



The Goose Gazette

A publication of the Wild Goose Association

News of the Winter, 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 given below.

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Convention!
Cape Cod!
October 29, 1989!

Questions: M. Moroney 617-494-2026
E. McGann 617-275-2010

THE WILD GOOSE ASSOCIATION
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President's Message - John Illgen

Your WGA Board of Directors and Membership has been very active since the last Newsletter. John Beukers is now Secretary, and the transition from Leo Fehlner to John is complete. On behalf of the entire membership, we thank Leo for his many years of hard work as Secretary. Leo's technical contributions to Loran-C navigation and the WGA are greatly appreciated by all. Additionally, as you see from this Newsletter, Dr. Bob Lilley and Dr. Bob Miller have conducted a successful transition of WGA Newsletter responsibilities. We are grateful for Dr. Miller's outstanding efforts, and after reviewing the quality of this Newsletter, we look forward to the same excellent service from Dr. Lilley. Membership committee responsibilities have been successfully transitioned from Jimmie Toms to Walt Dean and Bill Garmany. We thank you all for your service to WGA on these very important committees.

Mike Moroney and Ed McGann are preparing for next year's symposium in Cape Cod, MA. Let's all support Mike and Ed by submitting abstracts early, contacting Ed or Mike to arrange for your exhibit, and submitting donations for the hospitality suite and exhibits early.

Walt Dean and I have selected six papers for a special WGA session at OCEANS '89 at Seattle, WA. WGA encourages the membership to submit papers conveying research, applications, operational experience and integration-interopability with other navadays not only at our own WGA symposium but also at other meetings such as PLANS, NASAO, IOW, OCEANS, etc. Submitting Loran-C papers widely throughout the navigation community provides broader Loran-C exposure to civil, DOD and user communities.

Elections for next year's slate of officers and directors is nearing, as you can see from Jim Van Etten's article. When you receive your ballot in May, take prompt action to review the slate and vote. Let's have 100% response from the membership for this next election.

John Beukers and Jim Culbertson have made outstanding progress implementing the WGA growth strategy outlined to the WGA membership in Portland. Additionally, preparation of the WGA Journal is underway. Bob Bronson (1988 Convention Chairman) has promised to disseminate the 1988 technical proceedings soon.

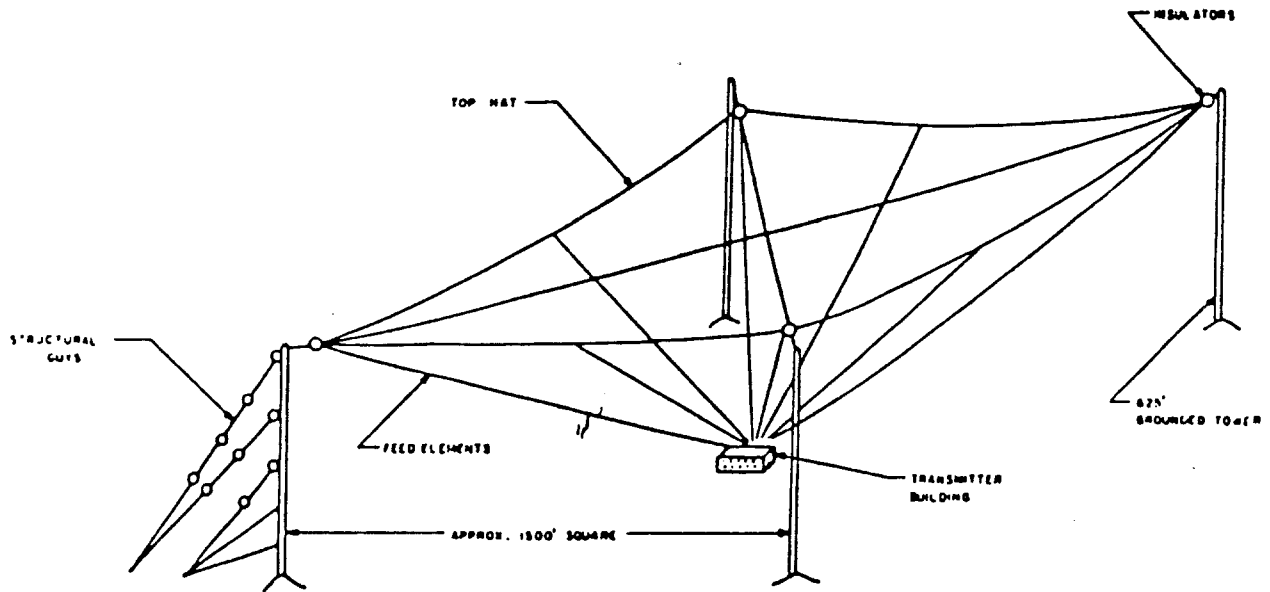
The WGA this year is focusing strongly on the following:

- implementation of the WGA growth strategy (increased membership and enhanced services)
- Enhanced communication with the user community
- Cape Cod Convention
- Exposure of Loran-C throughout the navigation community through IOW, PLANS, NASAO, OCEANS, etc.
- Continue timely publication of the Newsletter
- As the organization grows, continue to implement management and financial controls that match the size of the WGA
- Focus on key civil and DOD issues
- Produce the Journal and Technical Proceedings in a timely fashion

If you have ideas and/or want to participate on a committee, please contact me at (805) 685-8809.

The next WGA Board Meeting will be held Thursday, 27 April, 1989, in Washington, DC. Members who wish to attend should call me at the above number.

- Scrapbook - Can you identify this picture?



DOD/DOT: FRP

Dave Scull provides:

DOD/DOT POLICY AND PLANS FOR THE
FUTURE RADIONAVIGATION SYSTEMS MIX
1988 - 1990

PURPOSE:

This statement sets forth the policy for Federally provided radionavigation systems to be supported for the remainder of this century and into the early part of the next.

OBJECTIVES:

The Federal Government operates radionavigation systems as one of the necessary elements to enable safe transportation and encourage commerce within the U.S. It is a goal of the Government to provide this service in a cost effective manner. In order to meet both civil and military radionavigation needs, the Government has successively established a series of radionavigation systems over a period of years, each utilizing the latest technology available at the time, and each designed to meet an existing unfulfilled need, usually in terms of improved accuracy and/or expanded coverage. This policy statement addresses how and for what period each system should be part of the Federal radionavigation system mix. To date few systems have been discontinued.

DOD is currently introducing a new high-technology radionavigation system, the Global Positioning System (GPS), which will have wide civil application on a global basis. This system has the potential to meet or better the accuracy and coverage capabilities of most other radionavigation systems. Consequently, if the full civil potential of GPS is realized, the Department of Transportation will consider phasing out some of the existing radionavigation systems.

Any decision to discontinue Federal operation of existing systems will depend upon many factors including: (a) resolution of GPS accuracy, coverage, integrity and financial issues; (b) determination that the systems mix meets civil and military needs currently met by existing systems; (c) availability of civil user equipment at prices that would be economically acceptable to the civil community; (d) establishment of a transition period of 10-15 years; and (e) resolution of international commitments.

INDIVIDUAL SYSTEM PLANS:

RADIOBEACONS: Maritime and aeronautical radio beacons serve the civilian user community with low-cost navigation. They will remain part of the radionavigation mix into the next century.

LORAN-C: LORAN-C provides positioning and timing services for both civil and military air and surface users. It is the Federally provided navigation system for the U.S. Coastal Confluence Zone (CCZ). LORAN-C is approved as a supplemental air navigation system and is being implemented as a non-precision approach aid. Signal monitors necessary for LORAN-C nonprecision approaches will be operational in 1989. By 1990, additional transmitting stations will be installed to complete signal coverage over the 48 conterminous states. The LORAN-C system serving the continental United States (including Alaska) and the coastal areas will remain a part of the navigation system mix into the next century. DOD will not have a requirement for LORAN-C after December 1994.

OMEGA: OMEGA is a global navigation system serving maritime and aeronautical users. OMEGA is expected to remain part of the radionavigation system mix through the remainder of the century. It is a sole means of air navigation in some oceanic areas. Recapitalization of equipment and antennas, required at several stations in the mid-1990's, will be based on cost benefit analyses that may lead to elimination or reduction of service in some areas. The normal transition period of 10 to 15 years may be shortened due to escalating maintenance costs and availability of alternative navigation systems such as GPS. DOD will phase out military air use of OMEGA by December 1994; however, some naval receivers may continue in operation after that date.

VOR/DME: VOR/DME provides users with a sole means of air navigation in the National Airspace System (NAS). VOR/DME, as the international standard for civil air navigation in controlled airspace, will remain a short-range aviation navigation system into the next century. DOD will phase out military support and use of VOR/DME by 1997.

TACAN: TACAN is a short-range navigation system used primarily by military aircraft. When DOD determines that GPS, properly integrated with other onboard aircraft systems, is an acceptable radionavigation system for military use in controlled airspace, the DOD requirement for land-based TACAN will

terminate. Based upon the planned GPS operational date of 1992, the DOD requirement for land-based TACAN should terminate by December 1997.

The requirement for shipboard TACAN will continue until a suitable replacement is operational.

ILS; MLS; DME/P: These are precision approach systems for aircraft. MLS will replace ILS, and will be completely installed at civil airports by 2003.

TRANSIT: TRANSIT is a satellite-based radionavigation system operated by DOD. The DOD requirement for TRANSIT will terminate and system operation will be discontinued by December 1996.

GPS: GPS is a DOD developed, worldwide, satellite-based radionavigation system that will be the DOD's primary radionavigation system well into the next century. The constellation will ultimately consist of 24 operational satellites (21 plus 3 operating spares). The GPS constellation will be declared fully operational by DOD when 21 satellites are functioning in their assigned orbits, planned to occur in 1992. If current R&D satellites remain functional beyond their design life, this could occur before 1992.

GPS Precise Positioning Service (PPS), the service that requires the use of cryptographic keys, will be primarily limited to military and official Government users. GPS Standard Positioning Service (SPS) will be made continuously available, without charge to all users worldwide, and will provide 100 meter (2 drms) or better positioning accuracy.

AIR USE: GPS has the potential to become a sole means air navigation system. Approval of civil air navigation receivers to operate with the GPS is expected initially to be on a supplementary basis. Resolution of coverage and integrity issues is needed to certify GPS as a sole means system.

SURFACE USE: GPS will satisfy the requirements for the ocean phase of maritime navigation, some coastal phase requirements and some land user requirements. At the 100-meter accuracy level planned, however, GPS will not meet the requirements for some coastal phase maritime applications or the requirements for harbor/harbor approach navigation. Additionally, some land navigation requirements,

Comments - Bob Lilley

Each newsletter editor has different word-processing facilities; I'll try a format which was suggested by John Beukers and see how it works.

Your contributions to the newsletter are welcome. These can be submitted as handwritten, typed or machine-readable stories. If you send files on disk, be sure they are ASCII text files, rather than specific-system formats. 3-1/2" or 5-1/4" disks are suitable. Use mail or fax for written offerings.

We can also accept 1200-Baud data over telephone lines, either unformatted or using XMODEM. Call me for coordination on this one...

In short -- I can handle the form, if you will help with the content!

Membership Notes:

Any individual or organization that has an interest in loran is eligible for membership. There are a number of classes of membership:

Regular

Two classes of individual membership are available: annual and life. The life membership fee is \$200.00. The annual membership is \$25.00 for the first year and \$20.00 annually after the first. Members in countries other than the U. S., Canada and Mexico are assessed an additional \$10.00 per year, to defray international mailing costs.

Organizational

Associate membership is provided for organizations which desire only to receive WGA publications. Associate membership is \$50.00 first-year and \$42.00 annually thereafter, and does not carry the privilege of voting or holding WGA office.

Corporate Classes 1 and 2 memberships are options for organizations that wish to be involved directly in WGA activity. Class 1 permits nomination of ten regular members from the corporate member; Class 2 permits five. Dues for Class 1 are \$335.00 first-year and \$300.00 after. For Class 2, dues are \$170.00 and \$150.00.

Charter

"The Wild Goose Association is formed to provide an organization for individuals who have a common interest in loran and who wish to foster and preserve the art of loran, to promote the exchange of ideas and information in the field of loran, to recognize the advances and contributions to loran, to document the history of loran and to commemorate fittingly the memory of fellow Wild Geese."

Elections - Jim Van Etten

The WGA Nominations and Election Committee (Bill Garmany, Vern Johnson, Ed McGann and chairman Jim Van Etten), has selected a slate of candidates for president and directors. This slate will be presented to the Board of Directors in April for approval or revision.

Candidates have been asked by the committee to define their particular interest, and how they could and would contribute to the organization.

Ballots will be mailed to the membership in May; polls will close June 30, 1989. Election results will be published in the Spring newsletter.

History - Jim Van Etten

One of the stated purposes for the WGA is to document the history of loran. Jim Van Etten has prepared draft spread-sheets for key people and organizations, and has begun a draft History of Loran.

Members are encouraged to provide information they have, which may not be generally available, so we may eventually publish a definitive history. Please contact Jim, or John Beukers.

**Convention!
Cape Cod!
October 29, 1989!**

Questions: M. Moroney 617-494-2026
E. McGann 617-275-2010

Chain Timing - Walt Dean

The Coast Guard has started the process of bringing the timing of the loran chains into synchronism with the Naval Observatory Master Clock. The timing of 9960, 7980 and 8970 are now, according to the weekly report from USNO, within 100 nanoseconds of the Master Clock. This is in accordance with the agreements made by DOT in response to the Denny Smith bill.

No changes have yet been made in the timing of the other loran chains.

Vintage Proceedings

Bob Frank has compiled most of the papers presented at WGA conventions during 1972-1974 (Proceedings were not published for those years). Members interested in purchasing copies of papers for these years should contact Bob, or John Beukers. A listing of the papers presented is available for review.

Port Clarence - Walt Dean

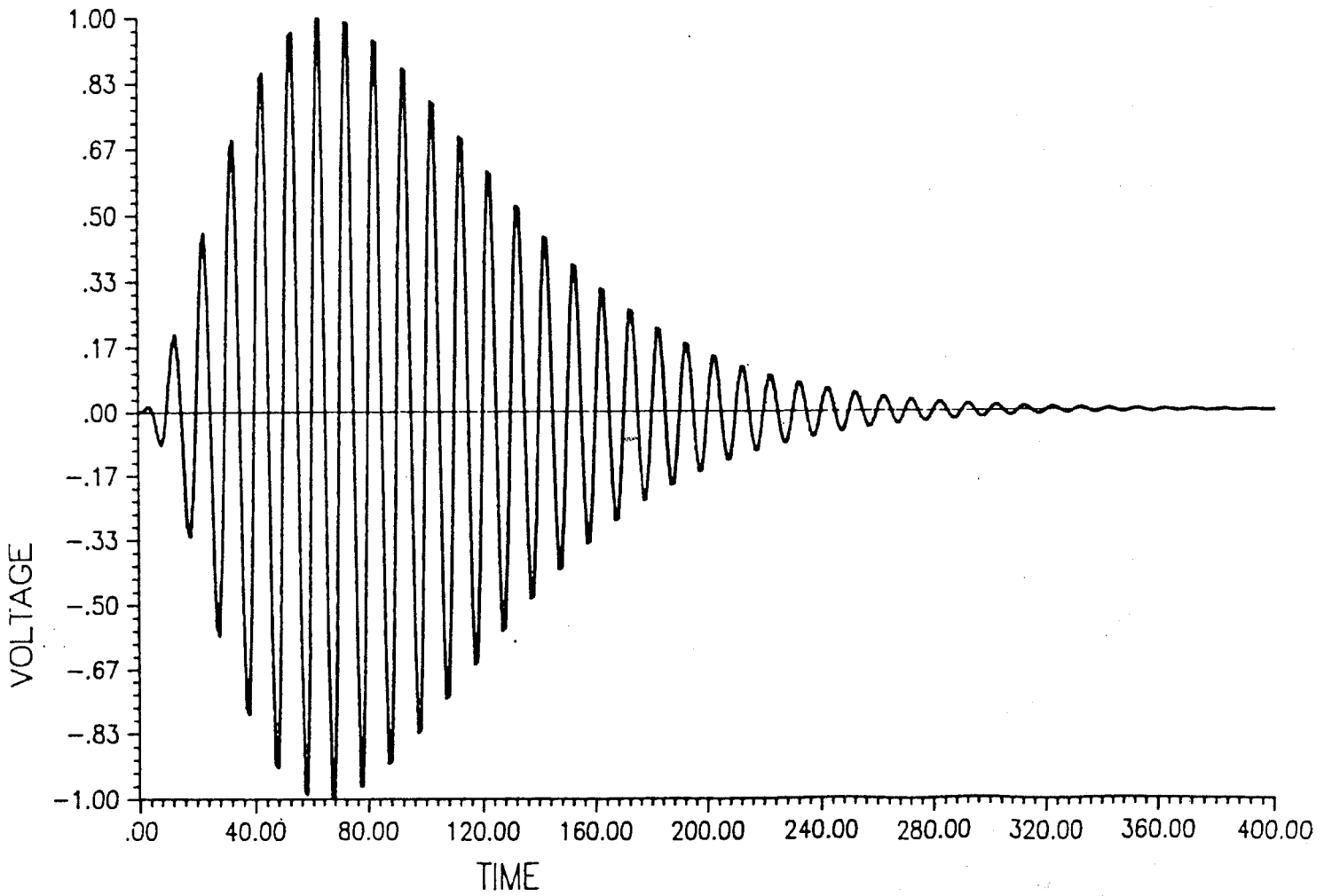
The dual rating of Port Clarence is proceeding with all deliberate speed, according to the Coast Guard. The monitor at Fairbanks has been operating for a year or so. When spring comes to Fairbanks, some time in May, they plan to calibrate the antenna and perform a "hot clock" calibration of the baseline.

Some time later the rate will be officially blessed, the secondary name will be changed from Tango to Zulu, and the official warning against using the signal will be cancelled. This will no doubt be welcomed by the pilots who have been using the Tango signal for over a year.

Did you know?

- Loran-C is the most widely accepted precision navigation aid in the world and will remain the primary commercial navigation system well into the 21st century.
- Contrary to ugly rumor, the Annual Convention and Technical Symposium is NOT all work and no fun! Be there!

- Scrapbook - Can you identify this picture?



DOD/DOT Policy, Continued from Page 2

as stated by the users, demand accuracy in the 10-meter range. It is possible that an enhanced form of GPS, such as differential GPS, could satisfy these more stringent requirements.

DIFFERENTIAL: The Coast Guard and the DOD are investigating the capabilities of differential GPS. Although there are currently no Federal Government plans to provide a differential GPS service for common use, the DOD in coordination with the DOT will control differential GPS transmissions to prevent interference with GPS satellite transmissions and to protect U.S. national security interests.

General Meeting

The General Membership meeting of the WGA was held in Portland, OR, on October 27, 1988, at the 17th Annual Convention. President John Illgen called the meeting to order at 0800.

President - John Illgen

The WGA organization chart was presented. John asked for comments from the membership; these included:

- There should be more "user focus" shown, along with clear indication of international ties.

The goal is to have the Portland Proceedings out during 2nd quarter, 1989, in response to comments on the long delays in recent years.

Treasurer - Carl Andren

Late receipt of papers from authors resulted in the 1987 Proceedings being late. Publishing both the 1987 and 1988 Proceedings caused budget problems; it was decided to limit delivery of Proceedings to meeting attendees, to control costs.

WGA growth initiatives (see below) will not affect the 1989 budget. This budget will be balanced, with revenues expected to be about \$17,000 and expenditures about \$16,500.

Congressional, Civil, DoD, FRP - Ed McGann

Accomplishments and activities during 1988 included:

- Monitored and commented on FRP; attended DOT users' meeting and submitted WGA comments.
- Recommended modified procedure for FRP amendments; possible use of

Federal Register to track progress of drafts.

- WGA needs to work to get Loran-C recognized in international aviation.
- Governments need to recognize that even mature nav aids need continuing enhancement and improvement. USCG deserves much credit for past work in Loran-C. WGA should continue efforts to keep military agencies up to date on Loran capabilities in the navigation mix.

Internationally, Korea will take over operations of Loran stations this year; the Japanese will likely follow suit and expand the system.

The Saudi Arabia system continues to work well; India plans to replace some Decca stations with Loran-C. IALA meetings led to formation of a NW Europe Working Group. Venezuela may pursue a Loran system; it is hoped that Canada will take advantage of the United States expansion, to provide aviation service.

WGA has submitted recommendations for Loran Caribbean expansion to help in drug law enforcement.

Question from the floor: What is FRP impact outside the United States?

- The FRP is used by many nations as a model for navigation systems planning. It is used in setting national policy and guides economic strategies.

WGA Growth Strategy - John Beukers

WGA requires a coherent strategy to move from current 600-member status to 10,000 or more. Note that Loran is headed toward ONE MILLION users worldwide; WGA must grow so that:

- WGA can be more vocal in advocacy for Loran worldwide,
- Provide more information to a broader and more diverse audience,
- More effectively advise users, governments and manufacturers on the best uses for Loran resources.

The WGA Board has agreed to pursue outreach initiatives to expand membership and to publish a new Journal. While the "pump is being primed," volunteers will be needed.

Looking further ahead, WGA cannot depend upon volunteers to keep the organization running. As we grow, central paid staff will be required. For the present, however, a stepping-stone strategy will be followed.

Key items now are to get the Journal out and expand membership.

Question from the floor: How is WGA information passed around?

- We need to build a WGA information data base on manufacturers, dealers and all others having contact with users. Inputs are welcome.

Membership - Jim Culbertson

Jim echoed John Beukers' goals for the WGA growth plans, and called on the membership for ideas and action. Help is needed internationally to build membership and to get Charter WGA Chapters started. WGA needs an official voice, for inputs to IALA.

1989 Convention - Mike Moroney, Ed McGann

The 1989 convention will be held at the Tara Hyannis Hotel and Resort on Cape Cod, MA, during October 29 to November 1, 1989. Mike and Ed are looking for convention volunteers and session chairpersons.

All members should plan to attend!

Closing - John Illgen

John urged the maintenance of MOMENTUM in the Loran community. A priority should be articulation to DoD that Loran-C/GPS interoperability is vital to national defense.

WGA is preparing input to the Coast Guard relative to possible rule changes on privatization of radio nav aids.

Questions and Comments

- The International Omega Association commented that Loran and Omega are not competing systems; they complement each other. It was suggested that the two organizations cooperate on international expansion; overseas meetings should be considered. Workshops targeting marine, air or land users may be a good idea.
- A second commenter recommended better education for dealers and user-oriented, non-engineering training sessions.

- A book is needed on how Loran works, for use in Europe.

- It was noted that WGA is an advocacy group, where ION cannot take an advocate's position on any one system. WGA members should be active in ION also. The navigation MIX should be emphasized; redundancy is essential.

Secretary's Corner

Thanks to all members who renewed their dues promptly; a reminder to those who have yet to mail in their response to the annual dues notice. If there are questions on membership or dues, please call.

The transition of administration from Leo Fehlner (past secretary) and Jimmie Toms (past membership chairman) is now complete. We apologize for delays in response to some requests for periodicals and information; hopefully we are now better organized to serve the membership.

The official mail box for the Association is indicated on Page 1; mail sent to this address will reach the secretary. Alternatively, you may reach me at the following (note New York, not New Jersey as previously printed):

John Beukers
Home: Beukers Promotions, Inc.
Flowerfield, Building #7
St. James, NY 11780

Busn: 8 Old Wood Road
Stony Brook, NY 11790

Phone: 516-862-7500
Fax: 516-862-7403 24 hours
Modem: 516-862-7576 Call first
Home: 516-751-0767 Fax and Modem;
call first

To spread the workload, Walt Dean has agreed to be the director in charge of membership. Bill Garmany, membership committee chairman, reports to Walt. The Secretary has the administrative responsibility for membership.

Some back issues of the Proceedings of Technical Conferences, Journals, and other publications are available. A listing with price and availability is in preparation.

Lost Geese: Returned mail means that some of our fellow Geese have temporarily lost some of their navigation skills. We would like to help them find themselves, so if anyone knows their current habitat please pass this information on to the secretary:

Lois Campbell	Robert Doherty
Bill Everett	Robert Griffith
Samual Hathaway	William Hilbun
Frank Hoeschler	Fred Karkalik
Daniel Lasenby	Chick Longman
Michael Maciolek	John Mason
John Page Shaw	Robert Trapp
James Zaccaro	Hiroshi Kiyano
	Klaus Zell

To our overseas members: We would like to see the WGA activities publicized in the many countries that use and are interested in Loran. You can be of help by supplying the secretary with a list of publications you feel would carry a notice of the convention, and other WGA press releases. We will add them to the mailing list.

The 1989 Convention. The call for papers has gone out, and you should have received your copy. Plan now to submit a paper. We especially welcome papers from overseas.

Did you know?

Under local control, the repeatable accuracy of Loran-C is 10 meters.

The following is the text of a WGA press release announcing the Annual Technical Symposium:

"A 'Call for Papers' has been issued for the Wild Goose Association's 18th Annual Technical Symposium which will be held from Sunday, October 29 through Wednesday, November 1, 1989 at the Tara Hyannis Hotel in Hyannis (Cape Cod), Massachusetts. With the theme of "LORAN Boldly into the 1990's", the symposium will feature technical papers on such user applications as vehicle tracking and location, aviation en route and non-precision approach developments and marine innovations.

The convention will also include discussions of LORAN-GPS interoperability, Loran technologies, domestic and worldwide activities and related sciences. To present a paper at the symposium, a one-page abstract and a one-paragraph biography should be sent before May 1 to:

Technical Program Chairman
18th Annual Technical Symposium
Wild Goose Association
P.O. Box 556
Bedford, MA 01730.

Authors will be notified of acceptance by May 15th, and final manuscripts are due July 17, 1989.

The Wild Goose Association is a professional organization which focuses on LORAN navigation, fostering and preserving the art of Loran. It is named after the majestic bird that navigates thousands of miles with unerring accuracy."

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