

Uniting all OAEs in Perpetuating the Memory of US Navy Operations in Antarctica Volume 2, Issue 1 Old Antarctic Explorers Association, Inc Spring 2002

## PRESIDENT'S COLUMN Jim Eblen – OAEA President

To all OAE's — Hope this finds everyone in good health and happiness. The Association is moving right along and membership appears to be on an upswing. Let's keep up the good work in this department.

The Symposium/reunion committee is moving right along with our first get together as an Association. By the time you read this, you should have the information regarding the particulars. The committee, headed up by our Secretary, Jim O'Connell has already invested a lot of time and effort in assuring a great time will be had by all. I have asked the Board of Directors (BOD) to provide input to this Article, concerning the upcoming Symposium/reunion. The following are their suggestions and ideas:

A commemorative souvenir pamphlet, listing such items as Deep Freeze photos, articles, wind chill chart, members names and, if they desire, how to contact them, and any other pertinent information. This could also include photos taken at he reunion. Even though it appears that attendance will be good, there will be those that can't attend and would be interested in seeing old friends. A membership application should also be included.

It seems there has developed a desire to pay honor to those members of Operation Deepfreeze, that have passed on by creating a listing of these personnel. Presently, we have a list of those personnel since the OAEA was established, but very little, if any, of those previous to that time. The method of creating a list of those that have passed on is beyond my expertise, so if anyone has any suggestions, please let me know. Even though our first Symposium/reunion is still in the planning and formulation stage, it is not too early to start thinking about the next one. Not only should there be suggestions of where to hold the event, but who is willing to chair the committee and those willing to serve. The request of where and those willing to serve should be presented at this Symposium/reunion and voted on by the membership. The present committee should develop a "lessons learned" list that will help the next committee.

If there are any suggestions for changing the bylaws, please submit any recommendations to either Secretary Jim O'Connell or myself, prior to August 1, 2002. We will submit them to the BOD for consideration. Those that are in order will then be presented at the general membership meeting for consideration.

Start thinking about election of Officers at the membership meeting. The President, Executive Vice President and two Board of Directors will be up for election. If you think that you would like to serve in one of the above capacities let your desires be known, so you can be nominated from the floor. It is a great way to fill up your spare time, and then some.

Last, but certainly not least, do you have any suggestions for the Symposium/reunion? Keep in mind that the committee may not be able to accommodate your requests, they will certainly consider them. To those who have lost a loved one or a friend, our prayers are with you. To those who are under the weather, we wish you a speedy recovery. Until next time.

**Jim Eblen** President

## CHAPLAIN'S CORNER Cecil D. Harper - OAEA Chaplain

How many times should a person attempt something before giving up? It depends really, on where your time will produce the greatest return. The answer differs with whatever it is you are trying to accomplish.

Often we quit too soon. There is no use wasting time on hopeless prospects. But those who persist, who keep on trying harder and longer before throwing in the sponge, usually have more success with whatever it is they are trying to do.

Look at this from the Christian perspective. Whether or not we have answered the call to the Christian life, and determined to live as Christ would have us do, He never stops calling on us. He never gives up. He never quits loving us. He wants us to understand the sacrifice He made on our behalf, and the unending love He has for us. He wants us to understand that His love and Grace and offer of eternal life are all free. There is nothing we can do to earn it. Christ has staying power, and he will stay with us and answer our call whenever and wherever we ask.

Think about it. What has been your experience with the call to Christian living? Just remember that good judgment comes from experience. Experience comes from bad judgment.

Pray for our Troops!

Godspeed, Cecil D. Harper Chaplain OAEA

# **Editorial** Jim O'Connell – Editor

The reunion 2002 committee has been hard at work putting together the first national reunion of the Old Antarctic Explorers Association, Inc and I would like to publicly thank each and every one of the members for the support they have given me in this task. They are Billy-Ace Baker, Billy Blackwelder, Paul Dickson, Alberta Dickson, Karla Japzon and Les Liptak. The membership of this association is about as diversified as anyone could ever imagine and it spans a time period that is longer than the lives of some of its members. What is it that make all these men and women display so much friendship and respect to each other? To OAE, the answer is simple. It is the common core of the 'ice'. Our 'ice' experiences have made a bond that will last a lifetime and it is bringing us all together again and I am confident that it will do so for many years to come.

# Jim O'Connell

Editor



OAE **Milton E. Cammarn** passed away in Ocala, FL. on January 12<sup>th</sup> 2002 Milton was a life member of the OAEA and was assigned to CHB3 on the USS ARNAB (AKA 56) from November of 55 to February of 56.

OAE **Donald W. Knight** passed away in Richmond, ME on February 14<sup>th</sup> 2002. Donald was not a member of the OAEA but served on the "ice" in the 1962/63 time frame.

OAE **Norman E. Young** passed away in Lancaster, PA on November 4<sup>th</sup> 1999. Norman was not a member of the OAEA but served in VX6 1955/1956. This is a belated notice put in the Gazette at the request of OAE friends of Norman.

OAE **Ernie Price** passed away in Loma Linda California on January 29<sup>th</sup> 2002. Ernie was a life member of the OAEA and served in Antarctica in "Operation Highjump" in 1946-1947 aboard the USS Mount Olympus (agc-8)

**LOCATOR** - (Editor's note – members who are off line may contact the OAEA Secretary and he will put you in touch with the requester)

Mona Bjorklund is looking to hook up with either a skiing or research expedition to the pole. If anybody has any information on one of these ventures, please contact Mona at monabjorklund2002@yahoo.com

Any residents of Little America IV at Project Highjump in 1946-47 please contact. Bob Nichols, <u>bobnichols@att.net</u>

Any crewmen on the Wyandot during DF 1, 2 and 3 please contact Robert Sanders, tundra@rangenet.com

Any OAEs that took an active role in introducing US Style music into the Christchurch society in the 1965 to 70 time frame and have stories they would like to share, contact Peter Bain-Hogg pbh@renegade.com.au

Winter over crew 76-77; please contact Leo Murawski <u>leomurawski@hotmail.com</u>

Winter over crew 86-87; please contact Bob Felix <u>bobcatyrr4u@aol.com</u>

Winter over crew 80-81; please contact Rodney Polhamus rockinrod5@home.com

Geoff Ragsdale (VR-1 Corpsman that knew VR-1 OAEs that went to the ice) will forward any condolences to Donald Knight's family. You can contact Geoff at <u>GRAGS@prexar.com</u>

Johnny Rafal (EO3 Wintered 64/65) If anybody knows the whereabouts of Johnny, Nick Majerus is trying to contact him. You can contact Nick at <u>ndmajerus@prodigy.net</u>

## LOCAL ACTIVITIES -

If you are out and about this great country of ours and happen to be in the vicinity of one of the below scheduled get togethers, the host locations would be more than happy to have you drop in and share a period of fellowship and memories.

Maine Area — Coordinator Marty Diller reported a group of OAEA members up in Maine had a very enjoyable lunch on March 15<sup>th</sup> when they met with a reporter and photographer from the Lewiston Sun Journal for a group interview. The Sun Journal will be running an article on the OAEA in one of their Saturday editions. No scheduled meetings are planned at this time but can contact Marty Diller you at mgdiller@blazenetme.net or (207) 729-0197 if you are in the area.

**Pensacola** Area — The Pensacola Group had their quarterly meeting on March  $2^{nd}$  and have found a permanent home at the American Legion

Post 240 - 8666 Gulf Beach Hwy. in Pensacola. Below are the scheduled meeting dates (all meetings start at 1300). For additional details, you can contact Jim O'Connell at penguin64@att.net or (850) 478-6222

1 June, - 1st Saturday 7 September - 1st Saturday 7 December - 1st Saturday

*Tidewater Area* - The tidewater area OAEs try to get together at least once a quarter and they meet at the House Of Eggs. Their next meeting is tentatively scheduled for 1500 on Saturday, 13 April 2002. For more information contact Ed Hamblin at hamblin@pilot.infi.net or (757) 405-

3362.

## THIS QUARTER IN HISTORY

By Billy-Ace Penguin Baker - OAEA Historian

#### January Events

17 Jan 1773 — Cook crosses the Antarctic Circle at  $39^{\circ}35^{\circ}E$ .

20 Jan 1820 — Russian corvette Mirnyy collides with an iceberg. Little apparent damage.

*1 Jan 1840* — Ross crosses the Antarctic Circle for the first time.

11 Jan 1911 — Amundsen arrives at the Bay of Whales.

*10 Jan 1988* — 321 arrives back at McMurdo after 17 years.

#### February Events

4 Feb 1902 — Scott goes up in a balloon to 790 feet, the first aerial view of Antarctica.

*22 Feb 1915* — The *Endurance* is frozen solid in the pack ice.

19 Feb 1930 — Little America closed.

20 Feb 1985 — Great Wall Station established by China.

*20 Feb 1999* — Christchurch bids farewell to Antarctic Development Squadron Six.

#### March Events

*10 Mar 1908* — Mount Erebus climbed for first time.

*4 Mar 1947* — Dufek and Highjump Eastern Group depart Antarctica.

7 *Mar* 1983 — The USCGC *Polar Star* completes its circumnavigation of Antarctica.

*12 Mar 1998* — Naval Support Force Antarctica disestablished at CBC Port Hueneme, Calif.

27 Mar 1999 — Antarctic Development Squadron Six disestablished at NAS Point Mugu, Calif.

# ASPECTS OF AVIATION IN

**ANTARCTICA** by Jim O'Leary — This is part 5 of a 6 part series written by OAE Jim O'Leary when he was on the "ice" '75 to '80.

**D**uring the operating season of 1960, the Air Force sent a detachment of ski-equipped LC-130 "Hercules" to Antarctica. Having proved very useful in Greenland operations, the "Herc" proved just as useful in Antarctica and led the Navy to purchase ski-equipped "Hercs" for its own use.

The superior capabilities of the "Herc" signaled the death knell for other types of fixed-wing aircraft and caused the eventual phase-out of the reliable "Constellations" and "Skytrains" from Antarctic air space. The single-engined UH-1B "Otter" was last used during the 1965-66 season and Dec. 2, 1967 marked the last flight of the twin engined "Dakota." Since then, the support of research activities has been carried on exclusively by the "Hercs" and UN-1N helicopter.

The early VX-6 fliers were handed the mantle of responsibility for blazing the trail of Antarctica's airways, a task they handled professionally and which paved the way for fliers who came later. They proved equal to the task and the history of the Antarctic Squadron is filled with "firsts," as befitting trailblazers.

On Dec. 19, 1955, the squadron's C-54s and P2Vs landed at McMurdo to begin DEEP FREEZE ONE. Byrd Station, America's first inland station, was established Jan. 1, 1957, primarily through the use of squadron aircraft. The 1967 season saw the earliest deep penetration of the continent with a "Herc" at Plateau Station on October 13, 1966, some 1,200 miles inland from McMurdo.

An aircraft crash in 1955 was the impetus for the formation of a Pararescue team, still in existence today. The members of this elite unit undergo constant training in first aid, survival techniques and sky diving for that time when their services could be required.

April 9, 1961 proved that a mid-winter flight into Antarctica could be accomplished. VXE-6 flew into Byrd Station to medically evacuate a seriously ill Soviet scientist. The squadron repeated their life-saving capabilities with two other mid-winter medical evacuations in 1964 and 1966.VXE-6 also recorded a 4,600mile flight from Cape Town, South Africa to Christchurch, New Zealand via the South Pole and McMurdo Stations in 1964.

A mid-winter mail drop was accomplished in June 4, 1967, boosting the morale of the winterover detachment and it was hoped that such flights could be made on a regular basis.

## HORLICK'S MALTED MILK & BYRD'S COWS

-By Billy-Ace Penguin Baker

When I was a kid I used to listen to the Lone Ranger on the radio. One of the sponsors was Horlick's Malted Milk. At that time I don't think that I had every heard of Antarctica, so I didn't know, or care for that matter, the part that Horlick's had played in the early exploration of Antarctica.

I never thought anything about it until I saw a television show in the late 70s about the maritime museum in Oslo Norway. Roald Amundsen's ship was on display at the museum and one of the items behind a thick rope on the galley deck was a large wooden crate with the Horlick name on it. The narrator explained that Amundsen had brought the malted milk with him on this trip to the South Pole.

Horlick's Malted Milk powder was original a baby formula. In the 1870s, William Horlick and his brother James, a chemist and pharmacist, created Horlick's Food for Infants and Infants. Their product was mixed with milk to give it additional nutrition.

Babies weren't the only ones to benefit from the product. It was carried on polar expeditions by other explorers besides Amundsen. Robert Pearly, Admiral Byrd, Robert Scott, and Shackleton all took a supply of Horlick's with them.

In the early 1900's the malted milk drink had become so popular that a mechanic by the name of Chester Beach invented an electric drink mixer to meet the demand for the frothy malted milk drinks. With help from the financier L. H. Hamilton the mixer was marked at the Hamilton Beach mixer. The machines are still made to this day. In 1922 a Walgreen employee added a scoop of vanilla ice cream to the malted milk mix and revolutionized the business by creating the first malted milk shake.

Not only did the early explorers take Horlick's to the ice with them, but also one of Admiral Byrd's expeditions was partially funded by contributions from William Horlick. For Horlick's support Byrd named the Horlick Mountains for him. This large mountain range was discovered partially by ground parties and partially by aerial exploration during the Byrd 1933-1935 expedition.

Along with the powdered malted milk mix Byrd took it a step further and took four milk cows to the ice with him.

In October of 1933, Admiral Byrd asked for the loan of three Guernsey cows to take to the Antarctic with him in order that the men might have some fresh milk on the trip. Cows from Deerfoot Farms, Southboro, Massachusetts, Emmadine Farm, Hopewell Junction, New York and Klondike Farm, Ellan, North Carolina, were loaded on the supply ship Jacob Ruppert. In addition to sand and straw for bedding a twoyear supply of hay, beet pulp, grain and bran were loaded as well as a supply of milk bottle caps reading Byrd Antarctic Expedition, Golden Guernsey Milk Produced on Board the Jacob Ruppert. The three quiet Guernseys were persistent milkers and returned from Antarctica after 22,000 miles of sea travel with a new bull calf christened *Iceberg*.



Iceberg was born 275 miles north of the Antarctic Circle on December 19th; all hoped that the birth would be truly an Antarctic event

but it was not to be. The cows were named after the farms they came from: Klondike, Deerfoot, and Emmadine. Klondike contracted frostbite and had to be destroyed. The death of Klondike and other references to the cows are well documented in Byrd's book *Discovery*.

A medal was struck memorializing these Old Antarctic "Explorers" and one is on display below.



Byrd even took a cow barn complete with an electric milking machine to Little America. A model of the crate and sledge used to transport the cows on the ship is show in the photo below.



Not much is known of the cows after their return from Antarctica, but I presume that they were returned to the farms from which they came.

# **REUNION INFORMATION –**

# DELTA IS THE OFFICIAL AIRLINE OF OAEA REUNION 2002

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Attention Travel Agents: The meeting identifier code must appear in the tour code box on all tickets issued in conjunction with this event. Failure to do so may result in a debit memo for the travel agency issuing the ticket. Contact **Delta Meeting Network®** for details.

**OLD ANTARCTIC EXPLORERS ASSOC., INC.** November 6<sup>th</sup> thru 8<sup>th</sup> 2002 in Pensacola, FL. For more information contact Les Liptak at <u>lcliptack@hightec.com</u>

**DET.** ALFA 1972-73 WINTER-OVER CREW October 6<sup>th</sup> thru 11<sup>th</sup> 2002 in Las Vegas. For more information contact Jim Wallace at utcret@tampabay.rr.com **WYANDOT DF 1, 2 and 3** September 14<sup>th</sup> thru 18<sup>th</sup> 2002 in Bronson, Mo. For more information contact Robert Sanders, <u>tundra@rangenet.com</u>

**POLE STATION WINTER OVER DF2 & 3** April 28<sup>th</sup> thru May 1<sup>st</sup> at the Forrest Hills Mountain Resort in Dahlonaga, GA. For more information contact Ed White <u>Ewhite4500@aol.com</u>

Editor's Note - If you have any information regarding individual OAE group reunions, please send the information to Jim O'Connell at <u>penguin64@att.net</u> for publication in the Gazette

**Preserving Antarctica's Historic Huts -** By Mark Sabbatini Sun staff – Reprinted with permission of Antarctic Sun

They've aged remarkably well during the past century, but time is beginning to catch up rapidly with historic huts used by the likes of Scott and Shackleton.

The walls of the shelters built during Antarctica's heroic age are thinning due to wind and other natural elements. Increased moisture is causing mold and fungi to thrive inside and out. Fuel brought by the explorers appears to be spreading after leaking from metal storage containers. And visitors are doing their share - intentionally or not - through everything from breathing to theft.



Cans at Scott's Discovery Hut

The Antarctic environment has protected the huts over nine to 10 decades," said Robert Blanchette, a professor in the Department of Plant Pathology at the University of Minnesota in St. Paul. "They're in good condition - better condition than if they were in other parts of the world." "However, if we want to protect the huts for the long term...it's gotten to a point where short- and long-range plans need to be made for them."

Blanchette is the principal U.S. investigator for a collaborative project with Professor Roberta Farrell of New Zealand's Antarctic program to study the level of deterioration at historic huts in the McMurdo Sound region. In interviews conducted by phone and e-mail, he said methods to halt the deterioration are also being researched.

There are 34 historic sites in the Ross Sea region, four with surviving wooden huts, according to the Antarctic Heritage Trust, which has responsibility under the Antarctic Treaty for maintaining and managing the sites. They include Ernest Shackleton's hut at Cape Royds, Robert Falcon Scott's hut at Cape Evans, Scott's hut at Hut Point and Carsten Borchgrevink's hut at Cape Adare.

The trust plans to unveil a conservation strategy when Princess Anne visits Scott's Discovery Hut at Cape Evans on Feb. 9 to celebrate the 100th anniversary of its construction. The trust, registered in New Zealand in 1987 is made up of members of the international Antarctic community.

The New Zealand government has given the trust \$350,000 toward the multi-million dollar project, with the trust hoping to raise the rest through donations. Princess Anne's visit marks the beginning of the official campaign to raise funds. "The implementation of the plan will be staged over nine years, to take into account the ongoing fund-raising campaign and the logistics of carrying out such a programme on the Ice," wrote Gerald Blank, a trust official, in an e-mail to the Sun.

Maintenance work has occurred at the huts since at least the 1950s, according to a statement at the trust's Web site. The trust has taken actions such as structural and weatherproofing work at some huts and conducting an inventory of artifacts in the huts, but says considerable work remains to be done.

"Despite these efforts, the Trust has not yet managed to halt the decline of the heritage it is striving to protect," the statement notes. "Significant increased effort will be needed to ensure this heritage continues to inspire, educate and inform future generations."

Studies by the trust and groups working with it conclude restoration work needs to begin soon, since restoration could eventually become impossible due to the conditions under which such work occurs on the Ice.

Blanchette's group, including researchers Benjamin Held and Joel Jurgens, in the second year of a three-year National Science Foundation grant, studied the huts at Cape Evans, Cape Royds and Hut Point. He said unique problems exist at each due to conditions they are exposed to, but common problems are wood deterioration and the growth of mold and decay fungi.

Wind, snow, ice and grit are blasting the wood of the huts, Blanchette said. He said salt deterioration is also taking a heavy toll with a chemical attack on the wood surfaces.

"The wood is gradually getting thinner and thinner, and also weaker," he said. "The surface of the wood is defibrated and degraded. The loosened wood fibers are detached and removed during wind storms, and a gradual loss of wood thickness and strength occurs."

Wind erosion is most noticeable at Cape Royds, salt erosion at Cape Evans, and dirt and grit at Hut Point, Blanchette said.

Researchers are hoping a colorless wood treatment, possibly silicon-based, can protect the huts. Wood panels treated with various compounds are being exposed on test racks at the three locations.

Blanchette said such protection might need to be applied every four or five years, which might be an unacceptable amount of effort. Also, he said, conservationists want to ensure the process is reversible.

"I don't know if anything is going to fit all of the criteria," he said, noting that researchers intend to continue testing a variety of materials to find those that are most acceptable.

Mold and decay fungi are eating away at the wood of the huts and their contents. Blanchette said the huts produce a microclimate with elevated relative humidity during a four- to sixweek stretch of the austral summer. "We have isolated unusual decay fungi in wood in contact with the ground," he said, noting the problem is particularly bad at Cape Royds.

"These fungi are different from those that attack wooden structures in more temperate areas. These fungi are currently being identified and characterized. They apparently can become active in the short summers weeks, go dormant for the rest of the year and become reactivated the next year."

Inside the huts, excessive mold was found on everything from paper to various artifacts.

Blanchette said a large amount of blackish-green mold was also discovered when they evaluated wood storage boxes separating the kitchen from the sleeping quarters at Cape Evans. And decay is taking its toll on items such as a reindeer sleeping bag on a bunk used by Scott.

"There are actually large chunks of hair that had fallen off of it and were on the floor," Blanchette said. "That's serious."

The rate of decay due to humidity appears to be increasing as exterior deterioration leaves the huts more exposed to the elements. In addition, tourists can bring moisture into the huts by wearing boots that have snow on them — or simply by breathing, which boosts humidity.

"Whether tourism is a big source or not is something we need to look at," Blanchette said. Environmental monitors in the huts are providing hourly readings of the humidity in the huts on a year-round basis. Blanchette said the data will be matched up against storms and other events in the region, hopefully providing indicators of what allows moisture to get into the huts. Tourists are also contributing to the deterioration of the huts in other ways.

"There's also obviously an increase in numbers of visitors and the human factor is a real concern for the long time survival of these buildings," said Nigel Watson, executive director of the Antarctic Heritage Trust. "A number of artifacts continue to be moved and in some cases removed from these huts."

A study recently issued by the New Zealand Antarctic Institute indicates most of the damage and potential damage appears to be unintentional. "All visitors to the huts have the potential to cause damage, either intentionally or unintentionally, although tourist visits are generally tightly managed with close supervision inside the huts," the study notes. "However, visitors may not always be fully aware of the historic value of artefacts(sic) surrounding the huts or of the damage that may be nintentionally caused by handling or rearranging artefacts that are lying on the ground."

Also of concern are spills from fuel brought in by the early explorers. Blanchette said the fuel for vehicles — which never worked well - was left behind in storage containers when the expeditions departed the Ice.

"Especially on the hill above the Cape Evans hut you can see the remains of tanks there that have leaked out and contaminated the soil with these petroleum products," he said. "We know there's hydrocarbons that have leaked (but) we don't know how far it has moved."

Blanchette said his group will spend next season evaluating the effectiveness of protective measures such as the wood treatments and continuing to evaluate the sites. He said he's hoping to return in future years and that others are willing to make a long-term commitment to preserving the huts.

"If we can identify the current deterioration that's there and put in the correct measures, there's no reason those huts and their contents will not last forever," he said.

## TO AN ANTARCTIC TRAVELLER

By Katha Pollitt (Submitted by Billy-Ace Penguin Baker)

#### 1.

When you return from the country of Refusal, what will you think of us? Down there, No was final, it had a glamour: so Pavlova turns, narcissus-pale and utterly self-consumed, from the claque, the hothouse roses; so the ice perfects its own reflection, cold Versailles, and does not want you, does not want even Scott, grinding him out of his grave—Splash! Off he goes, into the ocean, comical, Edwardian, a valentine thrown out. Afternoons in the pastry shop, coffee and macaroons, gossip's two-part intricate inventions meshed in the sugary air like the Down and Across of an endless Sunday puzzle —

what will such small temporizations mean to you now you've traveled half the world and seen the ego glinting at the heart of things? Oh, I'm not worried, I know you'll come back full of adventures, anecdotes of penguins and the pilot who let you fly the cargo — but you'll never be wholly ours. As a green glass bottle is mouthed and rolled and dragged by the sea until it forgets its life entirely - wine, flowers, candles, the castaway's save me meticulously printed in eleven languages - and now it rests on the beach-house mantel opalescent, dumb: you'll stand at the cocktail party among the beige plush furniture and abstracts, and listen politely, puzzled, a foreigner anxious to respect our customs but not quite sure of the local dialect, while guests and all the time you hear the waves beat on that shore for a million years go away go away go away and the hostess fills your glass and offers crackers.

#### 2.

They named a mountain after you down there. Blank and shining, unclimbable, no different from a hundred nameless others, it did not change as you called to it from the helicopter it was your name that changed spinning away from you round and around and around as children repeat a word endlessly until at last it comes up pure nonsense, hilarious. It smashed and lay, a shattered mirror smiling meaninglessly up at you from the unmarked snow.

More lasting than bronze is the monument I have raised boasted Horace, not accurately, and yet what else would we have him think? Or you, that day you wrote yourself on the world itself and as the pilot veered away forever saw mist drift over your mountain almost immediately and your name stayed behind a testament of sorts, a proof of something though only in the end white chalk invisibly scribbled on a white *tabula rasa*.

### BIRTH OF THE PM-3A -

This is part 1 of a 2 part series submitted by OAEs Herb Pollock & Frank Crowson

In the early 1950's the Department of Defense (DOD) decided to embark on a program of permanent, land based nuclear powerplants for use in the military establishment. Since the defense budget precluded the simultaneous development by each service department of this new and innovative technology, the DOD tasked the separate services with a unique, tri-service program of development.

The U.S.Corps of Engineers, along with the CEC Corps of the Navy and the Air Force, working in consonance, advanced a concept of low to high power plants for installation in adverse envrionments and for numerous specific tasks.

The first test unit saw the emergence of the APPR-1, or, Army Package Power Reactor 1. This unit succeeded in being the first Nuclear Reactor to produce useable electric power in the United States. That Plant, then renamed the SM-1, synchronized with the Virginia Electric Power Net in April, 1957. This synchronization took place about 14 days before Dusquene Nuclear Electric Station synchronized with the Pennsylvania Grid, hence "first in U.S.". The SM-1 Plant served as a training facility for all future military reactors, and as an augmentary electric power source for Fort Belvoir, Virginia. Upon successful operation of the SM-1, DOD expanded its vision to the other services and other climes. The PM-2A was installed on (really under), the Greenland Icecap. The Army installed a second plant, the SM-1A, at Ft Greeley, Alaska.

The Air Force erected the PM-1 at Sundance , Wyoming. Thoughts turned to the most demanding environment — Antarctica.

Early in 1961 the plans for the PM-3A were formulated and a contract for construction awarded to Martin Aircraft Company. The initial crew was selected from among Corps of Engineers trained Navy personnel, then gaining further experience as instructors and operators at the SM-1. These Seabees and Medical Corpsmen were transferred to the Martin Plant in Baltimore, Maryland to assemble, test, package, and ship the plant to McMurdo Station that austral summer.

The Navy crew and Martin employees, engineers and craftsmen alike, worked feverishly for several months to manufacture and assemble all the plant components. After all components were individually tested, the crew and and Martin personnel "tied them all together" and performed a "hot functional" test. They utilized the boiler from the decommissioned battleship, USS *Hawaii*, to produce steam for the test. The mechanical and electrical systems were caused to produce electric power. Simultaneously, the nuclear core was tested in the Martin Zero Power Test Facility and proved viable.

The plant was tested to 105 % power in up to 95 ambient degree temperatures. The plant was then disassembled and packed for shipment to Davisville, Rhode Island, to be loaded aboard the USNS *Arneb* for subsequent shipment to McMurdo Station, Antarctica. A near disastrous truck collision with an overhead bridge just a few miles from the Martin Plant in Maryland, badly damaged one of the condenser sections requiring emergency repairs and expedited shipment to make to the *Arneb* by sailing time. This caused much anxiety at DOD because of the potential effect on an already protracted site erection schedule imposed by the extremely short Antarctic summer season.

While the plant was in transit on the Arneb the crew was flown to The Ice along with the members of MCB-1, the chosen erection crew. This Team began preparing the site and erecting the buildings for the plant immediately upon their landing at McMurdo.

The SeaBees of MCB-1 first blasted, dug, and somehow prepared two large excavations to receive the primary tank vessels comprising the nuclear portion (called "The Primary System") of the plant. A second set of excavations was prepared for the planned PM-4 to be installed at a later date. Plans for the PM-4 were later cancelled.

The *Arneb* arrived on 16 Dec 1961 and began unloading the plant components. Activity escalated at the Observation Hill site to more than a hectic pace. The two Primary Containment vessels weighing in at more than two hundred tons each) were bulldozer "snaked" some 300+ feet up Observation Hill and inserted into the prepared excavations. The Secondary System (condensers, pumps, feedwater heater, air ejectors, electric generator and miscellaneous ancillary equipment) were erected simultaneously. The entire plant was reassembled, tested, and readied for heat-up in a mere 81 days!

On 4 Mar 1962, the PM 3-A nuclear reactor achieved initial criticality. Thus, in only 18 months after conception, this plant deemed by many as impossible to bring to fruition, was a *fait-accompli*. Again Seabee diligence and "know-how" proved the "nay sayers" wrong.

On 10 Jun 1962 the plant went "on line" and began supplying reliable electric power to all McMurdo Station.

The PM 3-A Plant proved the feasibility of nuclear power in even the most adverse of environments. The PM 3-A continued to supply electric power for many years.

In 1966, a standard Navy seven-tray distillation unit was added to the site. Secondary System exhaust steam was used as a heat source for the distillation unit. Seawater was pumped from beneath The Ross Ice Shelf via another victory of unique hydraulic engineering, (Seabee ingenuity, of course) as a source of raw water for the "still". The PM 3-A was now the primary source for all Base electric power, quarters and facility heating, and potable water for drinking , cooking, and sanitary usage.

In the next installment, we will supply the amazing statistics and arduous operating evolutions, which were compiled by this nuclear plant and its 24-man crew, replaced annually for the life of the plant.

# Pondering a Climate Conundrum

**in Antarctica** Press Release 02-03 – National Science Foundation – January 13<sup>th</sup>, 2002

# Unique, distinct cooling trend discovered on Earth's southernmost continent

Antarctica overall has cooled measurably during the last 35 years - despite a global average increase in air temperature of 0.6 degrees Celsius during the 20<sup>th</sup> century - making it unique among the Earth's continental landmasses, according to a paper published today in the online version of *Nature*.



Sunlight plays off the Canada Glacier in the Wright Valley, one of the McMurdo Dry Valleys – Photo credit: Peter Doran/National Science Foundation

Researchers with the National Science Foundation (NSF) Long-term Ecological Research (LTER) site in Antarctica's Dry Valleys - a perpetually snow-free, mountainous area adjacent to McMurdo Sound - argue in the paper that long-term data from weather stations across the continent, coupled with a separate set of measurements from the Dry Valleys, confirm each other and corroborate the continental cooling trend.



The U.S. Antarctic Program field camp at Lake Hoare in the McMurdo Dry Valleys, with the Canada Glacier in the background. Photo credit: Peter West/National Science Foundation

"Our 14-year continuous weather station record from the shore of Lake Hoare reveals that seasonally averaged surface air temperature has decreased by 0.7 degrees Celsius per decade," they write. "The temperature decrease is most pronounced in summer and autumn. Continental cooling, especially the seasonality of cooling, poses challenges to models of climate and ecosystem change."

The findings are puzzling because many climate models indicate that the Polar regions should serve as bellwethers for any global warming trend, responding first and most rapidly to an increase in temperatures. An ice sheet many kilometers thick in places perpetually covers almost all of Antarctica.

Temperature anomalies also exist in Greenland, the largest ice sheet in the Northern Hemisphere, with cooling in the interior concurrent with warming at the coast.

Peter Doran, of the University of Illinois at Chicago, the lead author of the paper, and his coauthors, acknowledge that other studies conducted in Antarctica have deduced a warming trend elsewhere in the continent. But they note that the data indicate that the warming occurred between 1958 and 1978. They also note that the previous claims that Antarctic is warming may have been skewed because the measurements were taken largely on the Antarctic Peninsula, which extends northwards toward South America. The Peninsula itself is warming dramatically, the authors note, and there are many more weather stations on the Peninsula than elsewhere on the continent.

Averaging the temperature readings from the more numerous stations on the Peninsula has led to the misleading conclusion that there is a net warming continent-wide. "Our approach shows that if you remove the Peninsula from the dataset, and look at the spatial trend. The majority of the continent is cooling," said Doran. He added that documentation of the continental cooling presents a challenge to climate modelers. "Although some do predict areas of cooling, widespread cooling is a bit of a conundrum that the models need to start to account for," he said.

The Dry Valleys are the largest ice-free area in Antarctica, a desert region that encompasses perennially ice-covered lakes, ephemeral streams, arid soils, exposed bedrock and alpine glaciers. All life there is microscopic.

The team argues that the cooling trend could adversely affect the unique ecosystems in the region, which live in a niche where a delicate balance between freezing and warmer temperatures allows them to survive and where liquid water is only available during the very brief summer. They argue that a net cooling of the continent could drastically upset that balance. "We present data from the Dry Valleys representing the first evidence of rapid terrestrial ecosystem response to climate cooling in Antarctica, including decreased lake primary productivity and declining soil invertebrates," they write.

Their data, they argue, are "the first to highlight the cascade of ecological consequences that result from the recent summer cooling."

# MEMBER INPUTS TO THE EXPLORERS GAZETTE

All members are invited to submit articles of their experiences or current activities for insertion in the Explorers Gazette. Please submit them to Jim O'Connell by the end of the 2<sup>nd</sup> month of the quarter

## KING PENGUINS

**Extracts from: A Visual Introduction to Penguins** - by Bernard Stonehouse

Composed & edited by Billy-Ace Penguin Baker



#### WHERE DO THEY LIVE

King penguins breed on most of the islands in the southern cool temperate zone, including the Falklands, South Georgia, Marion, Prince Edward. Crozet, Kerguelen, Heard and Macquarie Islands. They may also breed on Staten Island, off the coast of Tierra del Fuego. Hunted for oil during the 1800s, they were exterminated altogether from some of these areas and severely reduced on others, but seem now to be increasing rapidly on most or all of their breeding grounds.

their down.



#### WINTERING CHICKS

**D**uring winter the weather on the breeding colonies grows colder and windier, and snow covers the ground. The amount of food available in the southern oceans decreases sharply, and many kinds of animals go hungry. King penguin chicks that have been fed regularly every two or three days through late summer and autumn, reaching weights of 22 pounds or more, find feeding visits severely reduced from late April. They may now see their parents only once every three or four weeks.

All the unoccupied adults leave the colony for the winter. The chicks huddle together several thousand of them in a single mass — to keep warm. When a parent returns to the colony with food, it stands at the edge of the huddle and calls. If its own chick hears, the chick responds with a whistling call of its own. Parent and chick recognize each other by their calls. The two get together, and the chick is fed for two or three days.

During these hard winter months, not surprisingly, every chick loses weight. Those that start the winter at only 11-13 pounds have little chance of surviving the lean months. They starve to death. Those that start at 22 pounds or more stand a better chance. Living mainly on their fat, they survive until September, when food returns to the sea and feeding visits become more frequent. By October the survivors are fattening again. By November they weigh almost as much as their parents, and are starting to shed



#### WOOLLY CHICKS

The hunters who first visited the islands of the southern oceans in search of seals discovered groups of strange penguins covered with reddish brown furry down, like teddy bears. They killed and skinned some of these strange birds and brought them back to civilization. The museum scientists who described the skins thought they must belong to a new species of penguin, which they called "woolly penguin." They turned out. however, to be no more than the chicks of king penguins.



#### BREEDING

The first king penguins to start breeding in spring are usually those that failed to breed in the previous late summer, or lost their chicks during the winter. They molt in September, and return to the colonies to start courting in October. In courtship, males stand on the colony with head up, neck stretched and flippers extended, making long braving calls that tell females they are ready for mating. Females (which are usually slightly smaller) respond by moving alongside and giving similar calls of their own. Pairs wander off to find a place, often among thousands of others, where they can continue courting and lay their eggs without too much jostling and fighting. The first eggs appear in late November. There is no nest. Like emperors, kings carry the egg on their feet, pressed against a bare patch on their abdomen for warmth, and protected by surrounding feathers. The males take charge of the eggs, and incubate them on their feet for the first two or three weeks while the females return to the sea and feed. Then the females return, and the two partners take turns at incubating. The eggs hatch after 54 days, and both parents feed the brown downy chicks from their crops. They grow quickly, and by April have reached weights of about 22 pounds.

# GLACIER RESTORATION LOG – 13

10 FEBRUARY 2002 By Ben Koether

1. The year end fund raising suffered, as did other charities, from the 9-11 hangover. However, we did bring in considerable support and increased our number of donors. The most significant contributions were from two entities, one anonymous supplying a new Kohler Generator for the ICEBUCKET. The other contribution was from Peterson Power Systems. This firm has been loaning us a generator that supplies power to our work parties. It now is ours permanently!! These are very significant contributions with a value of over \$30,000.

2. We have completed preparations for the transfer of an "as new" Emergency Generator Room complete with day tanks, fire extinguisher systems, and electrical switchgear. This operation will take place in March. This equipment will be installed in a new space to be designed by M. Rosenblatt & Sons to meet IMO and USCG regulations for emergency power aboard Inspected Vessels.

3. Glacier Society participated in the Annual meeting of the United States Arctic Research Commission this past January, by invitation of its Chairman, George B. Newton. We invite you to visit

www.uaa.alaska.edu/enri/arc\_web/princip.htm.

Here you may observe the synergies possible with the cooperation of the Glacier Society and many existing research programs. We were fortunate to meet all the Commissioners and the staff members including Dr. Rita Colwell the most distinguished leader of NSF and a strong proponent of increased research in the Arctic. The Society presented its vision of the restoration process and the planned scientific use of the vessel. We believe the future is promising indeed.

4. Last week the Glacier Society toured England to lay the foundation for establishing formal links in the UK via becoming a UK entity registered with their Charity Board. This will enable UK resident Polar Explorers to join our team and participate in their local currency. We held numerous meeting, which included our Board members Alexandra Shackleton and Peter Fuchs.

5. Glacier Society will participate in the Annual Winter Board Meeting of the HNSA, (Historic Naval Ship Assoc.) and then the Navy Memorial Dinner the first week of March. Meetings with our Congressional supporters, and MARAD will be perused to complete the transfer documents and prepare to move the ship to the pier at Mare Island. This will be followed by a two-week work period aboard ship. We will be ready to move shortly.

6. The following skills are needed, and can be executed from home. Please help us find volunteers:

- a. Grant writers
- b. Authors for the newsletter & public relations
- c. Researchers to search the national Archives under our direction

Respectfully,

Bernard G. Koether Chairman Glacier Society, Inc. www.glaciersociety.org

#### OAEs ON THE ROAD

Editor's Note: This is a new section I will run but I need your inputs. A lot of our members have special Antarctic Related displays on their vehicles and are seen traveling throughout the country. If you have something special you would like displayed, please send a digital photo of it to <u>penguin64@att.net</u>

If you come up on this while on the highways and by-ways of our country, it is on the back of OAEA Member Bobby Hook's RV homeported in Quitman, AR. Give him a horn honk, he might just have the coffeepot on. Bobby says the side number in this painting is 319 and has a special claim as to how it became named "Penguin Express"



#### **Association Officers**

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MEMBERS SUPPORTED ANTARCTIC RESEARCH FOR 55 YEARS