become a 132 ton glider. The APU, designed to supply electrical and pneumatic power under emergency conditions was no help because it ran off the same fuel tanks as the engines. Approaching 28,000 feet the 767's "Glass Cockpit" went dark. Pilot Bob Pearson was left with a radio and standby instruments, noticeably lacking a vertical speed indicator - the glider pilot's instrument of choice. Hydraulic pressure was falling fast and the plane's controls were quickly becoming inoperative. But the engineers at Boeing had foreseen even this most unlikely of scenarios and provided one last failsafe - the RAT.

The RAT is the Ram Air Turbine, a propeller driven hydraulic pump tucked under the belly of the 767. The RAT can supply just enough hydraulic pressure to move the control surfaces and enable a dead-stick landing. The loss of both engines caused the RAT to automatically drop into the airstream and begin supplying hydraulic pressure.

As Pearson began gliding the big bird, Quintal "got busy" in the manuals looking for procedures for dealing with the loss of both engines. There were none.. Neither he nor Pearson nor any other 767 pilot had ever been trained on this contingency. Pearson reports he was thinking "I wonder how it's all going to turn out." Controllers in Winnipeg began suggesting alternate landing spots, but none of the airports suggested, including Gimli, had the emergency equipment Flight 143 would need for a crash landing. The 767's radar transponder had gone dark as well, leaving controllers in Winnipeg using a cardboard ruler on the radar screen to try and determine the 767's location and rate of descent.

Pearson glided the 767 at 220 knots, his best guess as to the optimum airspeed. There was nothing in the manual about minimum sink - people just didn't glide jet airliners. The windmilling engine fans were creating enormous drag, giving the 767 a sink rate of somewhere between 2000 and 2500 fpm. Copilot Quintal began making glide-slope calculations to see if they'd make Winnipeg. The 767 had lost 5000 feet of altitude over the prior ten nautical (11 statute) miles, giving a glide ratio of approximately 11:1. ATC controllers and Quintal both calculated that Winnipeg was going to be too far a glide — the 767 was sinking too fast. "We're not going to make Winnipeg," he told Pearson. Pearson trusted Quintal, and immediately turned north.

Only Gimli, the site of an abandoned Royal Canadian Air Force Base, twelve miles away, remained as a possible landing spot. It wasn't in Air Canada's equivalent of Jeppensen manuals, but Quintal was familiar with it because he 'd been stationed there in the service. Unknown to him and the controllers in Winnipeg, Runway 32L (left) of Gimli's twin 6800 foot runways had become inactive and was now used for auto racing. A steel guard rail had been installed down most of the southeastern portion of 32L, dividing it into a two lane dragstrip. This was the runway Pearson would ultimately try and land on, courting tragedy of epic proportions.

To say that runway 32L was being used for auto racing that day is perhaps an understatement. The inactive runways had been "carved up" into a variety of racing courses, including the aforementioned dragstrip. Drag races were perhaps the only auto racing event not taking place on July 23rd, 1983 since this was "Family Day" for the Winnipeg Sports Car Club. Go-cart races were being held on one portion of runway 32L, and just past the dragstrip a portion of the runway served as the final straightaway for a road course.

Around the edges of the straightaway were cars, campers, kids, and families in abundance. To land an airplane in the midst of all of this activity was certain disaster.

Pearson and Copilot Quintal turned toward Gimli and continued their steep glide. Flight 143 disappeared below Winnipeg's radar screens, the controllers frantically radioing for information about the number of "souls" on board. Approaching Gimli, Pearson and Quintal made their next discovery:

The RAT didn't supply hydraulic power to the 767's landing gear, flaps, or slats. Pearson ordered a "gravity drop" as Pearson thumbed frantically through the Quick Reference Handbook, or QRH. Quintal soon tossed the QRH aside and hit the button to release the gear door pins. They heard the main gear fall and lock in place. But Quintal only got two green lights, not three. The nose gear, which fell forward against the wind, hadn't gone over center.

Six miles out Pearson began his final approach onto what was formerly RCAFB Gimli. Pearson says his attention was totally concentrated on the airspeed indicator from this point on. Approaching runway 32L he realized he was too high and too fast, and slowed to 180 knots. Lacking divebrakes, he did what any sailplane pilot would do: He crossed the controls and threw the 767 into a vicious sideslip. Slips are normally avoided on commercial flights because of the the buffeting it creates, unnerving many passengers. As he put the plane into a slip some of Flight 143's passengers ended up looking at nothing but blue sky, the others straight down at a golf course. Says Quintal, "It was an odd feeling. The left wing was down, so I was up compared to Bob. I sort of looked down at him, not sideways anymore.

The only problem was that the slip further slowed the RAT, costing Pearson precious hydraulic pressure. Would he be able to wrestle the 767's dipped wing back up before the plane struck the ground? Trees and golfers were visible out the starboard side passengers' windows as the 767 hurtled toward the threshold at 180 knots, 30-50 knots faster than normal. The RAT didn't supply "juice" to the 767's flaps or slats so the landing was going to be hot. Pearson didn't recover from the slip until the very last moment. A passenger reportedly said "I can almost see what clubs they are using." Copilot Quintal suspected Pearson hadn't seen the guardrail and the multitude of people and cars down the runway, but by this point it was too late to do anything about them. A glider only gets one chance at a landing.

Quintal bit his lip and stayed silent, realizing the collosal tragedy about to unfold.

Why did Pearson select 32L instead of 32R? Gimli was uncontrolled so Pearson had to rely on visual cues. It was approaching dusk. Runway 32L was a bit wider, having been the primary runway at Gimli in prior years. Light stations still led up to 32L. And the "X" painted on 32L, indicating its inactive status, was reportedly quite faded or non-existent. Having made an initial decision to go for 32L, the wide separation of the runways would have made it impossible for Pearson to head for 32R at the last moment.

Pearson says he "Never even saw 32R, focusing instead on airspeed, attitude, and his plane's relationship to the threshold of 32L."

The 767 silently leveled off and the main gear touched down as spectators, racers, and even kids on bicycles fled the runway. The gigantic Boeing 767 was about to become a 132 ton silver bulldozer. One member of the Winnipeg Sports Car Club was reportedly walking down the dragstrip, five gallon can full of hi-octane racing fuel in hand, when he looked up and saw the 767 headed right for him. Pearson stood on the brakes the

"Quintal bit his lip and stayed silent, realizing the collosal tragedy about to unfold."

instant the main gear touched down. An explosion rocked through the 767's cabin as two tires blew out. The nose gear, which hadn't locked down, collapsed. The nose of the 767 slammed against the tarmac, bounced, and then began throwing a three hundred foot shower of sparks. The right engine nacelle struck the ground. The 767 reached the tail end of the dragstrip and the nose grazed a few of the guardrail's wooden support poles. (The dragstrip began in the middle of the runway with the guardrail extending out towards 32L's threshold). Pearson applied extra right brake so the main gear would straddle the guardrail.

Would all the sports car fans all be able to get out of the way, or would Pearson have to veer the big jet off the runway to avoid hitting stragglers?

The 767 came to a stop on its nose, mains, and right engine nacelle a hundred feet from spectators, barbecues and campers. The fuselage was intact. Inside, for an instant, there was silence. Then cheers and applause broke out among Flight 143's passengers. They'd made it; they were all still alive. But it wasn't over yet. Fire had broken out in the nose of the aircraft. Oily black smoke began to pour into the cockpit and front of the cabin. The fiery deaths of passengers in an Air Canada DC-9 that had made an emergency landing in Cincinnati a month before was on all the flight attendants' minds and an emergency evacuation was ordered. The unusual nose-down angle the plane was resting at made the angle of some of the rear emergency slides nearly vertical. Descending them was going to be treacherous.

The only injuries that resulted from Pearson's dead-stick landing of Flight 143 came from passengers coming down the rear emergency slide too fast and hitting the asphalt. None of the injuries were life-threatening. All of the race fans had managed to flee the path of the silver bulldozer. The fire in the aircraft's nose area was battled by members of the Winnipeg Sports Car Club who reconverged on the plane with dozens of hand-held fire extinguishers. Pearson had touched down 800 feet from the threshold and used a mere 3000 feet of runway to stop. A general aviation pilot who viewed the landing from a Cessna on the apron of 32R described it as "impeccable." The 767 was relatively undamaged.

Air Canada Aircraft #604 was repaired sufficiently to be flown out of Gimli by their chief CFI two days later, and after approximately $1M in repairs, consisting primarily of skin repairs and replacement of a wiring harness, it re-entered the Air Canada fleet. To this day Aircraft #604 is known to insiders as "The Gimli Glider." The avoidance of disaster was credited to Capt. Pearson's knowledge of gliding, which he applied in an emergency situation to the landing of one of the most sophisticated aircraft ever built. Captain Pearson credits Copilot Quintal strongly for his cockpit management of "...everything but the actual flight controls," including his recommendation of Gimli as an alternate landing spot. Captains Pearson and Quintal spoke at the 1991 SSA Convention in Albuquerque about their experiences. Pearson was, at the time, still employed and flying for Air Canada, and occasionally flying his Blanik L-13 on the weekends; he has since retired to raise horses. Maurice Quintal is now an A-320 Pilot for Air Canada, and will soon be captaining 767's-including Aircraft #604.

An amusing side-note to the Gimli story is that after Flight 143 had landed safely, a group of Air Canada mechanics were dispatched to drive down and begin effecting repairs. They piled into a van. They reportedly ran out of fuel en-route, finding themselves stranded somewhere in the backwoods of Manitoba.

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For Video Of The Gimli Glider:
http://www.winnipeg.cbc.ca/videovault/gimglider.html

MISSION OF MERCY

Captain David C. Simons
165th AW Public Affairs Officer

Ayacucho, Peru. A small city nestled in the heart of the Andes Mountains. Rural, desolate and obscure. While only 150 miles from the cosmopolitan capital of Lima, it is a full day driving over the one-lane roads through the mountains. The airport, without runway lights and other navigational aids, can only handle daylight landings. It is barely a dot on a map. Yet, nearly forty doctors, nurses, medical technicians and supply specialists from the 165th Airlift Wing's Medical Squadron made their way to this small city on a humanitarian medical mission. It was literally, a "mission of mercy."

Flown by the aircrews of Savannah's famous "Guard Dawgs," the 158th Airlift Squadron, medical personnel flew on two of the unit's C-130Hs to Peru. After spending the night in Puerto Rico, the unit departed on the nine-hour flight into Ayacucho. Puerto Rico was (for most) their last night in what would be considered normal living conditions. The first plane arrived into Ayacucho without delay but the second aircraft was diverted to Lima when the dusk closed Ayacucho's airport. Accommodations in Ayacucho were cramped as members settled into four-person rooms on a Peruvian military base.

The next morning, the second aircraft arrived. After a day of acclimation and distribution of supplies, the medical squadron was ready to perform their "mission of mercy." And many were surprised at what they saw.

The first day of actual medical assistance took the unit in an armed convoy up into the Andes Mountains. The small town they visited was Huamanguilla, nestled on dirt roads forty miles from home base. Setting up the clinic in "Colegio

Educativo 38270 San Antonio" the town's school, the unit established a protocol system to work with the expected influx of patients. Those seeking assistance would go through an initial screening and then receive training on the use of soap, toothbrushes, purifying water and other general hygiene practices. Then patients would be allowed to visit one of the following facilities: dental, physician, optometrists, gynecological, or general health.

The optometry clinic came equipped with 5,000 pairs of glasses, a donation by "Project Cyclops," a program administered by the Wisconsin Air National Guard. The town's Mayor of Huamanguilla told The Airlift Chronicle that for his people, once their eyesight goes, they can no longer function in an employable status. The gift of glasses will give many of his people a chance to return to work and enhance their quality of life.

With medical sites established, the clinic was prepared to see their first patients. And patients they did see!

Lining up outside the walls of the school, patients were queuing up well before the medical team arrived at the school. The "word" was out; doctors were coming to Huamanguilla and the first day they saw well over 500 patients.

The dental site was, without a doubt, the busiest as men, women, boys and girls, all lined up for a dental exam. Teeth were pulled, toothbrushes were provided and a comforting hug to a crying child was just part of the duty. Women sought pelvic exams from the clinicís nurse practitioners and the three physicians saw the more serious problems including broken bones, "third world" type diseases and infected wounds. Usually, women brought their children for care as many of the children suffered from respiratory infections. It was not uncommon for entire families to be infected with parasites.

A pharmacy was established and dispensed various drugs to

the patients. The drugs were provided by various national drug companies, which have established programs within their companies to provide caregivers that travel to less fortunate parts of the wold with free “meds.” In addition, the national companies provided general health pamphlets translated into Spanish. Other pharmacy supplies, such as bottles and labels were provided by local Savannah businesses such as Kroger Foodstores and Lo-Cost Pharmacy.

One of the most difficult jobs of all was for the translators who spent much of their time in constant movement as they attempted to break down the language barrier and guide the caregivers. Even the teamís members who were fluent in Spanish had difficulty translating Huamanguilla’s unique dialect.

The 165th Medical Squadron spent nine days hosting the clinic. They established three different field sites, including two in Ayacucho and one in Huamanguilla, and treated close to 6,500 patients who received much needed medical treatment.

A job well done! A job that was a “Mission of Mercy.”

Media Joins 165th AW in Puerto Rico, Fort Bragg and Peru

Joining the Medical Squadron on their “Mission of Mercy,” was the Savannah media whose interest was showcasing Savannah folks reaching out to help the world. Mike Manhatton and Helena Moreno from WTOC/CBS and Markova Reed and

Mark Boese from WJCL/ABC represented the electronic media while Betty Darby with The Savannah Business Report & Journal and Coastal Family and Mitchell Bush with the Savannah Chamber of Commerce's Outlook represented the print media. Spanish-speaking Boese and Moreno helped the clinic with translating during their brief stay. WJCL aired a four-part series on Peru while WTOC aired a three-part series and a thirty-minute special entitled "Mission of Mercy."

The largest media contingent in unit history deployed with the 165th Maintenance Squadron as they left for another rotation in the ongoing guard mission "Coronet Oak" where the base of operations moved from Panama to Puerto Rico.

The media also joined the 158th AS as they jumped members of the 7th Special Forces Group into the Atlantic Ocean for a training mission. Mike Manhatton and Ian Slack of WTOC/CBS and Michael Jordan with WSAV/NBC, as well as, with a free lance assignment with Creative Loafing all flew with the "Green Berets."

A Down South Fiesta Run

C.R. Terror—the right-seat paper weight.

C.R. Terror stood with his long-suffering sidekick scrutinizing the squadron scheduling board.

"Looks like you're going on a 'fiesta run' down south, Sammy m'lad," C.R. said dolefully, pointing to Sam's name.

"Too bad they busted you back to copilot, Boss," Sammy consoled. "Otherwise you might have gotten that trip."

"There's no justice Sam—and all for such a minor misunderstanding too," whined C.R. "To this day I thought the guy said 'cleared for takeoff'."

Checking off the other crew set-ups for upcoming missions, C.R. finally spotted his moniker down at the very bottom, under "bravo alert." Not recognizing the aircraft commander`s name, the Corpulent Copilot asked the scheduler, "Hey Mike, who`s this Lt. Col Ofersear?"

"I`m not sure, but I think he works in some staff job up at wing. Hasn't been here too long, "Aha, might know they`d stick me with one of those wing weenies," C.R. declared. "I bet he`s been hiding behind a desk for years until getting called back to the cockpit. Well, maybe we won`t get launched during our alert period."

"Maybe you won`t," agreed Sam," but the last five-in-a-row have." The two erstwhile partners parted and the Rhinestone Flyboy retired to his luxury apartment and a round of video games on his new superduper computer-controlled toy.

Just as the Dauntless Dolt managed to actually score a point against the "tax-man" game, the phone rang. It was Sergeant Hardnox at squadron ops. "You`re going to be launched, Major Terror," he said matter-of-factly. "You'll be deadheading to McGill AFB to pick up....." C.R. interrupted him in mid-sentence.

"Hold on there my fine fellow. You obviously have me confused with the decision-maker on this crew. I am now a lowly co-jock, and all I do is read the checklist and work the gear handle—when ordered, that is. Really, my good man, all I need to know is to what part of the globe we are bound. Pays to pack for the local conditions ya know."

"Haven`t got the final destination yet, Major. All we know now is that it's somewhere on the European continent. Should know more at show time."

"No problem," C.R. chuckled, "I'll just plan my wardrobe to cover anywhere from Antwerp to Istanbul."

After hanging up, the Rotund One tossed a few extra cans of "Concarnage" brand chili into his already bulging B-4 bag and bounded out the door with a flourish, whistling "Jimmy-crack corn and I don`t care."

C.R. and company gathered at the squadron only to learn that their AC, Colonel Ofersear, still hadn't been told where they were going. He gave a crew briefing anyway. "Uh, well now crew, we'll be deadheading to McGill AFB, and go into crew rest and then fly the C-5 that's already there to wherever we`re going. The load is some big and heavy high-priority equipment and it`s got to get to wherever it`s going, pronto."

By this time, C.R. was fast asleep in the third row. His snoring was so loud it woke up Sergeant Downs, the loadmaster, in the next seat, who, in retaliation, nudged him into semiconsciousness. "They`re still trying to pin down the exact destination," drawled Colonel O. "they did tell me it`s somewhere between Luxembourg and Liechtenstein, though."

After finishing the more standard items of the briefing, the planeless crew proceeded to base ops to do a little preflight planning. "How are we supposed to do any planning without knowing where we`re going?" lamented Lieutenant Blinky Donivan, the navigator.

"Not to worry, my young Magellan," responded the Magic Major, as the two walked into base ops. "You must learn to be flexible in this business. Why, I've taken off many times without knowing where I was going, and as you can see, I've always gotten back so far."

"Finally got a 'semi-firm'

destination for us," Ofersear announced as the rest of the crew joined him at the Command Post window. "It`s a place called Weinersberg and it`s between Bierdorf and Oberload. I suppose you've been there, haven`t you Major Terror?" the AC asked AMC's most experienced copilot.

"That`s probably about the only place I haven`t been, sir," replied C.R. honestly.

"I'll see if they have any DOD approaches listed for that area," offered Blinky.

"I'll see if base ops has any Jeppesen plates," echoed C.R.

"Never can be too careful about these places off the beaten path."

"Better hurry, the crew bus is waiting," called Colonel Ofersear as the two disappeared through the doors leading to the flight planning room.

After the short hop to McGill AFB, the crew proceeded to their Galaxy to check the forms. After deciding all was shipshape, Ofersear ordered transport and they went into crew rest.

C.R. was pleasantly surprised at the way his new AC handled everything. The next morning they were off on time with the high-priority load, bound for Weinersburg International Airport in the heartland of Europe. Although the departure was a little less than smooth, what with our Field-Grade Fumbler trying to read the checklist and talk on the radios at the same time, the good colonel took up the slack and got them well on their way. During cruise, C.R. divided his time between HF position reports and wolfing down cup after steaming cup of his infamous Chili-Concarnage.

"Want to try some, Colonel?" he offered, as the Jalapeno-green fumes slowly escaped from the hyperhot concoction. "I've even added some of my own special home-grown peppers."

"No thanks, C.R." replied the courteous commander. "You do like the hot peppers, don't you?"

"Oh, yes sir. It puts excitement into the simplest fare," affirmed C.R. with a gasp as the effect of the gastronomic dynamite reached its peak.

Soon they were coasting into Europe, so the crew made ready for descent and C.R. attempted to roll the scroll checklist to the descent check with one hand and pop the last half of a Jalapeno pepper into his mouth, his eyes watering profusely.

"Well, crew," Ofersear began, "according to the weather forecast, they should be landing on runway 18 so I'll brief the approach book. Besides, that's the only listed DOD approach to the airport. We'll

just ask for radar vectors for the ILS final."

With C.R. still trying to rewind the checklist, the leftseater began the descent as directed. "Reach 007," advised the controller, "you are cleared for the VOR 1 NDB approach to runway 36. Proceed direct to Weinersburg VOR, descend and maintain 9,000 feet."

"What!" blustered Ofersear. "How could they do this to us? Copilot, did you get an alternate civilian approach for this airport?"

"Sure did," said the Field Grade Fumbler confidently," and here it is."

"Only one copy for the whole crew?" objected the concerned AC. "Yes sir, these commercial approach plates are expensive, ya know," replied the Frugal Flyboy.

"Well, pass it around so the nav can take a look at it before we get in too close. He'll need to set up the approach in the INS for a back up," ordered the leftseater.

Meanwhile, C.R. was still struggling through the descent check, obviously unaccustomed to right-seat duties.

"Hey pilot, this scroll must be broken," he said listlessly as they neared the level-off point. With C.R. completely out of the picture, Colonel Ofersear began to handle the radio calls to approach control, attempt to figure out which way to turn upon arrival at the VOR and, at the same time, brief changes to the approach as they occurred.

"Reach 007, you are now cleared direct present position to Handset intersection for a no-procedure-turn approach from there.

"I know they`re trying to help us but..." the AC was interrupted again.

"Reach 007, squawk 4800, and ident. Now cleared to 6,000 feet - say level passing," queried the controller.

"We`re at 8,500," said Ofersear tensely, beads of sweat forming on his furrowed brow.

"Crew briefing," C.R. blurted through the intercom, settling on that checklist item, even though the descent check had never been completed. "Starting the teardrop," announced the left-seater, squinting at the only available approach plate. "Got to get down," he said, and pulled the throttles to idle.

"Cleared to 3,500," radioed the controller in a thick accent. "I could never understand these controllers` English," admitted C.R. "Say again please for Reach 007,"

With the autopilot still engaged and the throttles at idle, Ofersear punched on altitude hold when they finally reached 3,500 feet. He hoped it would free him to make sure everything else was done, including the copilot duties. As they struggled through the before-landing check, the AC elected to lower the landing gear, but kept the flaps up for local noise abatement procedures.

As the harried crew raced through the landing reports and checklist, nobody noticed the airspeed bleeding off rapidly.

"Crew, landing report," C.R. repeated in exasperation for the third time. Just as the AC started a left turn to final, the aircraft shuddered. As the giant airlifter began stalling, the right wing suddenly dropped to near 90-degrees of bank and C.R., oblivious to the situation, continued to call for the crew landing report.

"What!" blustered Ofersear. "How could they do this to us?"

"Oh, no!" gasped Ofersear, "I've stalled it out!"

"Yipes," yelped C.R., coming to life at long last and mentally rejoining the crew. The throttles were still at idle and the flaps were up. Turning out over a nearby lake, the nose pitched down and the shoreline of the lake filled the windscreen of the plunging Galaxy. Instinctively, Ofersear pulled back on the yoke which immediately induced a secondary stall. Then, becoming fully aware of the situation, the AC called for the flaps and simultaneously pushed the throttles to the fire wall. The mammoth C-5 finally recovered barely 300 feet above the ground. Ofersear, though visibly shaken, regained enough composure to turn back toward the airfield and configure for landing. It was a surprisingly smooth touchdown and no one talked much as they taxied in—not even C.R.

Finally, after the plane was parked and the big turbofans wound down, C.R. turned to his new AC. "You know, Colonel, we almost bought the farm out there, and it just hit me that I wasn't much help to you at all."

"All I can hope for, C.R.," returned the pensive left-seater, "is that all of us learned a whole group of vitally important lessons from this near-disaster."

"Right you are, Colonel. Right you are."

Flying Hour Milestones

10,000 Hours

142 AS
MSgt Lawrence A. Ciprane

312 AS, Travis AFB, CA
SMSgt David J. Raymond

437 AW
MSgt Michael B. Hughey

8,500 Hours

143 AW, North Kingstown, RI
Col Stephen J. Stubits

312 AS, Travis AFB, CA
Lt Col Delbert D. Lewis

7,500 Hours

43 AW, Pope AFB, NC
CMSgt Gail Harrell
MSgt Scott Elliott

70 ARS, Travis AFB, CA
Col Philip D. Webb
CMSgt Karen M. Redd
SMSgt Gary A. Plain

142 AS
SMS Allen L. Scheel

773 AS, Youngstown ARS, OH
SMSgt Ronald E. Nutter

6,500 Hours

14 AS, Charleston, SC
SMSgt James E. Moody

43 AW, Pope AFB, NC
Lt Col James Cox
SMSgt Steve Lusk

143 AW, North Kingstown, RI
Col Thomas J. Haynes

375 AW, Scott AFB, IL
Lt Col Michael A. Del Pinto

5,000 Hours

14 AS, Charleston, SC
Maj Thomas R. Klett
Maj Jeffrey W. Meyers
Maj Matthew A. Smith
MSgt Robert L. Orr
MSgt Angel L. Rodriguez
TSgt Scott M. Bailey
TSgt Nicholas P. DeMichael
TSgt Theodore H. Kiburz
TSgt Chris A. Lemons
TSgt Herman R. Rose

43 AW, Pope AFB, NC
MSgt Richard C. Biggs
MSgt Mark H. Franke
TSgt Philip Poole
TSgt Christopher A. Wood
TSgt William Wellbrock

70 ARS, Travis AFB, CA
Lt Col Gregory D. Holm
Lt Col James M. Marsden
Lt Col Daniel S. McLucas
Lt Col Stephen P. Vancil
CMSgt Celeste Barcelo
CMSgt Richard Olshefski
SMSgt Terry R. Monges
SMSgt Matti A. Raivio
MSgt Arthur J. Baxter
MSgt Brian L. Newman
MSgt Jeffrey G. Pinto
MSgt Benjamin F. Reed
MSgt Robert K. Stephens
MSgt James C. Youngblood
TSgt Barry N. Green
TSgt Michael T. Groves

78 ARS, McGuire AFB, NJ
Maj James E. Needham

84 ALF, Scott AFB, IL
Maj John C. Sasse

143 AW, North Kingstown, RI
Maj Michael F. Donnelly

311 ALF, Scott AFB, IL
Maj Agustin Fuentes

312 AS, Travis AFB, CA
Capt Peter J. Gross

457 AS, Scott AFB, IL
Maj Scott R. Schlpkohl

702 AS, McGuire AFB, NJ
MSgt Dwight Frazier

757 AS, Youngstown, OH
Maj Timothy W. Austin
MSgt Mark D. Darby

910 OG, Youngstown, OH
Lt Col Merle D. Hart

3,500 Hours

14 AS, Charleston AFB, SC
Lt Col William J. Changose
Maj Gregory O. Blanchard
Maj Robert A. Carpenter
Maj Henry J. Fairtlough
Maj Matthew W. Heuer
Maj Michael K. Major
Maj Martin H. Nelson
MSgt Edison Velez Jr.
TSgt Paul R. Castillo

43 AW, Pope AFB, NC
Lt Col Scott K. Cummings
Lt Col Richard M. Hunter
Lt Col Paul Montgomery
Maj Joseph F. Angel
Maj Andy Donaldson
Maj Samuel C. Huggins
Maj O. Martinez
Maj Manson S. Turner
Capt Michael T. Needham
MSgt Randall E. Ivy
TSgt Jeffrey M. Litz
TSgt Joseph Wilson

70 ARS, Travis AFB, CA
Maj Roger A. Boyer
Maj Martin R. Caler
Maj John R. Delaurenti
Maj Joseph B. Elliot
Maj Eric D. Haussermann
Maj Terry J. Johnson
Maj Kenneth M. Kirk
Maj Kreg W. Lukens
Maj Robert K. Millmann
Maj Jeffrey Pennington
Maj Marc D. Russick
Maj Gregory R. Sims
Maj Michael R. Solomon
Maj Paul E. Sprenkle
Maj Robert M. Svetz
Maj Sebastian S. Trost
Capt David B. Denman
Capt Daniel M. Leverson
MSgt Dena L. Danner
MSgt Edward A. Mull
TSgt Antonio R. Briseno
TSgt Scott E. Murphy
SSgt Sean M. Connors

143 AW, North Kingstown, RI
MSgt John J. Lizotte
MSgt William R. Miller

179 AW, Mansfield, OH
Maj Gary R. Music
Maj Todd K. Thomas

312 AS, Travis AFB, CA
Maj Robert S. Curtis
Maj William S. Elligott
Capt Dennis Steininger
MSgt Chipper L. Carter
TSgt Jerry L. Barker

375 AES, Scott AFB, IL
TSgt Thomas C. Ruffner

457 AS, Scott AFB, IL
Lt Col Carlton D. Everhart

458 AS, Scott AFB, IL
Maj Michael W. Hafer

757 AS, Youngstown, OH
MSgt Donald J. Cutrer
MSgt Robert L. Marino

773 AS, Youngstown, OH
Maj Theodore Hutchinson
MSgt David T. Indorf

910 OG, Youngstown, OH
MSgt Ronald M. Sevko

2,500 Hours

14 AS, Charleston, SC
Maj Todd A. Dierlam
Maj Michael F. Gosnell
Maj Peter A. Hirneise
Maj Richard F. Kelly
Capt David S. Gardner
Capt Lenny J. Richoux
Capt Gary A. Wettengel Jr.
Capt Richard E. Williams
Capt Scott V. DeThomas
Capt Landon L. Henderson
MSgt James J. Mueller
SSgt Derrick M. Bruns
SSgt Arnold W. Smiley

43 AW, Pope AFB, NC
Lt Col Thomas Houston
Maj James J. Kisch
Maj James R. Lasche
Maj Jeffrey R. Miller
Maj Kurt R. Raffetto
Maj Kevin D. Tilghman
Capt Robert J. Chrystler
Capt Michael J. Tomasulo
TSgt James Caron
Sra Scott Messaros

70 ARS, Travis AFB, CA
Maj Richard M. Casto
Maj Jeffery S. Kozak
Maj Scott M. Moffat
Maj Bernard J. Ruddy
Capt Shawn J. Anderies
Capt Paul B. Hromanik
Capt Gregg E. Kastman
Capt Richard D. Maxhimer
SMSgt Patricia A. Thornton
TSgt Brian D. Carrigan
TSgt Garry C. Hanna
TSgt Richard J. Marshall
TSgt Stephan M. Sila
TSgt Wade C. Wells
SSgt Eric L. Warwick

84 ALF, Scott AFB, IL
Maj Randall W. Gibb

143 AW, North Kingstown, RI
Capt Reed Foster
Capt Stephen J. Kane
MSgt Gerald Ducharme
TSgt Jeffrey L. Aubin

179 AW, Mansfield, OH
Maj Mark S. Bean
Maj Edward F. Waldo

312 AS, Travis AFB, CA
Capt Bently A. Miller
TSgt Jeffrey Gallagher

TSgt Herbert Kolbe
TSgt Larry G. Olds

757 AS, Youngstown, OH
Maj Kenneth G. Saunders
Capt Adam B. Taylor
Capt William W. Whittenberger
SMSgt Paul J. Choleva
MSgt Paul D. May

773 AS, Youngstown, OH
Maj John R. Hickey
Maj Kevin F. White
Capt Richard S. Croghan
Capt Mitchell E. Madis
MSgt John C. McKibben
TSgt Christopher L. Marino

910 OG, Youngstown, OH
MSgt James E. NcNeilly

912 ARS, Grand Forks AFB, ND
Capt Timothy F. Fitzgerald

1,500 Hours

14 AS, Charleston, SC
Capt Barry A. Blanchard
Capt Rene W. Darby
Capt James A. Dereus
Capt John D. Lamontagne
Capt Patrick S. Murray
Capt Richard T. Scott
MSgt Douglas P. Mayo
SSgt Kristopher R. Albertson
SSgt Alfred B. Cook
A1C John D. Neuburger

43 AW, Pope AFB, NC
Maj Richard A. Ciaramella
Capt Edward P. Black
Capt Anthony S. Burch
Capt Barry W. Curtis
Capt Glen R. Downing
Capt Patrick B. Fultz
Capt Frank Galati
Capt Mark A. Hersant
Capt Edward J. Koharik
Capt R. Leszcynski
Capt Mark A. Livelsberger
Capt Andy Maas
Capt Eric S. Mayheu
Capt Ralph Muli
Capt Steph Radford
Capt Tobias R. Sernel
Capt Marc A. Sicard
Capt Kirt L. Stallings
MSgt Scott Martin
MSgt Forrest B. Wood
TSgt Arthur Skillman
SSgt Donald Rowland
Sra C Huelsenbeck

70 ARS, Travis AFB, CA
Col Robert E. Naylor
Maj Carl A. Butts
Capt Scott J. Bourquin
Capt Adam J. Summer
TSgt Courtney Chad
TSgt David S. Chan
TSgt Debra K. Meyer
TSgt Jeffrey S. Odel
SSgt Donald P. Mora
SSgt Ernest T. Valles
SSgt Carl F. Whitfield

84 ALF, Scott AFB, IL
Capt Kevin A. Baylis
Capt Andrew B. Peeples

142 AS
TSgt Erick C. Stone

143 AW, North Kingstown, RI
Capt William P. Conley

179 AW, Mansfield, OH
Maj Russell C. Ellis
Capt Paul E. Hensley
TSgt Todd A. Hunt T
Sgt James H. Linscott

311 ALF, Scott AFB, IL
Capt Timothy S. McCaffery

312 AS, Travis AFB, CA
Capt Jeffrey S. Daniels
MSgt Jeffrey E. Brean
TSgt Jesse F. Kanemoto
TSgt Jay D. Miller
SSgt David J. Walsh

375 AES, Scott AFB, IL
TSgt Orville L. Blake
SSgt David L. Brown

514 AES, North Kingstown, RI
1Lt Col Ruth Kanaley
Maj Harriet Hewlett
Maj William Salotto
SSgt June Cavana

757 AS, Youngstown, OH
Capt David A. Tancer
1Lt Jeffrey N. Prochnow

912 ARS, Grand Forks AFB, ND
Capt William C. Heaster
Capt Michael R. Kitching
Sra Matthew C. Hartman

POPE'S PUNS


COME ON SARGE... IF I WEAR THESE WHILE I WORK, CAN I GET FLIGHT PAY?!
WCPOPE.