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U.S. Antarctic Program Gets High-Level Attention

by Guy Guthridge, NSF OPP, Public Information Specialist

A September 1995 request by a U.S. Senate committee for an examination of the validity of the policy contained in [the President's 1982] Memorandum 6646 [on U.S. Antarctic policy and programs] has resulted in a White House policy study and a National Science Foundation (NSF) "external panel" that is reviewing the way the United States does its business in Antarctica.

The two events are, in effect, a two-step review—the first in 15 years—that, when done, will help shape what the United States should do in Antarctica and how it should do it.

The first step was a 90-page report published in April by the Committee on Fundamental Science of the President's National Science and Technology Council.

Titled "United States Antarctic Program," (USAP) the report concludes that "essential elements of U.S. national and scientific interests are well-served by continued involvement in scientific activity in the Antarctic as carried out by the USAP. . . . The influential presence of the U.S. in Antarctica helps maintain the existing state of international peace and stability on the continent."

The science carried out in Antarctica is of great general interest and provides unique and crucial information in several disciplines.

But the Council also noted that the high scientific value of the program in the face of budgetary uncertainties places a high premium on detailed understanding of options for cost reductions. So it recommended that NSF convene "a specially constituted external panel" that would "explore options for sustaining the high level of USAP science activity under realistic constrained funding levels."

A driver of both the Senate's request and the Council's recommendation was NSF's need to refurbish Amundsen-Scott South Pole Station, estimated by NSF to cost \$181-million at a time when federal science budgets are not increasing.

The external panel was established by the Director of NSF in August. It has eleven members and is chaired by Norman R. Augustine, Vice Chairman of the Board and Chief Executive Office, Lockheed Martin Corporation.

The panel has met once (Oct 11-12) and will meet again before making an inspection visit to U.S. facilities in Antarctica (event V-001, Dec 29 - Jan 3). Neal Lane, NSF's Director, has asked the panel to "examine and make recommendations concerning: the stations and logistics systems that support the science while maintaining appropriate environmental, safety, and health standards; the efficiency and appropriateness of the management of these support systems; and how and at what level the science programs are implemented."

The panel's views and recommendations should include consideration of eventual replacement of South Pole Station and other infrastructure.

The panel plans a preliminary letter report late this year or early next to inform the fiscal 1998 budget process and will convene once or more in early 1997 to write a final report.

Mr. Augustine wishes to receive comments from the public, including participants in USAP, on how the nation should conduct its business in Antarctica. Comments should be clearly and briefly stated and based on a sound understanding of one or more factors relevant to USAP.

These factors include science, engineering, technology, operations, maintenance, construction, and management. Testimonials won't be much use: the new NSTC report answers (affirmatively) the question of whether the United States should be in Antarctica.

What's required are concrete suggestions to improve the efficiency or the effectiveness of the Antarctic program. Suggestions meeting guidelines and received by Dec 10 will be made available to the panelists before their next meeting.

Please send them to Guy Guthridge, Executive Secretary, U.S. Antarctic Program External Panel, Room 755, National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230 (gguthrid@nsf.gov).

Second Appendicitis Case Airlifted From Polar Duke

by JOC(AW) Jacqueline Kiel

A man suffering from acute appendicitis was medevaced from R/V Polar Duke on Monday, Dec. 3.

According to Greg Packard, Marine Project Coordinator, R/V Polar Duke, Tor Ole Jensen, a Rieber crew member began experiencing abdominal discomfort during the night of Dec, 1.

At the time of the incident, the ship was operating in the western Weddell Sea. Jensen was picked up by a helicopter from the Brazilian ship R/V Ary Rongel, and taken to a Chilean Base on King George Island where he boarded a Uruguayan C-130 for the flight to Punta Arenas, Chile.

Jensen arrived at Punta Arenas on Tuesday. He was transported to Clinica De Magallanes where he was diagnosed as having a clear case of appendicitis. He underwent surgery on Wednesday.

Jensen was expected to remain in the hospital for a couple of days before going home to Norway.

Town Officials Work To Relieve Room Overcapacity

by JO2 Trevor Poulsen

Crowded rooms will soon be a thing of the past in McMurdo. Recent incidents of overcapacity in buildings around town have caused department heads to re-examine the enforcement of fire codes.

"Every building has a maximum safe occupancy number that has been put together by the fire department and this number they felt was being exceeded," said Al Martin, McMurdo Station Manager. "The question is: If there

was a fire, could everybody get out in a sufficient time?"

Martin gave examples where room capacity regularly exceeds safe limits: town parties at the gym, the Erebus club on a Saturday night with a live band, and the Sunday Science Series in the E-side galley.

"One of the discussions that we had (at the Station Manager's meeting) is the possibility of changing the clubs around so that the smoking club, the Erebus, which is the largest club, is changed to a non-smoking club," said Martin.

"About 30 percent of the population are smokers, so it would seem to make sense that the larger club be made non-smoking and we hold all of our functions in that club."

The maximum occupancy limit for the Erebus has been set at 152 persons. The following are limits for other buildings: Southern Exposure, 94; Coffee House, 96; Hut 10, 34; Gym, 245; Galley, 141 (E-side), 140 (O-side).

Martin indicated that maximum room capacity for the Erebus could be increased to 243 persons if leaning bars replaced tables.

Some other changes that are being discussed include installing panic bars on gym doors and reserving seats for the Sunday Science Series.

"We have to keep in perspective that the main issue here is fire safety within the building," Martin added. "We're trying to balance safety concerns with community morale to come up with a reasonable approach to managing overcapacity."

AROUND USAP

by JOC(AW) Jacqueline Kiel

McMurdo Station - The Power Plant still has two generator engines down. One is being repaired, and the other is awaiting a new block. Of the four serviceable engines, three are on-line and one is a stand-by.

Removal of the power plant building, which was the last building slated for removal from William's Field, was completed on Saturday. Removal of most of the permanent buildings at the field took less than a month to complete.

South Pole - Lt. James Studebaker, from the National Naval Medical Information Command, visited the station to investigate the feasibility of setting up telemedicine at the pole. This would give the capability of video teleconferencing and teleradiology, which is sending diagnostic resolution x-ray images that can be read by a radiologist in San Diego.

The station also hosted members of the BBC media. They are on the continent to film a documentary about Antarctica.

R/V Nathaniel B. Palmer - The ship arrived at Lyttleton, NZ on Nov. 30. where they took aboard supplies, new equipment and personnel in preparation of the next research cruise. The ship departed Lyttleton on Thursday to begin research while on its way back to McMurdo Station.

The research is an interdisciplinary study on ocean-atmospheric variability and ecosystem response in the Ross Sea. Several components will be looked at, including physical oceanography, biological communities on the sea floor and the abundance and activity of algae and bacteria in the Ross Sea.

R/V Polar Duke - The ship is supporting research on the ecology of animals within the upper water column in the Powell Basin region of the Weddell Sea. Sampling continues using a large-mouth multiple open/close net unit that can sample at various discrete depths during the same cast.

The acoustic moorings that were deployed a couple of weeks ago continue to monitor animal abundances, distributions and movements in the upper water column.

Palmer Station - Several research teams arrived at the station during November. One team is looking at the reproductive endocrinology of Adelie penguins on Torgersen Island. Currently, they are following the reproductive success of 251 pairs of Adelies in 14 different colonies on the island.

Another field-team is studying ozone depletion and how the increase of dangerous ultraviolet radiation affects the two native Antarctic vascular plants.

Christchurch - A new New York Air National Guard LC-130 "Hercules" was christened on Monday and was named "City Of Christchurch." Present at the dedication were Ambassador Josiah Beeman, Christchurch Mayor Vicki Buck, Dr. Richard Zare, Chairman of the National Science Board and Dr. Neal Sullivan, Director of the Office Of Polar Programs for the National Science Foundation.

ASA Logistics Director Receives Top Award

by Val Carroll, ASA Public Affairs

Sam Feola, Logistics Director for ASA, was awarded the "James T. Holmes Professional Award" from Holmes and Narver, Inc. in a ceremony that was held in Orange, California on Nov.

This award is the highest and most prestigious individual award at Holmes and Narver, Inc (H&N). Ron Koger, Project Director for ASA elaborates, "Sam's eighteen years of excellent service to H&N and the consistently outstanding performance of the Logistics Division were the basis for his selection."

Sam began work in the Antarctic as a Naval aviator in 1976, served two tours in VXE 6 as the helicopter operations officer, and then went to work for H&N. He has spent over 37 months on the ice and has initiated many operational changes for the U.S. Antarctic Program that have resulted in substantial cost savings and increased efficiencies.

H&N is a top U.S. architecture and engineering firm, and its subsidiary, Holmes & Narver Services, Inc., is the managing partner of the ASA joint venture.

SCIENCE PROJECT UPDATE

- by JOC(AW) Jacqueline Kiel

Physiology and Energetics of the Aptenodytes (S-026) This season, Dr. Gerald Kooyman and his field team will look at four major areas in their continuing emperor penguin study. Those areas include the physiology of diving, the ontogeny, or course of development, of diving in chicks, the development of methods to ascertain foraging success, and a chick census at the major western Ross Sea colonies.

Kooyman and his field team will conduct research in several areas. A population census and foraging measurements will be done at Cape Washington. Penguin fledgling observations will be done at Cape Crozier. They will also be working at McMurdo Sound and the ice edge.

The team will use an under-water observation chamber, a remote camera and scuba dives to record underwater behavior of penguins in McMurdo Sound.

West Antarctic Glaciology - IV (S-173) The objectives of this project are to define the present net mass balance of the west Antarctic ice sheet and to understand the physical controls on the size and motion of ice streams flowing through the ice sheet.

Dr. Robert Bindschadler and his field team will use satellite imagery to monitor changes near Crary Ice Rise and

to map current surface dynamics of Pine Island and Thwaites Glaciers.

Additionally, the field team will resurvey a grid area between Byrd Surface Camp and the upstream regions of Ice Stream D that was established last season. Information from the survey and the satellite imagery should identify the nature of the ice flow as it forms a rapidly flowing ice stream.

NSF Program Brings Teacher To The Ice

by Samantha Tisdal

In the past two months, Dom Tedeschi has mutated from a teacher into a lab rat. His family and friends back in Norwich, Conn., would hardly recognize the man who now spends up to sixteen hours a day extracting exotic chemicals from equally exotic forms of Antarctic sea life.

Tedeschi, who has spent the past few decades teaching physics to inner-city high school students, revels in turn his life has taken since he was selected to participate in the National Science Foundation (NSF)-sponsored Teacher Experience in Antarctica program.

"It's probably going to be difficult to go back to reality next month," he sighed.

At first Tedeschi wasn't quite so certain his experience would be a positive one; his expertise lies in physics, yet he was inexplicably assigned to S-022, a science group studying the chemical ecology of McMurdo Sound.

The project, headed by Bill Baker of the Florida Institute of Technology, primarily focuses on sponges, teropods, and other sea-floor invertebrates which manufacture chemical compounds as a means of self-defense.

"When I first heard about the project I was assigned to, I thought 'What a miss-match!'" the teacher admitted. "I really don't know that much about chemistry or biology. I thought I'd be completely at a loss."

What saved Tedeschi was a healthy dose of curiosity, and a willingness to learn the basics from the bottom up. "It took some getting used to," he recalled of his first few weeks in the lab. "After having been a teacher for my whole career, I was back to learning how to do very simple things. But I was very fortunate in that Bill [Baker] is an excellent teacher -- one of the best I've run across."

Tedeschi's experience on the ice hasn't been wholly confined to Crary Lab. His science group has journeyed to such far-flung places as Cape Chocolate, New Harbor, and the Dry Valleys, in search of appropriate specimens.

And as an "extra-curricular" project, Tedeschi has taken on the daunting task of maintaining a "Teacher in Antarctica" homepage on the Internet, featuring photographs and daily journal entries.

"I'm not just reporting my experiences," he explained. "I try to include more general aspects which will be useful and interesting for teachers and students in the classroom."

His web-site: <http://www.neca.com/antarctica>, is being accessed by schools all over the country. Teachers and students alike have responded with enthusiasm to the idea of having an ally on the Ice.

The National Science Foundation introduced the TEA program several years ago as a way to bring the work of the United States Antarctic Program to the classrooms and imaginations of American students, through their teachers. Candidates must first go through an NSF teacher enhancement program, and then apply through a competitive process for placement with a science group in Antarctica.

Tedeschi is one of six teachers selected for this year's TEA program. One of the others, Carol Bennett, is also working in McMurdo right now. The rest of the teachers have been assigned elsewhere, or will be arriving in McMurdo later in the season.

Tedeschi's days of slaving in the Crary Lab, or collecting cyanobacteria in the melt water pools of Cape Chocolate, will soon be over. But his experiences on the ice will no doubt open up a whole new world for students in Norwich, and across the country.

Reduce, Reuse, Recycle

by Suzanne Tegen

In past efforts to reduce our impact on the Antarctic environment, Waste Management has organized grand scale clean ups of the South Pole and McMurdo Stations. Our emphasis is now to "Reduce, Reuse, Recycle."

Many of you are familiar with 1990 video clippings, from the Waste Management briefing video showing landfills and open burning, both of which have now been banned on the continent. Today, we strive for even greater minimizing of our "footprint" and would like to make waste reduction as easy as possible for the community.

Our waste/recycling program is successful due to your participation. However, we'd like to go beyond recycling and look at McMurdo's reduction and reuse opportunities.

Reduction of our waste as individuals starts before we leave home. Canceling junk mail or magazine subscriptions you don't need and packaging personal belongings without unnecessary plastic or paper are just the beginning. Once we are on the continent, using a personal mug or cup instead of a paper one and turning off water and lights when not in use add up to help the Antarctic environment.

In the workplace, the first step to reduction of excess materials is in the ordering process. If work centers have accurate inventory lists, they will not over order materials currently in stock.

Too many reusable materials are shipped off the continent every year. That means work centers have to order new products they could have received at no cost, on station. It also means our precious and expensive vessel space is being used for items that could be reused in McMurdo.

Remember, "one person's trash is another person's treasure," as the aphorism goes. You may be looking for something that someone else no longer needs.

To better serve the reuse needs of the community, Waste Management has set up a pilot program focusing on reusable materials. This is in addition to the already popular Skua Central. The program is based out of building 33 and works closely with our Retrograde department.

How do we reuse? Most items you or your work center need can easily be listed on the LAN under Community Information/ Waste Exchange Program. If you have materials you would like to get rid of and think someone else may use, call us at #2731. Also, check the LAN if you are looking for office, work center, or personal materials (office chairs, rope, light fixtures, work gloves...).

If you have personal items that would be appropriate for Skua Central (our established swap building always open near building 185), please drop them in a town box labeled "Skua Stuff" or take them up to Skua Central yourself. While you're there, browse around. All we ask is that you sign the book if you can use something, to help us record what is being reused. Skua Central carries a variety of items including: paper, file folders, books, shoes, boots, holiday decorations, and clothing.

If you ever have questions or suggestions, please contact us at #2528.

USAP PERSON OF THE WEEK

- by JO3 Roland Ortiz

Antarctic Support Associates (ASA) General Assistant (GA) Tom Staudt helps in different areas of the McMurdo

Community.

Staudt is one of nine ASA GA's that help during the summer season. His job as a GA consists of a variety of separate work areas. "Doing different jobs, we travel to many field camps," Staudt said. "I went to the Dry Valleys to help set up pre-fabricated buildings."

Various ASA operations ask for GA assistance. "They can give us a call and ask us to work for them," he said. "We've gone out to the Penguin Ranch and have helped ASA equipment operators drill holes and even move buildings."

Staudt and the GA's also work in town. "We shovel snow from all the building entrances and also work with the food services sometimes," he said.

Staudt plans on leaving Antarctica in mid-February to travel throughout New Zealand's Southern Island and Queensland, Australia.

A native of Marble Rock, Iowa, he will return to Austin, Texas in late March and work with a wildlife project to help two songbirds on the Endangered Species list.

Tis' The Season To Be Careful

by Thomas Gagnon, McMurdo Fire Dept.

Christmas time is party time for many people. Individuals may choose to visit the fine drinking establishments during the holidays even more so than during any other time of the year.

The increase in social events may cause overcrowding in various clubs, thus creating fire safety issues and concerns. For example, the clubs here in McMurdo can accommodate a certain number of people at any given time. The two factors that dictate building occupancy loads are the number of working exits and total floor area.

All who attend these social functions can help the fire department by making sure that all exits are unlocked and are accessible at all times. When rearranging furnishings and recycling containers, always take into consideration location of exits. This simple task will help the fire department tremendously and ensure the safety of all people attending social gatherings.

Many of us like to decorate our rooms during the holidays by using ornaments, artificial Christmas trees, lights and decorations. Those strings of lights can put an extra strain on electrical outlets. Try to use power strips with in line fuses. Please, also remember that candles and incense are prohibited.
