



The Goose Gazette

The Newsletter of the Wild Goose Association,
for the Loran-C navigation community

News of the Summer, 1989

The *Goose Gazette* is an official publication of The Wild Goose Association (WGA). Period of publication is quarterly, with cutoff dates of 1 March for the Winter issue, 1 June for the Spring issue, 1 September for the Summer issue and 1 December for the Fall issue.

WGA members are encouraged to submit material for publication. Materials should be sent directly to the Editor. All other correspondence for the WGA should be addressed to the Association address below.

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THE WILD GOOSE ASSOCIATION
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Convention Issue! Centerfold Inside!

President's Message - John D. Illgen

As promised in the Spring issue of *The Goose Gazette*, I will continue to describe actions being executed by WGA committee members. The last issue of *The Goose Gazette* dealt with the Radio Navigation Journal, Membership, Implementation Plan to Enhance WGA's Professional Stature, WGA Data Base Management System for Control Purposes, Awards Committee, Constitution and Bylaws Committees, Convention Committee, Historical, Newsletter and Elections Committees, Treasurer and Secretary. This newsletter will focus on the Civil/Radionavigation Working Group, U. S. Department of Defense Working Group, Congressional/International Liaison and Publicity. These standing committees have been organized in accordance with WGA's bylaws and constitution, Article IX, *Standing Committees*.

Civil Radionavigation Working Group - This committee is chaired by David Scull. With Loran-C's acceptance in the national airspace, it is of paramount importance to assure that the WGA provides technical, management and cost inputs to federal planning groups, symposia and meetings that impact Loran-C applications.

The Civil Radionavigation Working Group monitors schedules for meetings and symposia where WGA should state a position. Inputs to these functions are typically provided through presentations and followed-up by written reports, memoranda and letters.

This working group coordinates with organizations in the federal government (FAA, Coast Guard, FCC and many others). Coordination with non-government entities such as ION, International Omega Association, IEEE and others is also of great importance. The group interacts with WGA working groups in the international, Congressional and DoD sectors which are chaired by Ed McGann (International and Congressional) and John Illgen (DoD).

The WGA appreciates immensely the support provided by Dave Scull in coordinating Civil Radionavigation Working Group objectives and actions. If any member feels the WGA should be involved in any particular radionavigation issue and/or meeting that may require a WGA response or position, please contact Dave, or any other Board member.

U. S. Department of Defense (DoD) - This committee is important because the DoD still uses Loran-C extensively throughout most service areas. Loran-C will still be a part of interoperable and integrated navigation and position- location systems that require high availability and redundancy to meet classified DoD requirements. The committee's objectives are similar to the Civil Radionavigation Working Group, except interaction is conducted with the services (Air Force, Navy, Army, Marine Corps, Coast Guard and other DoD agencies). (continued on page 2)

President (from page 1)

This committee has prepared a draft report that will be ready for Board review by the end of the calendar year. The report highlights why Loran-C and other radionavigation systems will still be required by DoD after GPS becomes available. The report covers technical, economic and management issues. Members are Dave Amos, Bill Flanders, Tony Pealer, Laura Charron, Walt Dean, Jim Culbertson and John Hopkins, who are also the authors of the WGA/DoD report.

This group has briefed the DoD on the need for Loran-C and has received support in addressing the availability and redundancy issues. At last year's symposium in Portland, OR, the WGA for the first time in years, received supporting comments from an OSD representative. We thank the above listed DoD Working Group members for their fine contributions.

Ed McGann, a mainstay and tireless worker, leader and contributor in the Loran-C community, provides timely inputs on Loran-C issues in the Congressional and international sectors. Congressional support for Loran-C use in the national airspace, marine environment and overland applications has been superb. This support is largely attributable to Ed's efforts. Responses to the international community on Loran-C issues, decisions and actions are a large part of the effort provided by Ed.

WGA is an "international professional organization." Loran-C is a growing, high-technology, high-accuracy navigation system. Ed's coordination on behalf of the WGA within the international community has been instrumental in conveying the proper technical, economic and management issues governing Loran-C technology, applications and operations.

Publicity Working Group - Jim Culbertson has been the chairman of the Publicity Working Group. In the

last newsletter, I described new initiatives being implemented by Jim and John Beukers. I do not have to discuss the immense progress the WGA has achieved in the area of publicity. The results of this progress are appearing in the various international publications, news, and media that most of you receive. Again (see the Summer newsletter) the entire WGA membership must extend its great appreciation to Jim Culbertson and John Beukers for managing this very significant WGA function.

My term of office ends at the Banquet, when I turn over my responsibilities to Jim Culbertson. I want to take this opportunity to thank all of you for your support over the past two years. I believe we have capitalized on the outstanding foundation provided by past officers, board members, committee members and the entire WGA membership, to steer the WGA toward new objectives and actions driven largely by events of the 80s. We are about to enter a new decade of challenge. Let's all get behind our new President, Capt. James (Jim) Culbertson (USCG Retired), his executive staff and newly elected board members.

I look forward to seeing each of you on Cape Cod, to thank you personally for my tenure as President and, most important, to thank you for what I have learned from you. On into the 90s.....

Giff Hefly's Book

The WGA library of loran books does not contain a copy of the book that Giff Hefly wrote. This is a sad omission. If anyone has a copy that they are willing to donate, it will be added to the library with all the WGA publications that have been collected so far.

Barring an outright gift, if we could borrow a copy to photocopy, at least we would have the text on file. Please contact the WGA Secretary, John Beukers, if you can help us.

FAA Proposes Loran-C Use in TCAs

FAA recently delayed until January 1, 1990, the issue of a rule requiring helicopters to be equipped with VHF Omnidirectional (VOR) receivers when operating in Terminal Control Areas (TCAs). The rule was to be effective July 1. The agency now plans to issue a Notice of Proposed Rulemaking requiring all aircraft to carry VOR equipment only when operating under instrument flight rules (IFR). In visual flight rules (VFR) conditions, other equipment such as loran could be used in place of VOR.

At present, airplanes must carry VOR receivers in TCAs under all conditions. Helicopters have been exempt. FAA is accepting comments on the proposed rule.

Convention Publicity: Worldwide

The 1989 Convention could be the best-attended ever, if the worldwide July 12th mailing of the publicity release is successful. This mailing went out to the revised Media Mailing List, which is continually being updated and expanded.

Members Ron Wiener (air), Henry Marx (marine) and Bob French (land) have provided and coordinated inputs to the data base. Past releases made to this list appear to have resulted in a significant increase in inquiries being received by the WGA Secretary.

Did you know?

The Wild Goose Association was organized in 1972.

1989 Convention Speakers: A Very Good Year!

Luncheon

Monday, 30 October

**RADM Robert T. Nelson, USCG
Chief, Office of Navigation Safety and
Waterway Services**

Rear Admiral Robert T. Nelson assumed duties as Chief, Office of Navigation Safety and Waterway Services at US Coast Guard Headquarters, Washington, DC in June, 1988. He is program director for operations involving the Coast Guard Auxiliary, recreational boating safety, short range aids to navigation, radio navigation rules of the road and navigation regulations, vessel traffic services, bridge administration, ice operations search and rescue and consumer affairs.

Adm. Nelson previously served as Commander, 2nd Coast Guard District, St. Louis. His sea service includes three tours on polar icebreakers, and tours as commanding officer of the Coast Guard cutters WESTWIND, CAPE CURRENT (Cape Hatteras) and POINT GLOVER (Vietnam).

Awards include the Legion of Merit, the Bronze Star with Combat "V" Device, two Meritorious Service Medals, Coast Guard Commendation and Achievement Medals, Meritorious Unit Commendation and others. He is authorized to wear the Cutterman's insignia. He was promoted to flag rank in 1986.

Adm. Nelson is a 1958 graduate of the Coast Guard Academy, and earned an MBA degree at George Washington University. He is a native of East Liverpool, Ohio.

Did you know?

The Tara Hyannis Hotel needs your reservations by September 24!

Banquet

Tuesday, 31 October

**ADM James B. Busey, USN (Ret.)
Administrator
Federal Aviation Administration**

Retired Navy Admiral James B. Busey became the Administrator of the Federal Aviation Administration on 30 June, 1989. He succeeds T. Allan McArtor who resigned earlier this year to return to the private sector.

Adm. Busey served two years as Commander-in-Chief of US Naval Forces in Europe and CinC of Allied Forces in Southern Europe, a NATO command. Previously, he was Vice Chief of Naval Operations, rising from the enlisted ranks to four-star Admiral, proving himself in combat as well as management.

As FAA Administrator, Adm. Busey is the nation's top-ranking air safety official. He directs a predominantly technical work force of some 50,000 people, responsible for a broad range of functions including certification of aircraft, airmen and airports, and the operation and maintenance of the air traffic system.

The FAA oversees aviation security at US airports, administers a \$1 billion-plus annual airport grant program and is involved in a multi-billion dollar plan to modernize and upgrade the National Airspace System.

A career Naval aviator, James Busey enlisted in the Navy in 1952 and was assigned to the Naval Aviation Cadet Program. He received his commission and Navy Wings of Gold in 1954.

His career as a Naval officer included tours in Vietnam, where he received the Navy Cross for combat action. After promotion to Rear Admiral in

1979, he served as Auditor General of the Navy and later as Deputy Chief of Naval Material, Resource Management.

Following an assignment as Wing Commander in California, he was promoted to Vice Admiral and returned to Washington in 1983 as Commander of the Naval Air Systems Command. In 1985, he was appointed Vice Chief of Naval Operations and promoted to full Admiral.

A native of Urbana, IL, Adm. Busey attended the University of Illinois and Naval Postgraduate School, receiving the Bachelor of Science degree, and a Master's degree in management.

Luncheon

Wednesday, 1 November

**James F. Culbertson
Incoming President
Wild Goose Association**

James F. Culbertson has been a member of the Wild Goose Association since 1974. He has served as a Director during most of the time since then, and has held the Vice President's position during several administrations. Jim recently served as Acting Secretary, and has been active in the ongoing WGA efforts to improve administration and build membership.

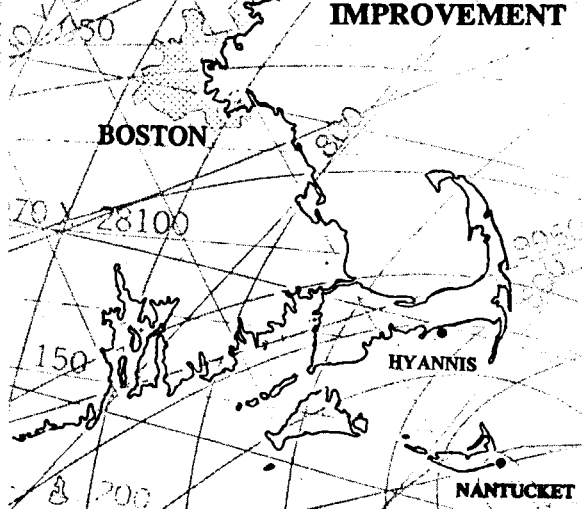
Jim has been involved with Ioran for more than thirty years, and served in a variety of engineering and engineering management positions during his Coast Guard Career. He is currently Senior Vice President of Coastwatch, Inc., a marine consulting company involved in Naval command and control, radionavigation systems, maritime security and risk management.



**The Wild Goose Association
PROGRAM**

*18th Annual
Technical Symposium*

**"LORAN...BOLDLY INTO THE 90's!"
EXPANSION
INNOVATION
IMPROVEMENT**



Sun., Oct. 29 - Wed., Nov. 1, 1989
Tara Hyannis Hotel
Hyannis,
Massachusetts

**THE PURPOSE OF THE
WILD GOOSE ASSOCIATION**

The WGA is a professional organization of individuals and organizations having an interest in Loran (long range navigation). It is named after the majestic birds that navigate thousands of miles with unerring accuracy. The WGA was organized in 1972, and its membership includes engineers, scientists, program managers and operations personnel from all segments of government, industry, academic and research institutions as well as the user community throughout the world.

This is the 18th Annual Technical Symposium for this group working for the advancement of Loran.

Symposium Executive Committee

General Co-Chairmen

Edward L. McGarr, Megapulse, Inc.
Maurice J. Moroney, Transportation Systems Center

Technical Co-Chairmen

Francis S. Cassidy, Datamarine International, Inc.
Dr. Per Enge, Worcester Polytechnic Institute

Registration and Finance

Robert B. Goddard, Megapulse, Inc.

Exhibits and Hospitality Suite

Jimmie L. Toms, Advanced Navigation, Inc.

Publicity

Daniel E. Callanan, Callanan, Inc.

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J.L. Tomms

J.P. Van Etten

SUNDAY, 29 OCTOBER 1989

Registration 1200-1700
Golf Tournament 1300-1630
Welcoming Reception 1730-1900
New England Lobster/Clambake 1900-2100

MONDAY, 30 OCTOBER 1989

Speakers Breakfast 0745-0845
Registration 0830-1600
Opening Ceremonies 0900-0915

SESSION 1: RELATED SCIENCES 0915-1215

Session Chairman: George H. Quinn, FAA
Loran Program Manager

- David R. Doyle - Chief, Field Records Analysis Section, National Geodetic Survey
"Impact of the North American Datum of 1983 on Mapping and Charting Products"
- Joseph M. Kunches - Lead Forecaster, NOAA Space Environment Service Center
"Solar Flare Activity and Predictions for the 1990's"

COFFEE BREAK 1030

- Bruce Francis & W.A. DeGeorge
Advanced Navigation, Inc.
"Evolution of Manufacturing Technologies for Advanced Loran Receivers/Navigators"
- Dr. Elizabeth L. Young - Vice President, Aeronautical Services, Communications Satellite Corporation
"Space Considerations for Earth Reference Systems"

- John S. Kern - Acting Associate Administrator, Regulation & Certification, FAA
"Impact of Loran on the National Airspace System"

LUNCHEON 1215-1330

**SESSION 2: LORAN INTEGRATION
& APPLICATIONS 1345-1700**

Session Chairman: Mark Morgenthaler, Business Manager
Avionics Division, Trimble Navigation

- Professor H. James Rome - University of Lowell
"Synergistic Integration of Automatic Dependent Surveillance and Loran in the North Caribbean Area"

• Gary Noseworthy - Synthetics, Inc.
"Loran-C Coverage Diagram Generator" 1030

• James W. Feeney - President, Transtrack, Inc.
"A Nationwide Loran-C/Meteor-Burst Vehicle Location and Communications System" 1515

AFTERNOON BREAK 1515

• Peter H. Dana, Consultant & Walt Fowler, David Hindman, Tracor Aerospace
"Automated Animal Tracking System with Retransmitted Loran-C"

• Douglas Ambros & Francis S. Cassidy
Datamarine International, Inc.
"Video Navigation - The Integration of Loran and Cartography"

• Mark Morgenthaler & Glerm Steiner - Avionics Division, Trimble Navigation, Inc.
"Experimental Results Using Differential Loran/GPS for Non-Precision Approaches"

WGA HOSTED COCKTAIL RECEPTION 1830-2000

TUESDAY, 31 OCTOBER 1989

Speakers Breakfast 0715-0800
Registration 0800-1600
General Meeting for all WGA Members 0800-0900

SESSION 3: WORLDWIDE ACTIVITIES ... 0900-1215
Session Chairman: Edward L. McGarr, Executive V. P. Megapulse, Inc.

• Norman F. Matthews - Secretary General, International Association of Lighthouse Authorities (IALA)
"IALA's Role in the Development of Maritime Aids to Navigation for the Foreseeable Future"

• Andreas Stenseth - Deputy Director General, Norwegian Defence Communications and Data Services Administration (NODECA)
"Northwest European Loran-C System - A Status Report"

• Dr. David Last - Reader, University of Wales
Dr. Nick Ward - Sr. Development Engineer, Trinity Lighthouse Service
"Loran-C Measurement Trials in Ireland & United Kingdom - Interference, Noise and Field Strength Results"

• Dr. Paul R. Johannessen - President, Megapulse Inc.
"Matching Antenna Parameters to the Solid State Transmitter"

• David H. Amos - Director, C2 Navigation Systems Group, Synthetics, Inc.
"Loran-C System Repeatability Under Time of Emission Control"

LUNCHEON 1215-1330

SESSION 5: LORAN AND GPS INTEROPERABILITY 1345-1700
Session Chairman: Chic Longman, President Air Navigation Consulting, Inc.

• Daniel C. Cross - Special Projects Advisor
Office of Congressional Denny Smith
"Loran-C/GPS Interoperability; Congressional Interest ... Congressional Concerns"

• Lt. Cdr. Gary R. Westling - Chief, Radio Aids Branch, & Lt. Michael K. Sakahara, USCG Office of Navigation Safety & Waterway Services
"The Synchronization of Loran-C to Coordinated Universal Time (UTC)"

• John C. Castonia - V.P., Director of Technical Programs, Illgen Simulation Technologies, Inc.
"Loran-C/GPS Interoperable Computerized Algorithms (LOGICAL)"

• William L. Polhemus - Pres., Polhemus Associates, Inc.
"Expected Benefits from Loran-C/GPS Interoperability"

AFTERNOON BREAK 1515

• Froma B. Vicksell, Robert B. Goddard - Megapulse, Inc.
Dr. Per Engle - Worcester Polytechnic Institute
Dr. Frank van Graas - Ohio University
"Analysis of Loran-C/GPS Interoperability for Air Navigation"

• Dr. Frank van Graas, Paul A. Kline & James D. Waid - Ohio University
"Flight Test Results for a Prototype Hybrid Loran-C/GPS Receiver"

• Loran-C/GPS Interoperability Panel Discussion: Public Law 100-223, David C. Scull, DOT-RSPA, Capt. John F. Weseman, USCG, Jerry Bradley, FAA

COFFEE BREAK 1030

• Dr. Durk van Willigen - Professor, Delft University of Technology
"EUROFIX: Differential Hybridized Integrated Navigation"

• John M. Beukers - President, Beukers Promotions, Inc.
"The Wild Goose Association - Meeting the Challenge of Worldwide Loran-C Expansion"

• Capt. John F. Weseman - Chief, Radio Navigation Division
Lt. Cdr. Gary R. Westling - Chief, Radio Aids Branch, USCG Office of Navigation Safety & Waterway Services
"U.S. Coast Guard International Initiatives in Loran-C"

OPTIONAL FACILITY TOURS AND EQUIPMENT DEMONSTRATIONS 1300-1700

COCKTAIL RECEPTION 1830-1930

WGA ANNUAL BANQUET 1930-2130

WEDNESDAY, 1 NOVEMBER 1989

Speakers Breakfast 0745-0845
Registration 0830-1600

SESSION 4: LORAN-C TECHNOLOGIES -- 0900-1215
Session Chairman: Gary Noseworthy, Synthetics, Inc.

• Professor Gerard Lachapelle, T. Speakman & B. Townsend, University of Calgary
"Performance of Absolute and Differential Loran-C on the Canadian West Coast"

• Henry J. Wychorski - Northeastern University
"Construction of Seasonal TDs Using a Temperature Model"

• Martin Beckmann & H. J. Arriens - Delft University of Technology
"GRI Selection Based on Minimum Interference to Loran-C Operation"

COFFEE BREAK 1030

• David H. Gray - Geodesy & Radio Positioning Specialist, Canadian Hydrographic Service
"A Least Squares Approach to Position Determination and Accuracy Analysis"

COFFEE BREAK 1030

• David H. Gray - Geodesy & Radio Positioning Specialist, Canadian Hydrographic Service
"A Least Squares Approach to Position Determination and Accuracy Analysis"

More Convention Activities

Golf Tournament

The 1989 Convention committee is looking for a large turnout for the golf tournament, scheduled for Sunday afternoon at the Tara Resort Course. This executive (Par-3) layout is in superb condition and is ideally suited for experienced golfers and beginners alike. The golf chairman, Dan Callanan, says it is a pleasure just to walk around the course and enjoy the beautiful Cape Cod scenery!

Arrangements have been made for both a men's and a ladies' division with trophies to be awarded to players with the low gross and low net (Callanan system) scores. There will also be prizes for the drive nearest-the-pin on a selected hole.

Registration will take place in the Tara Pro Shop between noon and 1:00 PM on October 29th. Golf clubs and pull carts will be available for rent at the Pro Shop when you sign up.

Plan now to participate! It should be lots of fun, and a great way to start the Convention. Of course, play is scheduled so that everyone will be finished in plenty of time to freshen up before the cocktail get-together prior to the New England clam and lobster bake!

For additional information on the golf tournament, or to indicate your early decision to participate, please contact Dan at this address:

Dan Callanan
8 Pickman Road
Beverly, MA 01915

Did You Know?

The Tara Hyannis Hotel needs to receive your reservations by mail!

Spouses' Program

An Invitation

We enthusiastically invite you to join us at the 18th Annual Convention of the WGA. You couldn't ask to be in a nicer place in the Fall; the lovely Tara Hyannis Hotel and Resort, on beautiful Cape Cod is just magnificent! Attractive grounds, picturesque gardens, swimming pools, athletic facilities and a superb restaurant are all conveniently available.

In addition to the Tara's attractions, we have planned some events so you can enjoy the splendor of Cape Cod. For Instance, if there is enough interest, we will arrange a day trip to Martha's Vineyard via ferry. There will be a tour of this fascinating island including lunch and time to shop.

We also are considering a visit to the Kennedy Memorial, which will feature a picnic lunch in their exquisite garden area.

Finally, there is the town of Hyannis itself, with its countless small fascinating shops to explore and numerous tantalizing restaurants to challenge your diet resolutions!

This year's convention has all the ingredients for a memorable time...but only if you attend and join in! To help us in our planning, could you drop me a short note saying you expect to attend, and mentioning the events that interest you?

We are looking forward to seeing you, knowing that together we'll have a great time. Let me hear from you!

Sincerely,

Pauline Moroney
21 Greenbrook Road
S. Hamilton, MA 01982

Walt's Column

Walt Dean has been keeping us up to date on loran chain operations and on mid-continent chain progress. Here are three interesting items:

Port Clarence Now Operational

The Coast Guard has at long last declared the dual rate at Port Clarence, 7960-Z, operational. This means that you pilots in Alaska will no longer have to use the station "at your own risk." The control monitor for 7960-Z is located at the FAA Flight Service Station at Fairbanks.

Time Step in the Northeast Chain

The Naval Observatory (USNO) discovered a five-microsecond discrepancy in the timing of the Northeast U. S. loran chain, 9960, relative to the USNO master clock. Accordingly, on September 7, 1989, all 9960 LORSTAS inserted a positive 5.0 microsecond phase adjustment in one-microsecond steps, each step separated by five minutes. This was planned to commence at 1300Z.

Progress: NOCUS & SOCUS Chains

The latest report on the new mid-continent chains is that not all is going according to plan. Paperwork problems relative to the Government land for the Las Cruces, New Mexico site have delayed it so that it will not be ready by December, 1990.

The plan now is to bring the SOCUS chain up in December without that station, adding it later when it is ready. Because of weather delays, the northern chain, NOCUS, is scheduled on-air in April, 1991.

Congressional Loran

Ed McGann

The Congressional Liaison Committee, on behalf of the WGA, is involved in the following actions:

- Informal briefings of the House Subcommittee on Coast Guard and Navigation; WGA has indicated its willingness to conduct formal briefings. No response yet.
- Ongoing interaction with US DOT Research and Special Programs Administration, Office of Navigation, FAA, GPS/Loran-C Program Manager and DoD Tactical and Theater Navigation Office on Loran-C activities worldwide.
- Continued liaison with Northwest Europe Loran-C Working Group, Maritime Safety Agency in Japan, Korean Maritime Ports Authority and the People's Republic of China Xian Research Institute of Navigation Technology, on Loran-C affairs.
- Participated as an observer at the IALA-sponsored meetings on the future of Loran-C in the Mediterranean and the Iberian Peninsula.
- Briefed the Institute Of Navigation subsection at Naval Air Development Center, Warminster, PA on Loran-C status.
- Informally briefed OPNav 374 on Loran-C and Differential Loran-C in MARDEZ as a preliminary to a formal meeting of that office.
- Briefed PMS 407, who are re-looking at Hyperfix/Loran-C for mine warfare activities.
- Attended the GPS Civil Users' Conference and the Radio Technical Commission on Aeronautics SC-159 on GPS Minimum Operational Specifications.
- Addressed (via WGA President) the Hawaii Loran-C situation in a preliminary statement of interest.
- Continued liaison with Ministry Of Transport, Canada, on maritime and aviation planning.

There is a variety of issues in which WGA has an interest:

- Expansion of Loran-C into the Caribbean.
- Loran-C vehicle tracking and dependent surveillance systems for harbors, ports and coastal areas, in the wake of the Valdez and other oil spills.
- An understanding of the appropriate place for GPS in the CONUS national airspace, given current work to provide a definition of sole-means navigation.
- The DoD phase-out date for overseas Loran-C support.

Each of these issues involves the availability and utility of Loran-C, either in the U. S. or abroad; they should be on the minds of all WGA members. Your support and any information you have on these matters is much appreciated.

Mediterranean Countries

Ed McGann

As we reported in the Spring newsletter, the second IALA Loran-C meeting for Mediterranean countries was held in Madrid, in June of 1989. Final conclusions have been published, and are reprinted here for your reference:

1. "There is general interest in continuing the studies, as it is considered that Loran-C could be useful in the Mediterranean Sea as an alternative system, even beyond 1994.
2. ...the goal should be to have a single terrestrially based radionavigation system, stretching from North Europe to the Mediterranean and through the Atlantic. ...Loran-C is the most suitable as it is distributed worldwide and because it is a cheap and accurate system for users.
3. It is necessary to know as soon as possible the position of the Turkish Administration with regard to the station at Kargaburun. It is also necessary to ascertain the reliability,

efficiency and effectiveness of the entire Mediterranean Loran-C chain.

There is some doubt that a chain without the Turkish station will be as reliable as now. ...it is strongly hoped that the Turkish station will continue to operate.

4. With regard to the Estartit station, Spain is interested to see the station not only as part of the Mediterranean chain, but also as part of an Iberian chain.

5. It was decided to continue the work with the participation of the Mediterranean countries and with the initial support of IALA, as coordinator. During at least the first stages, the co-operation of the US Coast Guard will be sought, as technical experts.

6. Each country represented at the Working Group should investigate the potential users of the system (land, air and maritime).

7. The possibility is to be explored of involving the EEC in order to obtain a financial contribution to the establishment of a new station, if necessary.

The third meeting is planned for November 21-22, 1989.

Ohio to Improve Airport Access

Loran-C instrument approaches are part of a State of Ohio, Bureau of Aviation plan to improve access to its extensive airport system during instrument weather conditions. John B. Cornett, Ohio Aviation chief, recently announced a cooperative effort with Ohio University's Avionics Engineering Center to follow up initial designation of the airports selected to receive Loran-C approaches. (continued on page 8)

Culbertson Elected next WGA President

Results of 1989 Elections

Jim Van Etten

James F. Culbertson has been elected WGA President for 1990. Jim has a great challenge as the WGA moves "Boldly into the 1990s" along with loran and its inter-operability with satellite navigation systems. Nearly 40% of the membership returned ballots, with these results:

For President:

- James F. Culbertson.....119
- Robert W. Lilley.....64

For Director:

- William L. Polhemus.....134
- John D. Illgen.....128
- Robert W. Lilley.....87
- Carl S. Andren.....84
- James O. Alexander.....70
- James F. Culbertson.....70
- Robert D. Bronson.....67
- Henry E. Marx.....47
- Ron Wiener.....39
- Walt Dean (write-in).....1
- William Sewell(write-in)..1
- Dale Johnson (write-in)...1

Since there were positions for four Directors, those elected are **Bill Polhemus, John Illgen, Bob Lilley and Carl Andren**. But there's a twist: Since John Illgen will automatically occupy a seat on the Board as the immediate past President, his first-year term of office as Director must be filled by the nominee with the next highest number of votes.

Therefore, **Jim Alexander** serves for one year, unless Jim Culbertson is elected for a second term. In this case John Illgen will remain on the Board as the immediate past President and his place will be occupied by the nominee with the next highest number of votes (after the elected Directors) in the 1990 election year.

Congratulations are extended to those persons who were elected. Thanks and appreciation are also extended to those who ran, but who were not elected this year; you are encouraged to continue your active participation in WGA!

Ohio (continued from page 7)

WGA members Robert Lilley, director of the Center and N. Kent Brooks, a Columbus, OH, consultant, will develop non-Federal AWOS and automated altimeter installation plans for Ohio. Additionally, the study will recommend alternatives for airports which now have only instrument approaches which require a circling maneuver prior to landing.

Like other approach procedures, Loran-C approaches will require the pilot to obtain accurate barometric altimeter settings prior to descent. Automated Weather Observation Stations (AWOS) or automated ("talking") altimeters located near the airport will insure full utility for the approach procedure, avoiding a "remote altimeter penalty."

Circling approaches are often made necessary because a navigation aid aligned with the runway is not available. Loran-C, like other RNAV sources, can define a flight path which is aligned, offering an approach that is easier to fly.

The Goose Gazette
Wild Goose Association
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