

WILD GOOSE ASSOCIATION

Minutes of the Twenty-fifth Meeting of the Board of Directors held on 19 April 1977 at Electronics Engineering Center, Wildwood, N.J.

The following were in attendance:

John M. Beukers  
James F. Culbertson  
Walter Dean  
✓ Leo F. Fehlner

Lloyd D. Higginbotham  
William F. Roland  
Bahar J. Uttam  
James P. Van Etten

Absent from the meeting:

David T. Haislip  
William L. Polhemus  
Edward L. McGann

Robert H. Doherty  
Richard A. Pasciuti  
Patrick R. J. Reynolds

Also in attendance:

Vernon L. Johnson  
Thomas A. McCarty  
Warren J. Frederick (for Ed McGann)

The meeting was brought to order at 2:37 p.m. by the President, John Beukers.

1. The meeting was opened by a motion made by Higginbotham and seconded by Fehlner to accept the Minutes of the Twenty-fourth Meeting of the Board of Directors.

The following corrections were noted:

- 1) Item 2 - President's Report, Section b, page 2 insert ahead of "Roland" the following: On a point of order, Fehlner noted that the action taken by the President was not in accordance with the By-Laws, and an action by the Board was required to fill Durbin's term. Whereupon,
- 2) Item 7 - Membership Committee, p. 4  
Delete after "Senor Ruiz Castro" the following:  
is the Minister of Communications
- 3) Item 9 - Awards Committee, p. 4  
Spelling error: Lavelle

- 4) Item 10 - Convention Meeting  
Delete the following sentence: Correct fare from Boston is \$111 per person.
- 5) Item 11a - Special Committees - Congressional Liason Committee Report, p. 5, 4th paragraph change "New York" to "Washington, D.C."
- 6) Item 11e - Spectrum Clearance Committee, p. 9  
delete after "that a report" the following:  
is not available  
and substitute  
was tabled at the last Board of Directors Meeting
- 7) Same paragraph as above, delete the following:  
Wild Goose Association  
and substitute  
CCIR
- 8) Item 11f - Committee on Publicity, p. 10, 2nd paragraph, delete the following:  
King Radio  
and substitute  
USAF
- 9) Same paragraph as above, delete the following:  
It was paid by USAF

There being no further corrections, the Minutes were accepted as amended.

## 2. President's Report

- a. The President indicated he had received notices of absence from Haislip and Polhemus.
- b. The President indicated that he had received the following correspondance:
  - 1) Theodore C. Lutz, General Manager of Washington Metropolitan Area Transit Authority, thanking the Wild Goose Association for the letter of congratulations with regard to his new position.
  - 2) William D. Owens, Acting Assistant Secretary, Office of the Secretary of Transportation. The letter addressed the issue of Loran-C signal specifications stating that the Commandant of

the USCG has a target date of 1 August 1977 as a publication date. The efforts of the WGA were also appreciated.

- 3) J. Scott, Raytheon Marine Ltd, London requesting Loran-C information.
  - 4) R.J. von Bereghy of the Law offices of Levin, Blumenthal, Herz and Levin requesting information of people interested in exchanging used loran sets.
- c) The President then requested for the various committee chairmen to present their reports with special attention to the Constitution and Specification Committees.

### 3. Committee Reports

#### a. Constitution Committee

Johnson presented his committee report (attached) and thanked Fehlner for his assistance in the development of the master draft. A motion was made by Fehlner and seconded by Dean:

It is moved that the Board of Directors adopt the proposed revision of the Constitution.

Higginbotham stated concern about the three (3) month period allocated to the Board of Directors action to accept or reject an application for membership. Roland pointed out that since the membership chairman is the delegated representative of the Board, he may accept or reject an application at his own discretion.

Dean inquired whether a corporate member has to submit individual names to the WGA for acceptance. The corporate member does not have to submit names for acceptance but, however, once a corporate member is accepted it must inform the WGA of the names of the individuals nominated by the corporation.

Roland pointed out the inconsistency and problems in reference to dues (Article V, Section 2) applied over the WGA fiscal year when it is currently applied over a calendar year. A motion was made by Roland and seconded by Dean.

The annual dues be applicable over a calendar year

The motion was passed.

On the same subject of fiscal and calendar year, Dean pointed out that the appointment of directors (Article VI Section 7) as stated could lead to misinterpretation if directors are appointed during the fiscal year. In order to resolve this, a motion was made by Dean and seconded by Culbertson

Delete "fiscal" in reference to "fiscal year" to read only "year"

The motion was passed.

The motion to adopt the proposed revision of the Constitution as amended was put to vote and accepted.

Dean and Johnson will be responsible for the mailing of the proposed revision to the membership.

Fehlner suggested that in order to give regional chapters a greater voice in voting procedures, each chapter be given a block of votes. For example, one (1) extra vote for every four (4) members. As there was no supportive discussion, there was no further action.

b. Specification Committee

President Beukers read the letter from William Owens (see correspondence) in reference to the specification. Van Etten presented the committee report (attached). Culbertson pointed out the constraints within the USCG in getting the specification drafted. However, the August date is still valid. He suggested working with Fehlner in getting a straw-man specification. McCarty suggested sending a draft specification to members for comment. Van Etten felt that this would not be practical or beneficial and was not pursued further.

c. Convention Committee

Frederick presented the committee report (attached). He wanted direction from the Board in reference to the booth at the convention. The problems of expense for decoration, personnel and content of the booth were of concern. The estimate for decoration was \$500. A motion was made by Dean

The President appoint someone to investigate the problems with regard to the booth and make recommendation on the course of action.

The motion was not seconded and no action was taken.

The President recommended that the WGA have a booth to display the WGA charter along with other WGA publications and directed the committee to pursue this action. He also recommended that the committee be given a budget. Higginbotham recommended a \$500 budget which was approved.

Roland suggested that the WGA use manufacturers booths rather than having a separate booth. The convention committee will use this approach as a first choice and pursue this action.

Frederick reported that Murray Block is organizing the golf tournament and will report to the committee on progress. Roland stated that the work of the convention committee was very commendable.

d. Nomination Committee

Dean presented the nominations for membership vote in his report (attached). A motion was made by Higginbotham and seconded by Culbertson.

It is moved that the Board of Directors accept nominations proposed by the committee.

The motion was passed.

Dean and Johnson will organize the logistics of the mailing to membership.

d. Membership Committee (report attached)

Higginbotham stated that there are 428 members of which 105 have paid up to date. There have been 14 new members since the last Directors Meeting. He also stated that Beukers computerized mailing list matched his own. Higginbotham also stated that since he has retired from the USAF, he would appreciate newsletter information to be relayed to him at his own phone (617-263-8554). With reference to the newsletter he has two estimates for printing costs - \$91 and \$75. The former includes 4 pages folded and stapled. A fixed fee of \$6 would cover any photographs that are to be included in the newsletter. The mailing cost of the last newsletter was paid by MEGAPULSE.

The President congratulated Higginbotham for excellent newsletters and hoped he would continue in this capacity of Newsletter Editor.

e. Awards Committee (report attached)

Fehlner stated that a copy of the citation that accompanied the medal of merit be recorded in the minutes. It is included in the report. The President suggested that members help the awards committee in their job by recommending people they feel should be recipients of WGA awards.

f. Spectrum Clearance Committee (report attached)

Haislip's letter to the President indicated that CCIR has obtained approval of the draft question submitted by the United States concerning bands between 70 and 130 kHz. The question has been allocated to study Group B and is designated Question 33/8. Fehlner will coordinate with Haislip on this matter.

g. Congressional Liason Committee (report attached)

McGann provided a report delivered via Frederick for Board of Directors comments. The report deals with DOD's statement regarding the proposed "1600 ton requirement". The DOD statement was in response to a letter from McGann who had written to Dr. Brown, Secretary of Defense, in his capacity as Executive Vice President of Megapulse.

h. FAA Certification Committee

Pascuiti was not present at the Board of Directors' meeting and as a result no report was made available.

i. Publicity Committee (report attached)

President Beukers delivered the Publicity Committee report. ELECTRONICS journal has an editorial on the subject of Loran-C planned for a forthcoming issue.

Call for papers for the 1977 Convention has been included in a number of journals and magazines.

President Beukers brought out the subject of a publicity drive regarding the West Coast chain going on air. Culbertson pointed out that the USCG has the responsibility and will be organizing such a publicity drive. They may invite the WGA to participate in some capacity. VADM Wagner of Pacific Operations will be coordinating with USCG in Washington. A commemoration is planned in San Francisco in June 1977. A suggestion that the WGA hold a reception in the East Coast was made but no action was taken.

j. Radionavigation Journal Committee Report (report attached)

Uttam gave the status of the commitments made by advertisers to date. Excluding the advertisements on the covers (they cover expenses incurred in printing the covers), \$1215 in commitments were obtained. The journal still requires about \$1800 more to meet estimated expenses.

Roland stated that the format of the Journal will be similar to 1976. The committee is still working on the content of the first Chapter.

Treasurer's Report

Roland reported that there is approximately \$3500 in the treasury. He apologized for not providing a detailed written report. He also stated that he is working on obtaining the WGA a tax-exempt status.

Historial Committee

No report was requested.

Wild Goose Association  
Page Eight  
April 19, 1977

#### Other Business

Frederick attended the West Coast hearing on the proposed "1600 ton requirement". He stated that there were complaints lodged by the Governor of Virgin Islands regarding the requirements. A tape containing the proceedings of the hearing is available at a cost of \$11. Haislip has a copy. The President stated that he has a list of the attendees present at the Washington, D.C. hearing, a Federal Register note indicating that the deadline for comments to the proposed rulemaking is extended to 20 April, and a letter from the IOA indicating their comments on the matter.

Higginbotham inquired about the status of the WGA 1976 Preceedings. The President stated that since Dickerson has been in hospital due to an accident, the Proceedings have been delayed.

As there was no other business the President accepted a motion to adjourn by Roland and seconded by Dean. Motion was approved.

Meeting ended at 5:03 p.m.

Respectfully submitted,

*Bahar Uttam (M.W.)*

Bahar Uttam  
Acting Secretary



## BOARD OF DIRECTORS

J. M. BEUKERS..... President  
J. CULBERTSON, Capt..... Vice President  
W. F. ROLAND, Capt..... Treasurer  
W. POLHEMUS..... Secretary  
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E. DURBIN  
L. F. FEHLNER  
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L. D. HIGGINBOTHAM  
E. L. MCGANN  
R. A. PASCIUTI  
B. UTTAM  
J. P. VAN ETEN



# WILD GOOSE ASSOCIATION

18 April 1977

Memorandum To: Mr. W. Polhemus, Secretary WGA  
From: Constitution Committee  
Subject: Report for Board of Directors Meeting  
of 19 April 1977

1. Membership mailing of the "Report of the Awards Committee to WGA members was made as a separate mailing. Previous intent was to include this report with the expected Constitution revision ballot to the membership. In coordination with the President, WGA, and Chairman of the Awards Committee it was decided that a separate mailing should be made in order not to further delay distribution of this report. Mailing cost was \$109.20.
2. The Constitution Committee submits herewith proposed revisions to the WGA Constitution for consideration by the Board under Article XII, Amendments of the Constitution. The draft of the revised Constitution attached incorporates all the changes currently under consideration by the Constitution Committee. Changes that are less than a section in length are underlined in the text. Entirely revised or new sections are indicated by lines in the right margin. Copies of these proposed revisions were mailed on 5 April 1977 to all members of the Board in order to allow their review prior to the meeting.
3. Revisions to the By-Laws that follow from the proposed Constitution changes and other concerns currently under consideration have been drafted and are under the full Committee review. It is expected that the complete proposed revision to the By-Laws will be ready for submission to the Board at the next meeting. It is of course necessary to first enact the Constitution changes before some of the proposed By-Laws changes can be implemented.

Respectively Submitted

*Vern Johnson*  
Vern Johnson, Chairman

CC: President, WGA  
Committee Members

BOARD OF DIRECTORS

APR 7 1977

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R. A. PASCIUTI  
P. R. J. REYNOLDS  
B. UTTAM  
J. P. VAN ETEN

*File  
WGAmt*



## WILD GOOSE ASSOCIATION

APRIL 6, 1977

MEMORANDUM TO MR. W. POLHEMUS, SECRETARY WGA

FROM: *J. P. Van Etten* J. P. VAN ETEN, CHAIRMAN,  
LORAN-C SPECIFICATION COMMITTEE

SUBJECT: COMMITTEE REPORT, APRIL 6, 1977

As you will recall, this committee was formed with the objective to stimulate, encourage and assist the USCG in preparation and official promulgation of a Loran-C Signal in Space specification similar to the technical characterization of the Loran-C System previously prepared and published by the WGA.

The USCG did in fact set up a Loran-C Committee composed of Capt. J. Culbertson, Chairman, Mr. Ed Bregstone, LCDR W. E. Jones, Mr. Dave Haislip and CDR W. Walker, members. And as Jim Culbertson reported six weeks ago, a first working draft was to have been available about this time.

However, the Coast Guard found it necessary to defer this effort so that the Committee could examine the requirements re. Loran-C Receiver performance standard characterization that might be needed in conjunction with the USCG rule-making activity relating to the proposed requirement for all vessels 1300 gross tons and over to carry a Loran-C receiver.

It is unfortunate that both tasks could not be accomplished concurrently since both are important and essential in the context of a National Loran-C Navigation System. However, the USCG remains committed to resuming the specification work as soon as resources permit, possibly late this month.

cc: John Beukers, President  
WGA Specification Committee Members:  
J. Culbertson, L. Fehlner, W. Romer

VMS

## Outline

### Specification of Signal of Loran Radionavigation Systems Operating in the 90-110 KHz Frequency Band

1. Scope
  - a. Specification of observable signal of Loran-C, Loran-D and mini-chains
  - b. Description of standardized electrical environment
2. General Characteristics of Low Frequency Pulsed Radionavigation Systems
  - a. Frequency multiplexed
  - b. Time multiplexed
  - c. Phase coherent
3. Description of Signal (refer to figure)
  - a. Super-Chains
    - (1) Common geodetic grid
    - (2) Common time reference
  - b. A Loran-C chain
  - c. A Loran-D chain
  - d. A mini-chain
  - e. Dual rating exceptions
  - f. Std 3rd cycle zero crossing
4. Specification
  - a. Super-Chains
    - (1) Rate structure
    - (2) Frequency multiplexed
    - (3) Common grid system, station location
    - (4) Interchain timing

b. Chains

- (1) Time multiplexed
- (2) Semi-frequency multiplexed
- (3) Master timing
- (4) Absolute emission delay
- (5) Specify subordinate rate for dual rate stations
- (6) Specify power loss on subordinate rate

c. Pulse Groups

- (1) Pulse spacing in group
  - (a) Loran-C
  - (b) Loran-D
  - (c) Mini-loran
  - (d) Total length of group
  - (e) Dual rate exceptions
- (2) Phase Code
  - (a) Loran-C
  - (b) Loran-D
  - (c) Mini-loran

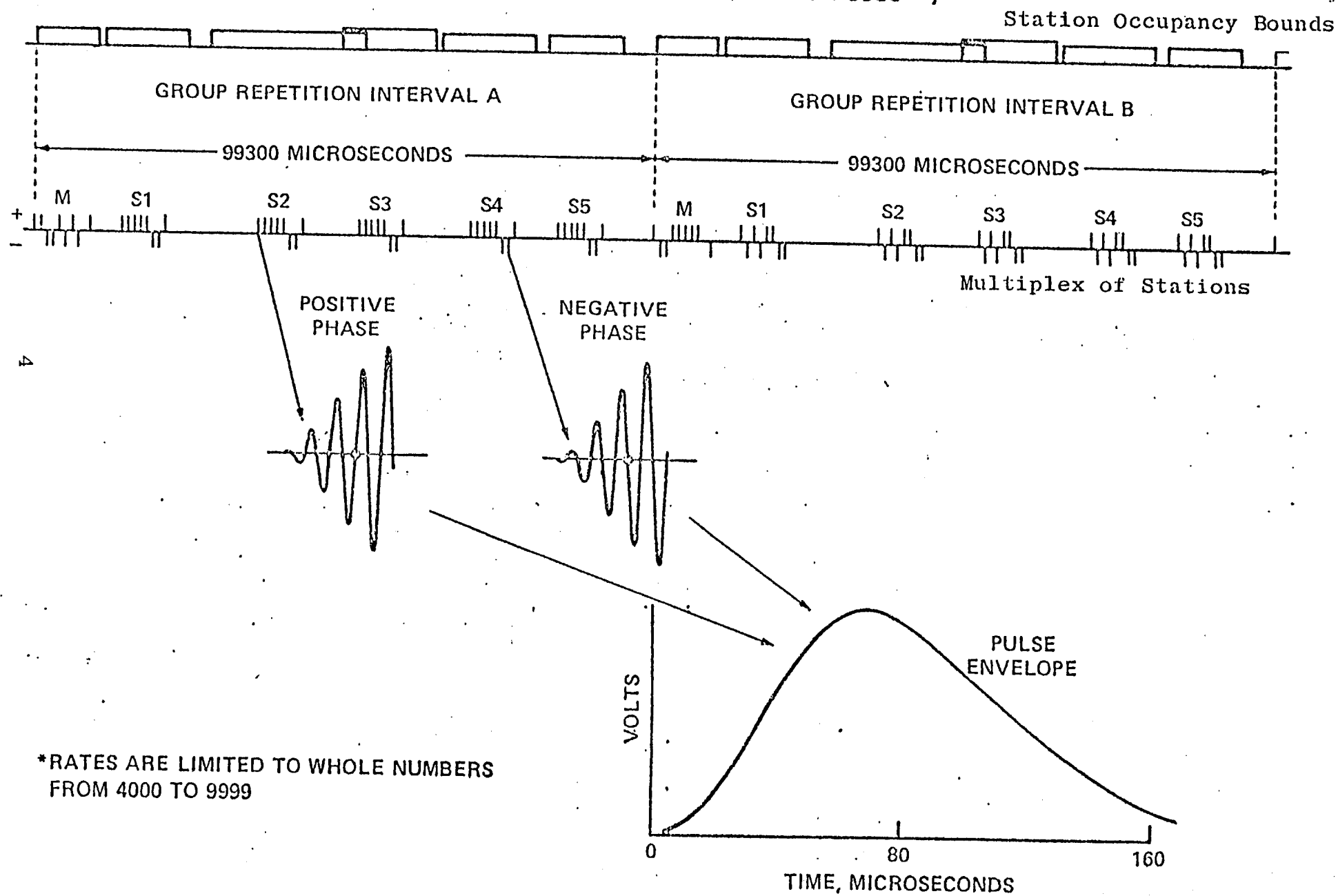
d. Pulse

- (1) Pulse equation
  - (a) Primary field
  - (b) Vertical E vector
- (2) Standard 3rd cycle zero crossing
  - (a) Definition
  - (b) Deviations

- (3) Phase code definition
- (4) Zero crossing table
- (5) Amplitude table
- (6) Interpulse relationship in group
- e. Class A service area
  - (1) Ground wave
  - (2) Signal strength
  - (3) Signal to noise re CCIR
  - (4) Pulse distortion re tables d(4) and d(5)
- 5. Standard Electrical Environment
  - a. CCIR Report 322, Atmospherics
  - b. ITU regulations, man-made interference
- 6. Glossary

# LORAN-C SIGNAL FORMAT

(U. S. EAST COAST CHAIN - RATE 9930 \*)



\*RATES ARE LIMITED TO WHOLE NUMBERS  
FROM 4000 TO 9999

## BOARD OF DIRECTORS

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# WILD GOOSE ASSOCIATION

April 13, 1977

TO: WGA Board of Directors

FROM: WGA Seattle 77 Convention Committee  
K. Bruhl, W. Frederick

SUBJECT: Progress Report

Since the last meeting of 8 February 1977 the following events have taken place.

1. The hotel arrangements with the Edgewater Inn are firm and Hank Hilbun is including the hotel reservation forms as part of the transportation committee package.
2. We have been offered a space, free of charge, at Fish Expo due mainly to the efforts of Dan Panshin. Sam Goldstein is making official application for the booth. It must be understood that even though the space is free there will be charges involved in putting the booth in operation. Bob Dugan reports that he recently did this on another project and even though it was a bootstrap operation it still cost \$500 to complete. This will be a large and important undertaking. We recommend that a separate booth committee be established for this purpose.
3. As you know the call for papers has gone out via the newsletter. A separate call for papers is now underway. Sam Goldstein is taking care of this.
4. Murray Block has been contacted re the golf tournament. He is now canvassing previous competitors to determine what degree of interest exists for a West Coast tournament.
5. A budget review is being initiated. It is presently intended to solicit all WGA member companies for a minimum contribution of \$100 each. The mailing of this letter will take place the latter part of April and early May.
6. As you can see from enclosures (1) and (2) to this report Dan Panshin has been busy helping with arrangements. His suggestion of Barry Fisher for a luncheon speaker is excellent and will probably be adopted.
7. The selection of a guest speaker for the banquet is still open to suggestion. Two possibilities are Senator Warren Magnuson and Transportation Secretary Brock Adams. The availability of either of these has yet to be determined.

Respectfully Submitted

K. R. Bruhl      W. J. Frederick

Encl: (1) Panshin ltr 23 Feb 77  
(2) Panshin ltr 11 Apr 77

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**WILD GOOSE ASSOCIATION**

1 April 1977

Mr. John M. Beukers, President  
Wild Goose Association  
30 Orville Dr.  
Bohemia, NY 11716

Dear John:

In accordance with the By-Laws of the Wild Goose Association,  
the following nominations are submitted for Board of Directors  
action.

For President: J. M. Beukers  
E. L. McGann

For Director: R. Abraczinskas  
F. Chambers  
W. Dean  
L. Fehlner  
W. Hilbun  
V. Johnson  
F. Libby  
A. Pankopf  
W. Roland  
J. Van Etten

Very truly yours,

W. N. Dean  
Chairman, Nominating  
and Election Committee

pr





## WILD GOOSE ASSOCIATION

ED HIGGINBOTHAM

13 APRIL 1977

TO:

MR. WM L. POEHMUS


SECRETARY, WGA.

SUBJECT: REPORT OF  
MEMBERSHIP COMMITTEE

As of 13 April The total membership is 427. Of these 101 are paid up for 1977. There have been thirteen new members signed up since the board meeting in February.

On 12 April I sent a notice of dues to all other members. I was not aware that the board had agreed to send stamped envelopes as the minutes of the last meeting reflect. Therefore I sent the notices with a self addressed envelope only.

Respectfully Yours

  
Lloyd Higginbotham  
Membership Chairman

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B. UTTAM  
J. P. VAN ETTEN



# WILD GOOSE ASSOCIATION

19 April 1977

## Report of Awards Committee

The only significant event in the affairs of the Awards Committee since the last Board Meeting was the distribution of the Awards Committee Report to the Membership. To date, there has been no response from the members.

A copy of the citation that accompanied the Medal of Merit awarded to Gen. Lavelle is attached for the record.

A handwritten signature in cursive script, appearing to read "Leo Fehlnner".

Leo Fehlnner  
Chairman

Citation on the Occasion of the  
Award of the Medal of Merit of the  
Wild Goose Association to  
John D. Lavelle

The Medal of Merit of the Wild Goose Association is awarded to you, General Lavelle, in recognition of your significant and long-lasting contributions to the development and fostering of loran. These contributions, which were focused on the use of Loran-C in military operations in Southeast Asia, led to systems that have been in continuous use for over seven years.

As Director of the Defense Communications Planning Group from February 1968 to August 1970, you clearly recognized the potential of Loran-C for precision guidance of aircraft and for use by ground and airborne personnel in a common grid system. You also foresaw the need for a companion calibration system that would result in guidance accuracy that approached Loran-C precision.

Without the usual lengthy research and development cycle, you boldly initiated, among other things, the development of the BALLAD and Pave Phantom guidance systems for aircraft, the development of Sentinel Lock/Loran for accurately relating the loran grid to the geodetic grid, and the development of ground systems involving the use of loran manpacks. Furthermore, your personal interest in the development of tactics and doctrine permitted timely operational use of loran.

These systems were highly successful from the beginning and several continue to be operational at the present time. These successes justified the application of existing loran equipment to Pave Nail and Pave Buff and stimulated the development of improved loran manpacks, new solid state loran transmitters and new loran guidance systems for drones, helicopters and fixed-wing aircraft. These facts attest to your foresight and the soundness of your judgment.

The Wild Goose Association believes that these contributions have had a most favorable effect on the stature of Loran-C as a precision navigation system for both military and civil applications, and for this we are forever grateful to you.

Awarded this 28th day of October 1976.

James P. VanEtten  
President

COPY



DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

MAILING ADDRESS:  
U.S. COAST GUARD G-WAN-3/73  
WASHINGTON, D.C. 20590  
PHONE (202) 426-1958

APR 18 1977

. 16552.0/1

14 APR 1977

Mr. John M. Beukers  
Beukers Laboratories, Inc.  
30 Orville Drive  
Bohemia, NY 11716

Dear John: *John -*

I regret that I will be unable to attend the Association meeting at Wildwood on 19 April due to heavy commitments that week in advance of departing on temporary duty in Europe for an extended period.

I am pleased to advise you that the International Radio Consultative Committee (CCIR) has obtained approval of the draft Question submitted by the United States concerning the bands between 70 and 130 kHz, and that the Question has been allocated to Study Group 8 and is designated Question 33/8. This is a significant milestone, and we should be pleased that this action has been satisfactorily concluded by CCIR. It is now up to the Association to begin to consider the extent of involvement in the United States Study Group 8.

I am enclosing two copies of correspondence from Ray Simonds which is self-explanatory and includes CCIR Question 34/8. I am sorry about being unable to attend the meeting at Wildwood, but official business must come first.

Sincerely,

*D. T. Haislip*

D. T. Haislip

Encl: (1) Correspondence

Report for Spectrum Clearance Committee  
Chairman: Fehlner

**REC-1**

Capt. Gordon Hempton  
Chairman, CCIR USSG 8B  
Aviation & Marine Division  
Federal Communications Commission  
1919 M Street, NW  
Washington, DC 20554

Raymond E. Simonds  
Director

Dear Gordon:

April 11, 1977

Attached hereto is copy of CCIR Administrative Circulars A.C./188 and A.C./189 informing me of the adoption, by mail, of two new Study Group 8 Questions 33/8 and 34/8. Copies of these are attached hereto.

Inasmuch as both of these Questions deal with terrestrial radionavigation services, it is requested that you solicit material from your Ad Hoc B membership that might form Draft Reports.

By copy of this letter, it is requested that Dr. Goldsmith arrange to duplicate these two Questions and distribute them to the full Study Group 8 membership with his next mailing.

Very truly yours,

*Raymond E. Simonds*  
Chairman, CCIR USSG 8

RES/kfh

Encl.

cc: A. Goldsmith  
D. Haislip

COMITÉ CONSULTATIF INTERNATIONAL  
DES RADIOCOMMUNICATIONS  
(C.C.I.R.)



COMITÉ CONSULTIVO INTERNACIONAL  
DE RADIOCOMUNICACIONES  
(C.C.I.R.)

INTERNATIONAL RADIO CONSULTATIVE COMMITTEE  
(C.C.I.R.)

34 60 21  
COMRADIO. GENÈVE  
Tx 23000

1211 GENÈVE 20 23 March 1977  
2 RUE DE VAREMBÉ

Administrative Circular  
A.C./188

TO ALL MEMBERS OF THE I.T.U.

Further to our Administrative Circular A.C./186 of 4 February 1977, we take pleasure in informing you that the draft Question submitted by the Administration of the United States of America, annexed to that circular, has now received the approval of 20 Members, so that this Question has been adopted as an official C.C.I.R. text.

This Question has been allocated to Study Group 8 (Mobile Services) and is designated Question 33/8. It will form the subject of a forthcoming addendum to Volume VIII of Geneva, 1974.

  
Richard C. Kirby  
Director

QUESTION 33/8

INTERFERENCE BETWEEN FIXED AND MARITIME MOBILE,  
AND RADIONAVIGATION SERVICES IN THE BANDS BETWEEN 70 AND 130 kHz

The C.C.I.R.,

CONSIDERING

- (a) that the Radio Regulations authorize radionavigation, fixed and maritime mobile services in the bands between 70 and 130 kHz;
- (b) that radionavigation systems are either operational or being implemented to provide coverage in all regions;
- (c) that since radionavigation is a safety service, it is essential that there be no harmful interference to the service;
- (d) that both pulse and continuous wave radionavigation systems are used in the bands between 70 and 130 kHz;
- (e) that the time sharing of operational radionavigation signals enable several radionavigation stations to overlap the same geographic area;

DECIDES that the following question should be studied:

- 1. what system parameters must be defined to assure compatibility and to avoid harmful interference between the radionavigation services and other services authorized in the bands between 70 and 130 kHz;
  - 2. what system factors may cause interference between different types of radionavigation systems operating in these bands;
  - 3. what operational characteristics should be recommended to avoid mutual interference between stations providing the same type of radionavigation service?
-



INTERNATIONAL RADIO CONSULTATIVE COMMITTEE  
(C. C. I. R.)

Ø 34 50 21  
# COMRADIO. GENÈVE  
Tx. 23000

1211 GENÈVE 20 28 March 1977  
2 RUE DE VAREMBÉ

Administrative Circular  
A.C./189

TO ALL MEMBERS OF THE I.T.U.

Following our Administrative Circular A.C./187 of 8 February 1977, in which the French Administration requested us to circulate a number of texts with a view to their adoption, in accordance with the provision of No. 308 of the International Telecommunication Convention, we herewith inform you that these eleven texts have now received the twenty approvals required. These texts have hence become official texts of the C.C.I.R., with the following numbers:

- Annex 1 : Question 25/4
- Annex 2 : Study Programme 2N/4 (this Study Programme derives from Question 2-2/4)
- Annex 3 : Study Programme 8A/5 (this Study Programme relates to Question 53/1 of Study Group 1)
- Annex 4 : Question 8/7
- Annex 5 : Study Programme 2B/7 (this Study Programme derives from Question 2/7)
- Annex 6 : Study Programme 5A/7 (this Study Programme derives from Question 5/7)
- Annex 7 : Question 34/8
- Annex 8 : Question 23/9
- Annex 9 : Study Programme 23A/9 (this Study Programme derives from Question 23/9)
- Annex 10 : Study Programme 24A/9 (this Study Programme relates to Question 16/9 and Question 53/1)
- Annex 11 : Question 34/11

These texts will be contained in a forthcoming supplement to the corresponding Geneva Volumes.

  
Richard C. Kirby



QUESTION 34/8

TECHNICAL CHARACTERISTICS OF "DIFFERENTIAL OMEGA"  
CORRECTION TRANSMITTING SYSTEMS

The C.C.I.R.,

CONSIDERING .

- (a) that the Omega radionavigation system operates by measurement of the phase difference between signals and is subject to inaccuracies mainly caused by disturbances to wave propagation through very long transmission paths and random ionization anomalies;
- (b) that the accuracy and reliability can be improved by comparing Omega readings with the calculated coordinates at a known geographic position and the transmission of such differential corrections to nearby users;
- (c) that it would be of advantage to define the basic characteristics of the transmitting format in order to achieve maximum compatibility between systems of different design;
- (d) that the coverage provided by Differential Omega stations should be at least the same as that area for which the corrections will give the required accuracy and reliability;

DECIDES that the following question should be studied :

1. what are the most suitable frequency bands for the transmission of Differential Omega correction signals to users within the area of coverage;
2. what technical characteristics should be specified for Differential Omega correction systems?

Note 1.—In view of the congestion of the frequency spectrum and the difficulty of finding adequately protected frequencies for radionavigation, the study of this Question must identify the portion of the frequency spectrum required for world-wide coverage of Differential Omega systems if implemented.

Note 2.—The Director, C.C.I.R., is requested to bring this Question to the attention of I.M.C.O., I.A.L.A. and I.C.A.O.

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# NEW ENGLAND CHAPTER WILD GOOSE ASSOCIATION

P.O. BOX 228, BEDFORD, MASSACHUSETTS 01730



15 April 1977

TO: WGA Board of Directors

FROM: Congressional and Inter-Department Liaison Committee,  
K. Bruhl and E. McGann.

Activity this month was minimal consisting only of participation in the USCG Loran-C Regulation Hearing of Friday, 4 March 1977, some follow-up activity from that meeting and in early planning discussions of West Coast and other publicity possibilities for Loran-C.

No specific comments or recommendations are made at this time.

Aside: Dave Underwood's excellent article ("LORAN-C, PINPOINT NAVIGATION FOR THE FUTURE") in the March 1977 issue of a boating magazine is an example of the kind of publicity the Loran community needs to maintain either writing as private citizens or as members of the technical Loran community. K. Bruhl suggests that all Board members be on the lookout for such articles, reprints of which will make effective handouts from the WGA Booth at the October 1977 FISH EXPO/WGA Convention.

# BOARD OF DIRECTORS

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## WILD GOOSE ASSOCIATION

To: WGA Board of Directors

From: E. L. McGann

Subject: Attached Letter from Department of Defense

Date: April 15, 1977

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The enclosed letter from DOD is most interesting as is the attachment which is the DOD answer to the USCG "1600 ton" requirement. Also enclosed is my letter which prompted this response.

My assessment of the response is that I have never seen such an assinine series of statements, for instance -

- a) If my figure of \$35M is anywhere correct it is a minimal impact on the DOD budget;
- b) The 1972 referenced response on DOD requirements is outdated by many coordinators during the 1974 CCZ efforts and since from which DOD has evolved with a commitment thru 1985, and
- c) What the hell kind of a reason for not establishing your own coordinated single system is the fact that some other place might do something different - they might do something even if you don't - and thinking positively maybe the smart ones will follow the lead.

Sorry for the handwriting - secretarial help is hard to find at 6:00 p.m. on a Friday.

I will personally bring a copy of my letter, the DOD response and some simmered down comment to Adm. Fugero's office on Wednesday, 20 April 1977.

If the WGA wishes to make any formal comments based on any information any of you have on this subject or that which Red F. can bring to you, send it back to Washington with Red and I will bring it in also.

*E. L. McGann*  
E. L. McGann

Typed by J. Beukers' Secretary  
770517

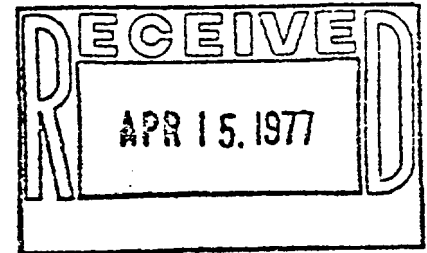


ASSISTANT SECRETARY OF DEFENSE  
(COMMUNICATIONS, COMMAND, CONTROL AND INTELLIGENCE)

WASHINGTON, D.C. 20301

12 APR 1977

Mr. Edward L. McGann  
Executive Vice-President  
MEGAPULSE  
8 Preston Court  
Bedford, Massachusetts 01730



Dear Mr. McGann:

Thank you for your letter of March 15 to Secretary Brown which contained the recommendation that all Department of Defense vessels be uniformly equipped with LORAN-C radio navigation receivers.

Your letter is most thoughtful and provides good rationale in support of the recent Coast Guard proposal to amend the navigation safety requirements to require all vessels of 1600 gross tons or more to utilize LORAN-C navigation receivers. However, for the reasons outlined in the enclosed copy of a letter from the U.S. Navy to the Coast Guard, the Department does not support the proposition of equipping all ships with LORAN-C equipment.

While the reasons cited in the Navy letter are self-explanatory, I would like to add that systems which are being employed and planned for future installations will provide required accuracies within the U.S. coastal waters and at the same time satisfy our overall worldwide requirements in the most cost effective manner. As you probably know, we have been criticized in the past for equipment proliferation and it is our policy to provide only the minimum essential equipment to fulfill mission requirements.

In summary, we do not believe that we need LORAN-C equipment either for our general surface ship navigational needs or to meet the accuracy requirements cited by the Coast Guard and, unless the use of LORAN-C is decreed, we will continue with our current plans.

Very truly yours,

*Gerald P. Dinncen*  
Gerald P. Dinncen

Enclosure

DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
WASHINGTON, D.C. 20350

IN REPLY REFER TO

Ser 942/107170

MAR 16 1977

From: Chief of Naval Operations  
To: Commandant, U. S. Coast Guard Headquarters (G-CMC/81)

Subj: Proposed Navigation Safety Requirements; comments on

Ref: (a) Notice (CGD 77-002) of proposed revision to  
section 164.35 of Title 33, Code of Federal  
Regulations of 26 Jan 1977  
(b) DEPSECDEF ltr of 7 Dec 1972 (NOTAL)  
(c) COMDT COGARD ltr 3262.7 of 8 Jan 1973 (NOTAL)

1. Reference (a) proposed amending the navigation safety requirements by adding LORAN-C to the list of required equipment for vessels of 1600 gross tons or more. Reference (a) further invited submission of written comments by 1 April 1977 for consideration before final action is taken on the proposal. Inasmuch as the proposed rule apparently makes no distinction between civil maritime and military vessels, it is considered to be in direct conflict with Department of Defense policy as stated in reference (b), which advised of plans indicating a reduction and possible termination of the LORAN-C system when military needs can be fulfilled more efficiently by other means. In this regard, it should be noted that the phaseout of LORAN-C from Navy ships is virtually complete. Thus a requirement for a LORAN-C capability for any ship to enter or operate within U.S. coastal waters would have a significant adverse logistic and economic impact on the Department of Defense but would not necessarily result in an improved navigation capability for military vessels. In this regard, the proposed requirement is in direct conflict with U. S. Coast Guard statements of intentions and limits of authority expressed in reference (c), which clearly acknowledges that the navigation methods employed by Navy vessels are matters entirely at the discretion of the Department of Defense. In addition, the imposition of so specific an equipment requirement has serious potential as a precedent for equally detailed, and not necessarily uniform, requirements imposed on a reciprocal basis by other coastal states throughout the world.

2. Accordingly, it is recommended that the LORAN-C requirement not be imposed and that this be reflected by deletion of the proposed item "(k)A LORAN-C receiver." and associated explanatory remarks from section 164.35, Chapter I of Title 33, Code of Federal Regulations. Also, it should be pointed out that the

Ser 942/107170

explanatory statement, which indicates that this is not a major rule requiring preparation of an Inflation Impact Statement, is questionable, in view of the obvious major impact to DOD noted above, and the potentially serious impact to the United States if other coastal states impose non-uniform requirements on a reciprocal basis.

3. If an alternative to the above is mandatory, it is recommended that it be addressed in the form of navigation accuracy required, rather than as a specific equipment requirement.



G. R. Nagler  
BY Direction

Copy to:

DTACCS

DDR&E

ASN(I&L)

ASN(R&D)

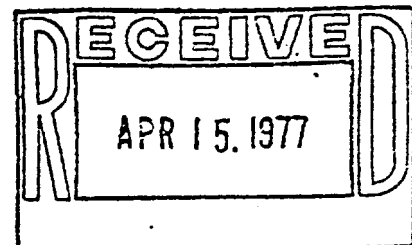
JCS (J-3)

HQ USAF (SAF/RD)

HQ USA (DAMO-RQC)

CMC (Code CCPA)

JAG (Code 104.1)



15 March 1977

Honorable Harold Brown  
Secretary, Department of Defense  
Pentagon  
Room 3E880  
Washington, D.C. 20301



**Megapulse**

8 Preston Ct  
Bedford  
Mass 01730  
(617) 275-2010  
MP14 - 3.15.77

Subject: A recommendation that all Department of Defense vessels be equipped with Loran-C radio navigation receivers.

Dear Sir:

A number of significant current circumstances have prompted me to make the subject recommendation — namely that all Department of Defense vessels (Navy, Army and Air Force) be uniformly equipped with Loran-C radio aid-to-navigation receivers. These circumstances are as follows:

- 1) The recent announcement by the Commandant, United States Coast Guard acting for the Secretary of the Department of Transportation that all vessels over 1600 gross tons using United States ports, regardless of registry, will be required to carry and use Loran-C receivers.
- 2) The recent adoption by the United States of a 200 mile offshore limit and the resultant requirements for coordinated actions among those organizations, including the Department of Defense, which may be required to enforce the restrictions within that area. Of primary importance in this question of course is the need for accurate,

legally acceptable position information which is now most appropriately obtained using Loran-C.

- 3) The decision by the United States Coast Guard to equip all of its vessels with Loran-C receivers.
- 4) The promulgation in 1974 by the Secretary of the Department of Transportation, acting in his role as Official Navigator of the United States, of Loran-C as the only accepted and Government supported radio navigation system for the Coastal Confluence Zone of the United States.
- 5) The existing Department of Defense requirements, at least through 1985 — complemented now by commercial maritime political considerations — which will keep present Loran-C coverage in existence over most of the ocean and coastal areas of the northern hemisphere, and,
- 6) The imminent acceptance of Loran-C by a number of foreign countries such as Norway, Canada and Venezuela as their own national navigation systems and by such critical areas of the Suez Canal as a vessel traffic management aid. Such acceptances will be an acknowledgement of the technical soundness and current



Honorable Harold Brown  
15 March 1977

Page 3.

availability of the system and also a recognition that it is a system operable within the sovereignty of the host country. In a larger sense, however, it simply means that the Loran-C signals will be available in more and more areas of the world in the near future.

In light of the above circumstances and the facts that Loran-C is a proven, available system that is providing with current technologies position information more accurately and less expensively than any existing or evolving system — the subject recommendation that all Department of Defense vessels be equipped with such Loran-C receivers is felt to be timely, creditable and achievable.

As an estimate of the financial consideration of the subject recommendation, equipping each of the approximately 500 Navy surface vessels with a presently commercially available Loran-C receiver at the average retail price of \$3,500/unit, would be \$1,750,000. Assuming that the usual MIL-Spec documentation and logistic burdens were imposed and the above commercial figure was multiplied by a factor of ten, the total Navy program would still only be \$17,500,000. Doubling the program size to accommodate all Army and Air Force vessels with such MIL units would still result in a program of only \$35,000,000 which is less than the amount lost this past year in "the Argo Merchant incident" alone. Consid-

Honorable Harold Brown  
15 March 1977

Page 4.

ering production schedules, 1,000 receivers is only one month's current industry production capability.

In summary, the directed adoption of this recommendation would quickly and with minimal expenditures —

- 1) Provide all Department of Defense vessels with the highest accuracy, most reliable radio aid-to-navigation information available today from any system.
- 2) Provide such precision location information in all coastal, harbor or river areas of the United States as well as much of the waters of the northern hemisphere with near term expansion to many other areas of the world.
- 3) Place the vessels in a common location grid with all other potential co-occupants of the coverage areas with all the coordination advantages derived from such common referencing, and,
- 4) Brings the Department of Defense vessels into compliance with United States regulations imposed on other vessels, thereby not only imposing mutual safety and operability but potentially avoiding the intense criticism which will result if a non-Loran-C equipped Department of Defense vessel is involved in an accident either alone or even

Honorable Harold Brown  
15 March 1977

Page 5.

worse with a legally equipped foreign carrier in  
United States waters.

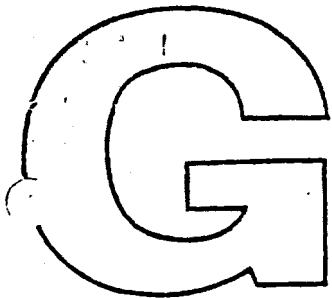
I am very appreciative of your consideration of this matter  
and I am ready to meet with you, or members of your staff, at  
your convenience to discuss this further and hopefully move  
toward the implementation of the recommendation.

Sincerely,



Edward L. McGann  
Executive Vice-President

ELM:frs



APR 18 1977

S. H. GOLDSTEIN AD AGENCY INC. ■ ONE NORTHERN BOULEVARD, GREAT NECK, NEW YORK 11021 ■ 516 HU 7-0242

April 15, 1977

Memo To: John Beukers  
From: Samuel H. Goldstein  
Subject: WGA Publicity Activities

Since your last Executive Committee meeting, the following actions have been taken - .

- A. Letters have been written to selected editors in marine and business publications acquainting them with the WGA and offering to assist in developing articles.
- B. Bruce LeBoss and Al Rosenblatt of Electronics magazine visited with you and discussed the Loran-C situation for a possible feature in their publication.
- C. The call for Papers for the October WGA Conference was distributed to the trade press.
- D. Several items were referred to L. Higginbotham for inclusion in a future newsletter.
- E. A suggestion was made to have the Coast Guard or WGA prepare a Loran-C public service announcement for distribution to radio and TV stations.
- F. An attempt is underway to have the Library of Congress catalog the WGA Journal.

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**WILD GOOSE ASSOCIATION**

12 HODSON LANE READING, MASS. 01867

5 April 1977

To: WGA Board of Directors  
From: Bahar J. Uttam,  
Radionavigation Journal Committee  
Subject: Status Report Radionavigation Journal 1977

The proposed format for the 1977 journal is similar to the earlier issues. The committee is in the process of deciding on the subject matter of Chapter 1.

The advertising is slow as usual. The commitments to date are:

ASEC	1/2 page
Beukers	1/2 page
ONI	1/2 page
Bob Frank.	Card
Griffith Marine	1/4 page
Teledyne	1 page
Austron	1/4 page
SRD Labs	1/4 page
Morrow Electronics	1 page
Megapulse	Cover
Internav	Cover

Bahar Uttam