PAN AM

CLIPPER

GUIDED MISSILES

DECEMBER, 1964

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f.ward

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CLIPPER

CONTENTS

"When they had heard the king, they departed; and lo, the star, which they saw in the east, went before them, till it came and stood over where the young child was. When they saw the star, they rejoiced with exceeding great joy."

cover art by Frank Ward

OUTLOOK

For most people, Christmas is the happiest time of the year. There's joy in the hearts of most folks, and it's usually because they're doing or buying something for someone else. I think it's too bad we don't carry out this spirit all year 'round.

But back to Christmas, 1964.

What is Christmas?

Nearly 2,000 years ago it was a baby's cry muffled by swaddling clothes, the sound of singing angels, a long journey by wise men. Today, it is a man's cry, often muffled by the sound of bombs, yet trying and searching for a way to be heard.

What is Christmas? To a girl it could be that diamond ring given her by the most wonderful man in the world. For a child in Vermont, it is a pair of skis under a pine tree. It is also the story of St. Nicholas . . . the Hallelujah Chorus from Handel's Messiah.

To the foreign-born in America, Christmas is a package in the mail to a loved one behind the Iron Curtain. It is memories, laughter and tears for families the world over.

What is Christmas? It is a time of grace, a time to bring happiness to the lives of others. As long as these customs brighten the hearts of men everywhere, we have hope that peace and goodwill can transform the world.

Jack F. Fortes

Valuable Flotsam

Two barnacle encrusted camera capsules from the Saturn I, SA-7 vehicle were found last month after seven weeks adrift in the Atlantic.

One was found by a Pan Am employee on Eleuthera (see Picture Highlights) and the other was spotted at San Salvador by two Navy men.

In both instances the men were beachcombing and swimming, although they were 140 miles apart.

Color film from the two cassettes, providing data on the rocket's operations (separation, and LOX tank activity) was still in good condition. The capsules had retained the 10 psi internal pressure and had stayed dry inside.

The capsules, which impacted 530 miles downrange, were not recovered earlier because of the high seas from Hurricane Ethel.

Each camera contained 100 feet of film.

Record Earnings Reported

Pan Am's Board Chairman Juan T. Trippe reported record earnings for Pan Am for the first nine months of 1964.

First NRDS 5 Year Pins

The first five-year service pins presented at NRDS were reported in November by personnel representative Sheldon Link. The pins were presented to O. F. Bunnell and W. M. Bennett.

Kennedy Mementos to Europe

A Pan Am Clipper left New York Nov. 10 carrying private papers and personal possessions of the late President Kennedy to Ireland, the first stop in a 15-city tour of Europe.

The memorabilia weighs 30,000 pounds and includes such things as the President's notes on the Cuban missile crisis, test ban treaty, civil rights, his inaugural address and many photographs.

News At A Glance

Times Lauds Agreement

Pan Am's approach to labor contract negotiations was cited as an example for other industries to follow by a lead editorial in the **New York Times.**

The Company's agreements with three unions to arbitrate unresolved contract issues were compared favorably with conditions prevailing in the current railroad labor dispute.

The **Times** deplored automatic acceptance by negotiators that a Presidential emergency board must be named before serious talks can begin. Such, it pointed out, has not been the case with recent Pan Am negotiations.

After citing the report of a wage board headed by former Mayor Richardson Dilworth of Philadelphia in the railroad dispute, the newspaper turned to Pan Am's experience with its unions, stating:

"Pan American World Airways, which operates under the same basic labor law, worked out last year a voluntary standing agreement with three of its unions to arbitrate any issue unresolved in direct bargaining. The result in all three cases has been fruitful negotiations, with no issues sent to arbitration and with contracts concluded much more rapidly than in the past."

The editorial pointed out: "On the very day the Dilworth board issued its sulphurous comments on rail bargaining, Pan Am arrived at a harmonious early wage pact with the Brotherhood of Railway Clerks, a participant in the railroad case."

The **Times** then called upon the railroads and their unions to take a good look at the Pan Am agreements.

"Before floundering further down the road to Federal domination of all their relations," it stated, "the railroads and their unions would do well to study the Pan Am experience as a guide to keeping some element of private decision-making alive in their industry."

Jets at Carnegie Hall

Trinidad's number one steel drum group, the Jet Stars, sponsored by Pan Am, has been scheduled to play a concert at Carnegie Hall.

The band is composed of 20 self-taught musicians and has toured the Caribbean playing in carnivals and festivals.

Their program at Carnegie Hall will range from calypso to Chopin.

Deaths Reported

The deaths of four employees were reported last month by Employee Services.

Cynthia Moore, sick leave clerk at the Cape Dispensary, died 31 October. She was hired in March.

Eleanor Smith, secretary in the Marine Department who retired in January 1963, died 31 October. She was hired in March, 1957.

T. V. A. Montmeny, former maintenance and support Superintendent at San Salvador, died November 2. He was hired 22 May, 1961.

Robert M. Petzold, downrange, first cook, died 16 October. He was hired April 15, 1957.

Christmas Down Range

Even here in the Southern United States, Christmas carries overtones of snow, sleigh bells, pine trees in a crisp, blue-cold setting and a Santa Claus garbed against frigid blasts. Most of these impressions are carry-overs from the European tradition and they are very much a part of Christmas.

What, then, do you do when you are celebrating Christmas on a downrange island, in a place that has never known snow, where every night is a summer night, where the Wassail Bowl is a gin and bitters, where caroling has Calypso overtones, and the nearest Christmas tree is 1,000 miles away?

You improvise. Everything, that is, but the spirit of giving.

Home may be a thousand miles away, but for now, it's there, and there is made to look as much like home as possible.

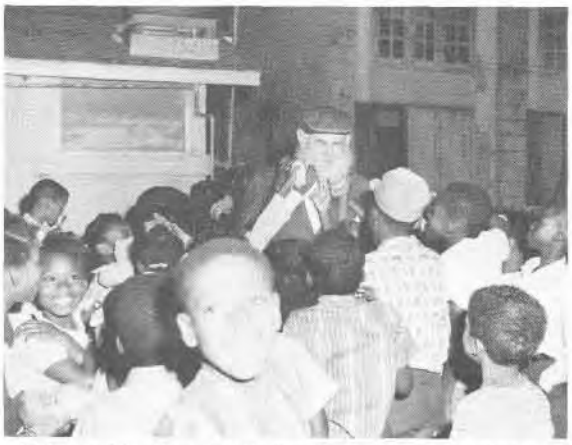
Christmas trees take shape from palm fronds, packing crates, a lightbulb and some bailing wire.

Children are children wherever you may be, and your own, or someone else's, become chief beneficiaries of the gift.

The few American families on the islands often arrange to celebrate together, exchange gifts, dinners and parties, and worship together.

For the men who will not go home, but will man the stations alone, attention is turned to their local friends. On many is-

Kids on Turk get slide for Christmas.



"It's real!" Bert Berthelson's beard is genuine.

lands, the base becomes the focal point of the area.

Grand Turk's station and the Naval facility will hold their combined 8th Annual Christmas party for the local children. Len Sluder, J. E. Butler, N. A. Young, R. B. Randall and J. T. Orr will be among those manning the station.

At Eleuthera, there will be similar combined activities, with the Navy supplying candy, small gifts and decorations and the station providing transportation, movies, cake and ice cream.

Trinidad's BOM Gene Cone reports that they plan decorations and music for the mess hall, and a party at their club as special Christmas events. He listed Chuck Van Meter, Sherman Young, Duke White, J. W. Riley, Bob Husby and Larry McDermitt as long-service employees who would be among those manning the station during the holidays.

Elliott Newell is well down the 'pike, at Pretoria, South Africa. He'll probably be the only old-timer at that station, and they plan to present Christmas packages to their local employees.

Jim Collins, Ascension's BOM, reports that there are no formal parties planned because of the work load and the limited number of men on station during the holidays, but that the chef will go all out to prepare the traditional feast.

Jim listed himself and these old-timers as "on-board" for Christmas: Jim Edwards, Larry Johns, Tom Elder, Karl Bader, J. W. Blanchard, C. R. Conger, J. M. Turner, W. C. Lee, R. T. Warner, R. J. Fortuyn, W. C. McEntyre, J. H. Chesnutt, E. H. Cook, R. A. Kraiker, E. B. Lanier, R. A. Mauger, C. W. Schumacher, T. E. Skelton, L. A. Stewart, J. P. Mederos, J. A. Sellars, R. E. Smith, C. R. Turner, and Doyle Wilhoit.

At San Salvador, an inspiration of the late

At Christmas, this is the elaborate fare.

Navy and Marines cooperate in party plans.

T. V. A. (Tom) Montmeny will again provide a touch of Christmas for station personnel. Tom bought Christmas tree lights himself and erected them on a frame at the station's main gate. Many of the island's residents walk up the road at night to see the tree of lights.

The regard with which Mr. Montmeny was held by his friends on the Range and his efforts to make facilities and occasions "special" are reflected by a letter from Sal. ". . . we have been saddened by the death of the 'grand old can-do man of San Salvador'—Tom Montmeny, our former Maintenance and Support Superintendent. This station is a living tribute to the genuine passion Tom had for doing good for others and making them happy.

"He planted trees, flowers, and shrubs to make a garden of the base. He provided artistic color schemes to the otherwise drab buildings.

"He had a special feeling about Christmas and would decorate the base in Christmas beauty. Tom was modest and would insist that the results were efforts of the team.

"This Christmas the illuminated tree and cross will be lighted in his memory with a wreathed plaque at its foot inscribed: 'In Memory of TVA Montmeny—the Can-Do Man of AAFB San Salvador.' "

T. V. A. Montmeny helped beautify Sal with his own efforts. "Tree" shown below was built with his funds, is island attraction.

Ed Granberry: "By reducing industrial accident frequency and severity, an operation can be carried out in a more economical and efficient manner."

(Editor's Note: The following is an interview with Industrial Safety Superintendent Ed Granberry.)

ACCIDENT PREVENTION

Is Cost Reduction

Question: Why should Pan American be concerned with Industrial accident prevention?

Answer: Two major end results of industrial accidents are economic loss—both to the company and to the employee—and the reduction in the efficiency and overall productivity of the operation. By reducing industrial accident frequency and severity, an operation can be carried out in a more economical and efficient manner.

Q. Is industrial accident prevention the concern of just our safety people alone?

A. NO, industrial accident prevention is the concern of EVERYONE. Needless pain and suffering are certainly not conditions to be coveted. First line supervisors are primarily charged with the positive elimination of potential hazards within the activity under their jurisdiction.

Q. What then is the Safety Section's role?

A. To give professional assistance, technical advice, timely instructions and inspections to let supervision know what progress is being made.

Q. Why is this important?

A. Ninety-eight per cent of all accidents fall in the preventable category. Only two per cent are considered "Acts of God." Identification, isolation and control of the causes of the 98 per cent are the underlying principles of all accident prevention techniques.

Q. Is our Safety Section concerned with home safety and highway safety programs?

A. During 1963 there were over four times as many home and motor vehicle accidents as there were industrial accidents. Therefore, the obvious answer is "yes." The prevention of these accidents is paramount in keeping the employees healthy and on the job.

New Home For . . .

"WALLY" WALLACE

One of the problems in coming back to work in the U. S. after spending several years downrange, said A. A. "Wally" Wallace, new Manager of Range Operations, is that you've lost track of a large group of people.

"There are those who travel the Range, and those who don't," he said. "Right now I don't know many of the non-travelers, and I'm catching up."

Wallace, until last month, was the genial BOM of Antigua. His posts before that had been as BOM of Ascension, Grand Turk and as Assistant BOM on Ascension. He came to work with Pan Am in 1959 and entered Operations School before starting the downrange trek.

Of the three posts, he considers Ascension the most interesting and Antigua the most pleasant.

We remarked that in our own island-hopping we had found Turk to be a place at which one could feel at home in a hurry. Wallace agreed. "It's strange, because as far as living facilities go, there's not much there. But for some reason the station has always been a friendly, energetic place."

Ascension, he said, is interesting to him in its growth from the primitive in both living conditions and instrumentation. "It's on the terminal end of most of the ICBM testing," and that, he said, can be pretty spectacular sometimes.

Wallace is married. His wife is a pretty brunette named Olivia, and he has three sons.

We asked if it looked as though life in the states would agree with them. "Well, the boys lived on the beach every day for two years," he said, "they have a 'Biwi' (British West Indies) accent, and will probably have to learn to say 'Z' for 'Zed', but they'll adjust."

Wallace is a native of Durham, North Carolina and grew up in Florida. He was graduated from Duke in 1953 with a Bachelor's degree in Chemistry. He later entered the Marine Corps and served from 1953 through 1957 as a pilot.

CALCULUS TO CATTELEYAS

by Jo Du Bois

Mathematics and orchids would appear to be worlds apart, but to Elizabeth Page they're a way of life. Her interest in mathematics is life long—but her interest in orchids started when she and her husband moved to Florida in 1958.

Her aptitude for mathematics quite naturally led to a degree in math and from there to work in the computer field. As Elizabeth says, "I just happened to be in the right place at the right time."

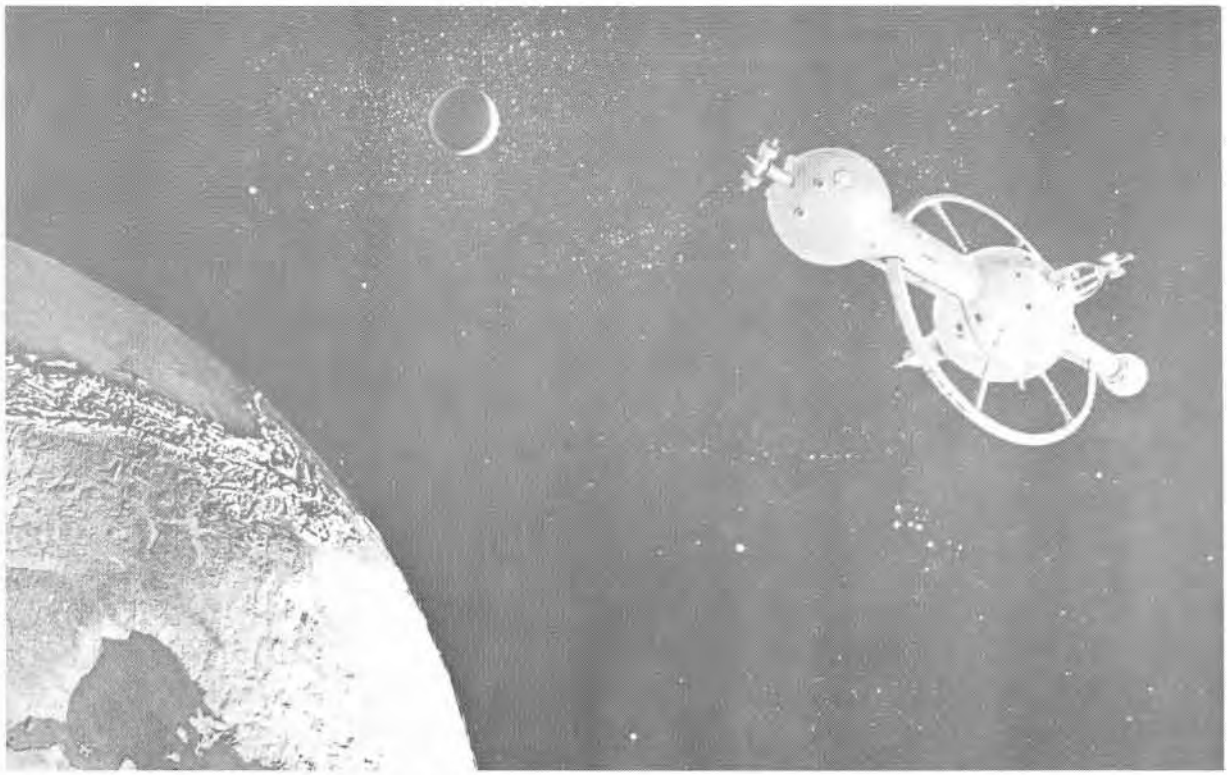
As an engineer in GMRD's Data Handling section, she evaluates equipment needs in data processing and arranges to get new equipment or modify existing equipment to satisfy the needs of various Pan Am groups or Range users.

Her interest in orchids began when she and her husband Howard first visited McKee's Jungle Gardens. She bought one small plant. She now has 3,000!

Elizabeth considers orchids a fascinating but relaxing hobby. Contrary to popular belief orchids are not fragile and according to Elizabeth you can "let them go, temporarily, if the demands of work or social commitments become too heavy."

Her other interests include cooking. She enjoys preparing exotic dishes and she collects cook books.

No doubt future sublo vacations will provide a wealth of material for both hobbies—a whole new collection of recipes from around the world and perhaps some new varieties of orchids for the Page's private greenhouse on Merritt Island.



Artist's concept of manned orbiting laboratory equipped to support 10 men for a year.

SPACE VOYAGE . . .

A Future Look

(Editor's Note: Put on your "thinking-about-space" cap as you read the following article. It contains some personal predictions of Pan Am Technical Staff Scientist Dr. Clair Bemiss on what will be taking place in 1975.)

The time is 1975.

Today, a manned orbiting laboratory is in space containing 10 men with enough supplies to remain in orbit for a minimum of one year.

If their equipment should malfunction, if the nuclear power units need to be replaced, or if it is necessary to transfer or rescue personnel, rendezvous, maintenance, rescue and recovery teams are on a stand-by basis to provide this service.

Main use of the laboratory is the gathering of data concerning distribution of radioactive particles and prediction of solar plasma storms. It is now possible to accurately predict the onset of solar flares.

The United States has additional space exploration programs underway which include two manned lunar bases—one on the observable side and one on the "dark side" of the moon. We also have an active base on Mars and are about to establish one on Venus.

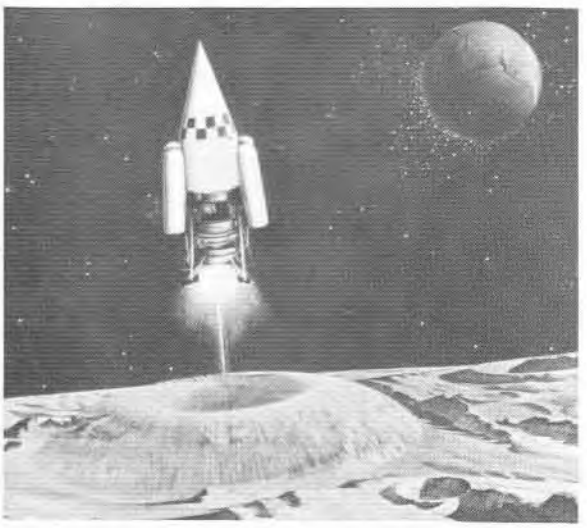
With the activities of the first lunar base, we opened a new vista of information concerning the existence and formation of this galaxy in which we live. We found, for instance, that the atmosphere surrounding the earth did not permit earlier penetration of much information which could have given us valuable clues to the original formation of this galaxy.

The scientific team landing on Mars four years ago, in 1971, proved that life in the form of living, reproducing cells was present on Mars and did account for the changing color patterns observed with astronomical telescopes. Additional "life" research is being conducted now.

Management, today, is faced with the problem of regularly scheduling logistic supply flights to our two Lunar bases, the Martian

Cold, lonely landscape of moon is pictured at left, ready to receive exploration by man in next decade.

This could be Mars and one of the first landings on that puzzling planet: Question to be answered: is there life?



base and the Venusian base currently being activated. Supervision is also charged with the responsibility to select, train and deliver personnel to these bases for rotation on a "duty cycle" basis.

This does not represent merely the simple problem of selecting a number of healthy volunteers, for these must be individuals who are psychologically, emotionally and technically qualified and who have the personality to work together in a new environment.

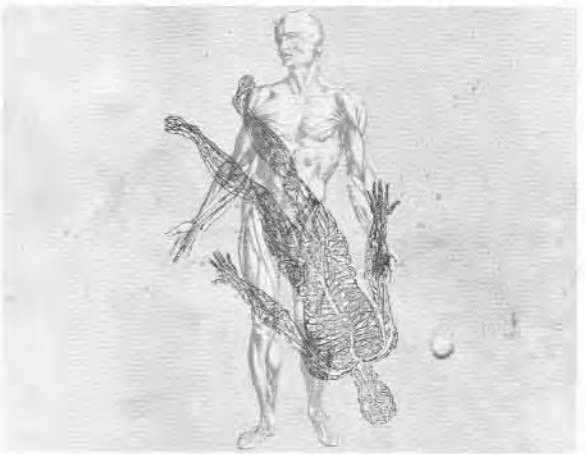
This spirit of close cooperation is the strongest psychological factor that can work toward success of these bases and safe return of personnel. The use of newly-developed psychological tests and actual testing in the environmental chamber of individuals selected for this task, has produced a fine performance record with early detection of weakness or flaws in a candidate's personality prior to assignment to one of our extraterrestrial bases or space stations.

The range now has its own synchronous orbit, range instrumentation satellite network to provide the communications, telemetry relay, trajectory measurement and instrumentation calibration services needed to operate the range at highest efficiency. Normal, unclassified communications are conveyed by high frequency radio signals with classified information data transmitted and received via Laser beams.

Eleven years ago, in 1964, it took 12 to 18 months to prepare a missile program for operational readiness on the range, and 12 to 18 days to have a final data report after the launch. Today, using the newest com-

Continued next page

Man stays big in the space exploration program. Spacemen are carefully trained to be sure they are emotionally and technically qualified.

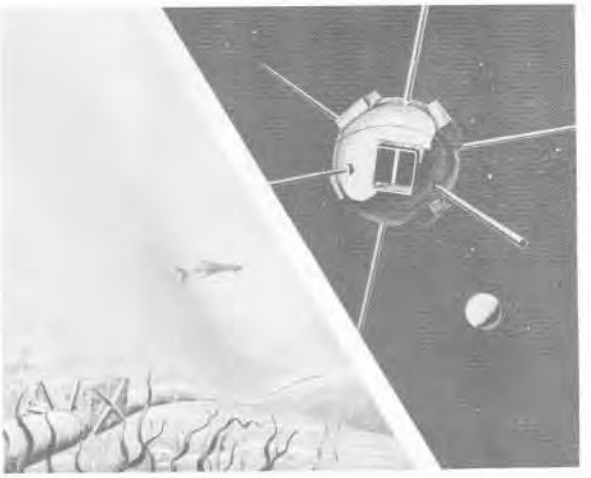


puters, the same planning action requires only 12-18 seconds and all test data is available in T+2 hours. This has been accomplished by storing all information (instrumentation accuracies, range coverage, station support, etc.) in the memory unit of a planning computer.

In the area of facilities support, there is less dependency today on permanent land-based stations than back in the 1950's and '60's. Instead, the trend has been toward installation of a flexible test and operational support range.

This change has been greatly assisted by development of vertical take off and landing (VTOL) logistic supply lines during the past 10 years. Thus, it is now possible to set up a station on a remote island in a very short period of time with this station being completely self-supporting and self-powered. Once the active program or project support has been furnished, the station can quickly be transferred (airlifted) to another location.

Off-shore launch pads are being used to provide support to vehicles with higher sonic levels—those in the range of 100-200 million pound thrust and other vehicles using nuclear fuels with the first stage boosters.



Synchronous orbit, range instrumentation satellite takes prominence over subcable to provide communications and other space support.

Vertical take off and landing (VTOL) logistic supply lines will make it possible to set up tracking stations quickly on remote islands.

Pan Am's C. M. Chadwick rolls the giant Saturn blockhouse door closed.

THE BIG BLOCKHOUSE DOOR

Kids who have cultivated the hobby of slamming screen doors would view with awe and frustration the marvelous portal that seals the entrance to NASA's complex 37 blockhouse.

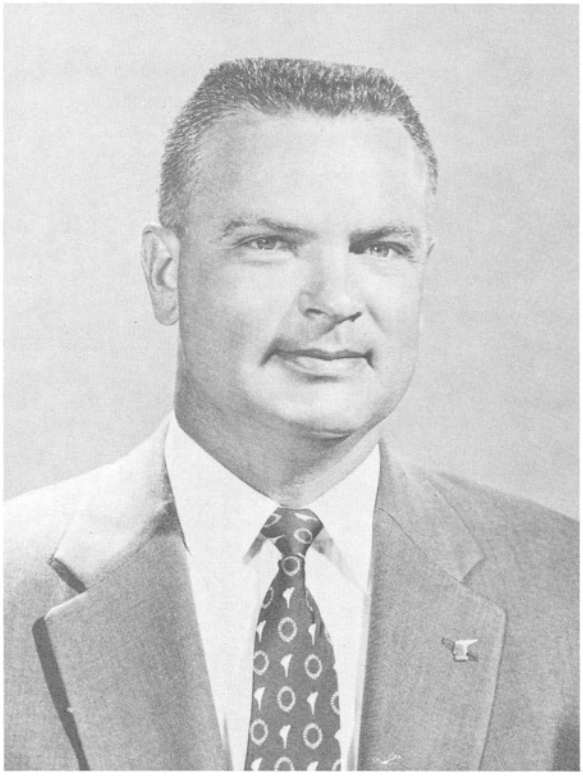
This massive work is steel, 20 inches thick, weighs 10 tons, and if it could be slammed the noise would rival the roaring rocket's racket.

The huge door actually takes about five minutes to close, riding on two six-ton monorail trolleys from its position opposite the entry way.

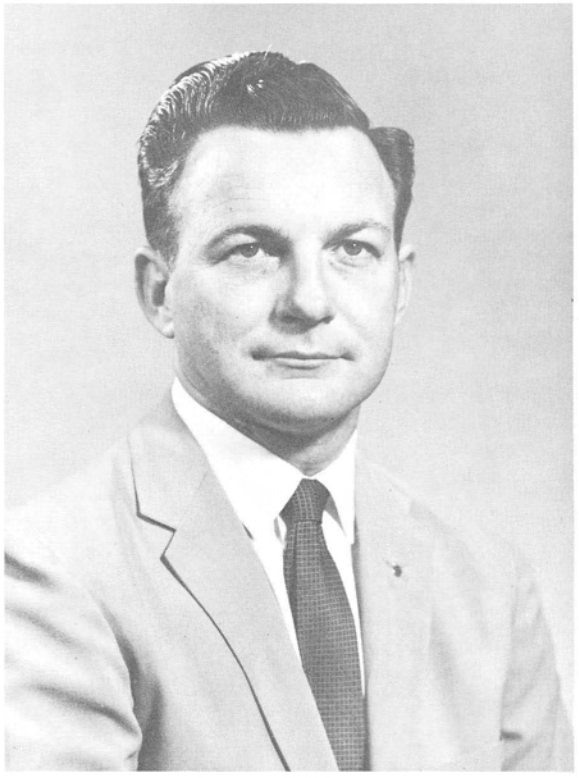
The "main entrance blast door" may be closed by any of several Pan Am mechanics assigned to the Saturn Complex. They roll the door closed to seal the main entrance at about T-110. It is locked in place by six hydraulically actuated cylinders and bolted by locking bars that are 4 inches in diameter. The final seal is inert gas which is pumped around the perimeters to keep fumes from entering.

More than 300 men working inside the blockhouse depend upon the Cape's biggest door to protect them from blast (it can withstand 15,000 pounds pressure), and if the door should get stuck it can be opened manually by a mechanical pump and trolleys.

The big door is about nine by ten feet square and cost almost $15,000. But if a big one ever plops atop the blockhouse, you can bet the men inside will consider it worth every penny.



C. L. Ellis



W. F. Sparks

NEW MANAGERS NAMED

GMRD veterans C. L. Ellis, W. F. Sparks, R. M. Barnes and R. V. Godfrey have been given new assignments in a major organization revision announced this month by Vice Pres. R. S. Mitchell.

Mitchell announced the deleting of the Range Development organization, the staff departments of Value Analysis, Manpower and Organization, and Advanced Planning, along with the Administrative Section of Financial Planning.

At the same time, Mitchell announced the formation of a line organization entitled "Engineering," reporting to General Manager C. R. Borders. The new organization, headed by Sparks, will assume the responsibilties of Facilities Engineering, Systems Engineering, Marine Engineering and a portion of the responsibilities of Range Planning.

Ellis, a member of the GMRD team since his transfer here from the old Latin American Division in 1954, will head a new staff department called Plans and Budgets. Ellis will report to General Manager Borders.

Plans and Budgets will have responsibility for all GMRD planning and budgeting activities, including Advanced Planning, Facilities Planning, Instrumentation Planning, Financial Planning and Budgetary and Manpower Controls.

Ellis previously has been Manager of Technical Operations, Division Technical Manager, and, since 1960, Operations Manager. He has been with Pan Am since 1942.

Sparks, the new Manager of Engineering, has been with Pan Am since 1955, when he left the Naval Ordnance Laboratory to join GMRD as a telemetry project engineer. Since that time, he has been closely associated with Pan Am's ever-increasing role in the technological development of the Eastern Test

Range. For the past year, he has been Manager of System Projects.

Barnes, who returned to GMRD this past Summer after a year as a Sloan Fellow at the Massachusetts Institute of Technology, is the new Operations Manager. He will have responsibility for System Projects, Cape Kennedy, Operations Control, Operations Support, Range Bases, Marine, Meteorology and Operations Training.

Barnes joined GMRD in 1955 as an engineering specialist in electronics. In 1957, he was named Manager of Technical Planning, and in 1958 became Manager of Program Management. He served as Manager of Range Development from 1960 to 1963, and since his return from MIT with a Master of Science degree, he has headed GMRD's Data Processing work.

Godfrey, named to succeed Sparks as Manager of System Projects, was an engineering and planning manager with RCA here from 1953 to 1960, and came to GMRD in 1960 as Manager of Systems Engineering. He was named Range Development Manager in 1963.

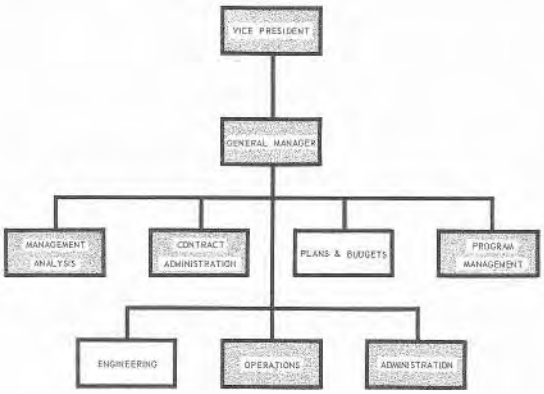
During Godfrey's four and a half years in Systems Engineering and Range Development the unique Twin Falls Victory ship and the two new Advanced Range Instrumentation Ships were added to the missile range "fleet".

The announcement by Vice President Mitchell said the Management Analysis organization, headed by Tex S. Lines, will assume staff responsibility for the GMRD Value Analysis, Value Engineering and Cost Reduction efforts.

R. M. Barnes

R. V. Godfrey

Organizational chart shows position of new staff department, Plans and Budgets, and new line department, Engineering, replacing Range Development.



Picture Highlights

SPHYGMOMANWHATAMER?

Sphygmomanometer . . . that's what Mike Shaara of Range Bases is presenting to Dr. L. S. Gibbs, Medical Director of the Grand Turk Hospital. There is also a cart for moving gas and oxygen tanks, and some other equipment which the hospital received. The sphy . . . sigmon . . . spygag . . . blood-pressure measuring device and the other gear came from the One Donation Club.

THAT'S A BIIIGGG CHECK!

Nancy Furches and Earl Bollinger, center, present a $10,000 check from Pan Am's One Donation Club members to United Fund represenative Woody Schumaker. The Club has given the Fund $140,000 since 1958. Total pledge to 1965 UF Campaign is $27,500.

POPULAR BOOTH

Materials Pam Am buys were on display at this popular exhibit in Hangar 751 during the Annual Vendor's Day at PAFB last month. The booth was prepared by Public Relations for Purchasing and was staffed by Betty Koval, C. J. McVey and Jack Fortes.

PILGRIMS

Madge and Bill Trick are shown visiting Bethlehem in Jordan during their October 'round-the-world flight. They are visiting the spot reputed to be the site of the manger in which Christ was born. It is recognized as a shrine by several world religions.

STARTLING CONTRASTS

New display in Cape Central Control called "Know Your Competition" is attracting interest. It presents data on Soviet missiles and space systems and techniques, and includes photos, tables and manuals. Exhibit is patterned after Air Force display in Bldg. 423 at Patrick AF Base.

FRED'S A CITIZEN NOW

Fred Ayling, Performance Evaluation, is center of interest among co-workers as he displays his naturalization certificate. Fred, native of Port Coquitlam, British Columbia in Canada, became a U. S. citizen in Orlando last month. He's been with GMRD since 1956, spent 2½ years down range and 3½ years at Cape in Weather. Ayling, his wife and three children live in Cocoa Beach.

FRESH FROM THE SEA

Gene Stephens, senior supply assistant on Eleuthera, is shown with the Saturn 1, SA-7 camera cassette he found while walking along the beach. Another cassette was found on Sal the same day. (See News at a Glance for details.)

RADIOLOGICAL MONITORING CLASS

The eleven Pan Am employees shown here were recent participants in a Civil Defense radiological monitoring course conducted at the Merritt Island Volunteer Fire Department. They are, seated left to right, E. M. Cook, C. R. Rizzo, Joe Filbert, Don Gilroy, A. J. Dishman, Ed Walker, Dale Pope, Carl Schneider; and standing, A. G. Fisher, George Kontra, and Ed Savage.

NOVEMBER SERVICE PINS

PATRICK AIR FORCE BASE

10 YEARS

J. C. McPherson
W. F. Scot
H. A. Roloff

5 YEARS

R. C. Black
F. E. Tredway
Mrs. G. K. Price
H. J. McNally
H. T. Hamor Jr.
L. G. Fuller
Mrs. L. B. Conner
M. W. Vasser
W. H. Shutts Jr.
K. R. Moore
E. L. Isom
R. G. Greenhalgh
L. Bursey
S. S. Crowder
E. Thompson
H. P. Moss
S. K. Kramer
J. A. Griffin
J. W. Coapman

3 YEARS

W. F. Armstrong
T. H. Mowell
I. P. Higgins
J. D. Carter
G. J. Ott
R. J. Lathrop
J. V. Domenico
A. J. Roth
R. W. McGill
A. C. Fabris
T. F. Van Natta Jr.
Mrs. T. D. Moore
A. S. Goldberg
J. M. Bodenchuk
L. Nicola
R. D. Horn
D. D. Clabaugh
A. E. Otten
L. Lipscomb Jr.
W. M. Downes
G. R. Smith
Miss C. E. Minns
H. R. Glazier

CAPE KENNEDY

10 YEARS

D. E. Ayre
Mrs. V. D. Cooper
R. O. Bradley
W. F. Smith
J.D. Bishop
J. Simmons
J. L. Bennett
H. King
R. B. Barrett
W. T. Hampton

5 YEARS

J. Anderson
J. M. Gross
J. V. McBride
E. R. Williams
J. W. Gibney
B. E. Jackson
W. A. Turner
E. L. Eason
C. B. Johnston
R. P. Sosbee
B. Emerson
W. J. Joiner
G. S. Benton
W. R. Hiers
A. C. Myers
E. S. Baillie
G. W. Hancock
M. J. Larson
C. L. Withrow
G. L. Greene
P. E. Lindemann
B. B. Walker Jr.
R. Green
R. C. Marsell
J. H. Stalder
D. Coley
W. S. Hughes
C. E. Small
W. K. Boggs
E. S. Hill
J. W. Merrick
B. T. Barnes
W. R. Harden
R. J. Miller
J. Bell
L. J. Hazelton
N. Moore
E. Williams
P. A. Gentile
Z. O. Kiser
E. D. Thompson
R. E. Dasher
J. H. Niemi
H. F. Small
D. G. Clawson
D. M. Hopkins
Mrs. M. L. Patterson
J. C. Coble
W. Hornsby
L. A. Pennington

3 YEARS

A. J. Cox
R. A. Koivu
Mrs. M. C. Storper
W. C. Koepke
N. C. Spencer
W. G. Kelley
P. W. Rouse
Mrs. I. M. Gooch
R. E. Monk
A. R. Frye
R. P. Langhoff
R. Testa

DOWN RANGE

10 YEARS

L. J. Currid
W. R. Pelfrey
C. A. Van Meter

5 YEARS

H. R. Brock
I. Ferrell Jr.
J. P. Mederos
B. J. Prince
J. L. Chartrand
J. H. King
W. R. Parsons
J. W. Shepherd

3 YEARS

L. Mirowsky
R. H. Russell
B. S. Sims
B. E. Witkowski
V. J. Nealey
V. N. Sheppard
B. T. Smith

DOWN RANGE LOCALS

10 YEARS

E. Kemp
V. Thomas

5 YEARS

G. Andrews
W. Cooper
Mrs. E. Selkridge

3 YEARS

Mrs. I. M. Cooper
C. Harris
R. Robert
I. Williams

EETF

3 YEARS

R. E. Bezila
A. F. Pate
P. B. Moore
M. H. Bryan
J. Kubena

NRDS SPTEMBER SERVICE PINS

3 YEARS

L. B. Castle
R. A. Griffin

PAN AMERICAN
Guided Missiles
Range Division
Patrick A F B
F L O R I D A

Haven't Done Your Shopping?

Why Not BONDS?

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