

## BOARD OF DIRECTORS

J.D. ILLGEN ..... President  
J.F. CULBERTSON .. Vice President  
L.F. FEHLNER ..... Secretary  
C.S. ANDREN ..... Treasurer  
B. AMBROSENO  
R.D. BRONSON  
D.A. CARTER  
W.N. DEAN  
V.L. JOHNSON  
E.L. McGANN  
M.J. MORONEY  
W.L. POLHEMUS  
W. SCHORR  
J.L. TOMS  
J.P. VAN ETEN



## WILD GOOSE ASSOCIATION

21 July 1988

### MINUTES OF THE 82nd MEETING OF THE BOARD OF DIRECTORS

The 82nd meeting of the Board of Directors was held as scheduled on 21 July 1988. See Exhibit 1 and 2.

#### Attendees:

##### Directors

J D Illgen  
L F Fehlner  
C S Andren  
J M Beukers  
R D Bronson  
D A Carter  
V L Johnson  
M J Moroney  
W Schorr

##### Proxies

J F Culbertson  
W N Dean  
W L Polhemus  
J P Van Etten  
(Exhibits 3  
thru 6)

##### Members

D C Scull

##### Visitors

W G Sewell  
Navcom Sys. Inc.  
H Shirer  
USCG

#### Item 1 - Call to Order

The meeting was called to order at 1245 21 July 1988. The number of Directors present met the requirements of a quorum. In his opening remarks, President Illgen pointed out that it is in the best interests of the WGA to avoid all appearances of conflict of interest in the conduct of WGA business; also, letters written by Officers or Directors concerning WGA matters should be on WGA letterhead or plain bond. He also stated that he had written a letter of appreciation to Barney Ambroseno for his dedicated service to the WGA.

#### Item 2 - Secretary's Report

In the absence of any corrections to the previous Minutes, the Minutes of the 81st Meeting of the Board was accepted as written.

Fehlner relayed a message from Bob Frank saying that he needed Board approval of the upcoming President's Award, and also needed a copy of the 1987 Proceedings for consideration in the selection of the Paper Award.

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Fehlner distributed copies of the Board membership for 1989 exclusive of appointed officers and directors. Ilgen stated he would take the appointments under advisement, and announced he is considering appointing Bronson and Carter to the Board. Fehlner requested to be relieved of secretarial duties for 1989.

### **Item 3-** Treasurer's Report

The Treasurer's Report is shown at Exhibit 7. Following a review and discussion of the report, the report was accepted as presented. It was noted that there is a strong possibility that payment of the cost of publishing the 1987 Proceedings could cause the WGA to become a debtor society; also it was noted that steps should be taken as an urgent matter to preclude this state.

### **Item 4-** Committee Reports

#### **a. Conventions**

1986- Ilgen submitted a letter for the record (Exhibit 8), which closes out the 1986 Convention.

1987- Carter reported for Toms that the Proceedings have not yet been published due to difficulty in obtaining copies of some papers and bids from printers. A decision was made to go to press with papers in hand, indicating where necessary that copies of missing papers might be obtainable from the authors. The Board stressed the need for minimizing the cost in view of the state of the budget.

1988- Bronson reported that 1988 Convention preparations are proceeding at a reasonable pace. Five papers have been received and 10 additional have been committed. Thirty to 35 are required for a complete program. Denny Smith has accepted an invitation to be the keynote speaker. Bronson requested assistance in securing papers and speakers.

Bronson presented a worksheet for the convention budget (Exhibit 9). Much discussion followed which resulted in minor modifications. Beukers moved to accept the budget as modified. Andren seconded. Motion carried.

1989- Moroney reported for McGann. Search for a convention site in and around Boston has been in progress for some time. Two attractive hotels were suggested, one in Maine, the other on Cape Cod. Moroney, having been a guest at both, spoke very highly of them but indicated that both he and McGann had a preference for The Samaset in Maine, however an immediate decision is required to secure a reservation. The Board requested immediate action to make a reservation at The Samaset as a first preference, or failing this, at the recommended hotel on Cape Cod.

b. Journal- Beukers presented a report (Exhibit 10) which includes three items for Board attention, namely: the nature of the business relationship with Beukers Productions, the impact of proposed expanded WGA activity on the legal standing of the WGA as a non-profit and/or tax exempt corporation, and a change in the name of the Journal. Regarding the first two, Ilgen stated he would take the matter up with his corporate lawyer and confer directly with Beukers. Regarding the third item, the Board approved the change in the name of the Journal and the proposed format as outlined in Exhibit 11.

#### **c. Membership- No report.**

d. Newsletter- Ilgen noted that Miller has been keeping the Newsletter on a reasonable schedule, although not without some stress, as indicated in Exhibit 12. The Board members concurred that Miller has done an outstanding job as Editor. Nevertheless, Miller needs help in obtaining timely news for publication. A suggestion was made that a number of reporters should be recruited, hopefully from the mainstream of newsworthy navigation activity.

e. Nominations & Election- By direct mailing to Board members and nominees, Van Etten presented the results of the 1988 balloting. Ilgen was reelected President, and Van Etten, Dean, McQuinn, and Scull were elected as Directors. As a consequence of the vacancies created by these results, Alexander takes the seat vacated by Dean and Lilley takes the seat vacated by Ilgen. Exclusive of possible appointments to the Board, the members of the 1989 Board are shown at Exhibit 13.

f. Congressional- No report.

g. Awards- Ilgen reported that he had sent his nominee for the President's Award to Frank, and will obtain Board approval by mail.

h. Civil- By direct mail to Directors, Van Etten presented the final revision of the WGA comments on the FRP which reflects Directors' comments on earlier versions. Ilgen displayed a reformatted copy which he will send to DoT. See Exhibit 14. Ilgen will review the late comments of Polhemus received with Exhibit 6, and if judged to have serious impact on Exhibit 14, he will so notify DoT by 1 August by an addendum. A voluminous report of the FAA Loran-C Planning Working Group on Loran for air was submitted by Carter on behalf of Culbertson for the record. Ilgen took custody of the report for review and possible action.

i. DoD- Ilgen presented and discussed a written report of the activities of the WGA DoD Working Group. See Exhibit 15.

j. Audit- Ilgen reported that Cal Culver has accepted Chairmanship of the Audit Committee as requested by Exhibit 16. Johnson noted that the 1988 audit must take place during the last two weeks of August and a report must be submitted to the Board prior to the Annual Convention.

k. History- Ilgen indicated that John Castonia has assembled a library of about 600 items pertinent to Loran.

l. 5-Year Plan- Covered under Item 4.b above (Exhibit 10).

### **Item 5- Old Business**

a. Post Card- The Board decided to postpone use of the Post Card pending development of the new data base.

b. IALA- Fehlner reported no progress.

c. Oceans 89 Session- Dean is organizing the presentation of papers at a WGA Session at the IEEE meeting in Seattle late in 1989.

d. Users Conference re FRP- Covered by Item 4.h. above.

e. Fact Sheet- Covered by Item 4.b. above.

f. Budget- Andren submitted a financial analysis dating back to 1985, and a draft budget for 1989. See Exhibit 17. Andren warned that, although the ending balance of the 1989 draft budget is in the black, the 1987 Proceedings is yet to be published, and if 600 copies are printed to satisfy the requirements of an existing Board resolution, the cost is highly likely to exceed the 1989 ending cash on hand. After much discussion, it became clear that Board action was required to remain solvent, i. e. either cut expenses or increase income. Noting that dues were increased only about 6 months ago, the consensus of the Board was to cut expenses by reducing the cost of publishing the Proceedings.

At this point, Bronson moved that the number of copies of the 1987 Proceedings to be printed shall be limited to the number of attendees at the 1987 Convention plus extra copies not to exceed 100 or a printing cost of \$5000.00. Carter seconded. Motion carried.

Moroney then moved that copies of the 1988 Proceedings shall be provided only to 1988 Convention attendees and made available for purchase by others. Shore seconded. Motion carried.

In view of this change in member benefits, the Board requested the President to prepare a letter to the membership explaining the current fiscal situation and the actions taken by the Board.

g. Maritime Defense Zone- Culbertson submitted a copy of a letter to VADM D. C. Thompson. See Exhibit 18.

h. Power Line Carriers- Dean submitted his report on ongoing activities pertinent to the regulation of the use of electric power lines for radio frequency communications. See Exhibit 19.

#### Item 6- New Business

a. West Coast Loran-C Chain Maintenance- Tabled


b. Newsletter Distribution- A plan for Newsletter distribution to Loran-C transmitting stations, control monitors, R&D Centers, etc. is being developed. No Board action is required at this time.

#### Item 7- Next Meeting

The next meeting will be held Monday, 24 October 1988 , in Portland OR.

#### Item 8- Adjournment

The meeting was adjourned on a motion by Andren at 1737, 21 July 1988.

  
Leo F. Fehlner  
Secretary

cc: President  
Directors  
J O Alexander  
C Culver  
R L Frank  
R W Lilley  
R H Miller  
D C Scull

To: WGA Board of Directors

From: John D. Illgen, President

82nd Brd. Mtg.  
Exhibit 1

Date: 28 June 1988

Subject: Agenda for the 82nd Meeting of the WGA Board of Directors

The WGA Board of Directors will meet on Thursday, 21 July 1988, at Advanced Navigation, Inc., 61 Thomas Johnson Drive, Frederick, MD 21701. The agenda for the meeting is attached. Please review the attached agenda and have your committee chairperson(s) prepare brief written reports for those committees to which you are responsible. These brief reports should be disseminated and discussed at the meeting.

*I plan to have considerable time set aside to discuss the status of the 1988 Portland Convention. Bob Bronson (Convention Chairman) has promised to have representation for the Convention at this meeting.*

If you are unable to attend the Board meeting, please prepare a proxy statement and mail it to Leo Fehlner in accordance with WGA By-Laws. It is very important to maintain a Quorum for these meetings.

With the present boom in Loran-C interest it is exciting to see so many accomplishments being made by each of you in support of Loran-C.

JDI/sg

*Lunch at 1200  
Meeting at 1300*

**AGENDA**  
**THURSDAY, 21 JULY 1988**

1. Call to order
2. Secretary's Report
3. Treasurer's Report
4. Standing Committee Reports
  - a. Conventions
    1. 1986 Convention Report *(Marshal)*
    2. 1987 Convention Report *(Toms)*
    3. 1988 Convention Report *(Bronson)*
    4. 1989 Convention Report *(McGann)*
  - b. Journal (1987-1988) *(Beukers)*
  - c. Membership *(Toms)*
  - d. Newsletter *(Miller)*
  - e. Nominations and Elections *(Van Etten)*
  - f. Congressional *(McGann)*
  - g. Awards *(Frank)*
  - h. Civil *(Cortland/Schorr)*
  - i. DoD *(Illgen)*
  - j. Audit *(Culver)*
  - k. Historic *(Frank/Castonia)*
  - l. Loran Navigation Business 5-year Plan *(Beukers)*
5. Old Business *(TBD)*
  - a. Industrial Post Card request as WGA *(Culbertson)*

insert with Loran products

- b. IALA Paper *(Fehlner & Culbertson)*
  - c. Oceans 89 Session *(Dean)*
  - d. Radionavigation Users Conference  
18 March 1988 Written Report *(McGann/Schorr/  
Toms)*
  - e. Fact Sheet *(Beukers)*
  - f. Budget for WGA (projection)/  
submit\* before Board Meeting to  
Board Members *(Andren)*
  - g. Maritime Defense Zone (feedback) *(Culbertson/McGann)*
6. New Business
- a. West Coast Loran-C chain maintenance  
during prime time (7:00 am)
  - b. Newsletter distribution to Loran-C  
transmitters, control monitors, R&D  
Centers, etc.
7. Establish next meeting date and location

\*Carl Andren - please prepare WGA budget projection for this meeting.



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J.P. VAN ETEN



## WILD GOOSE ASSOCIATION

82nd Brd. Mtg.  
Exhibit 2

July 13, 1988

TO: WGA BOARD OF DIRECTORS  
FROM: Jimmie L. Toms  
SUBJECT: 82nd Meeting of the WGA Board of Directors

As a follow-up to John Illgen's notice of June 28, please be advised that the subject meeting will be held as follows:

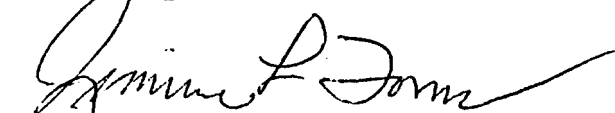
DATE: Thursday, July 21, 1988  
TIME: Beginning at 1:00 p.m.  
PLACE: Advanced Navigation, Inc.  
61 Thomas Johnson Drive  
Frederick, MD 21701  
(301) 695-4040

Enclosed are directions to Advanced Navigation from the Washington, D.C. area. In addition, we have enclosed information on hotels in the Frederick area and limousine services available. Actually, a private or rental auto is the best arrangement.

If you can arrive by 11:00 a.m., there will be a tour of ANI and a deli platter will be available at 12:00 noon.

Feel free to contact me at (301) 695-4040 if you have any questions. We look forward to seeing you next week.

Sincerely,



Jimmie L. Toms

JAMES F. CULBERTSON \* 15781 EXETER STREET \* WESTMINSTER, CALIFORNIA 92683  
(714) 531-7974

82nd Brd. Mtg.  
Exhibit 3

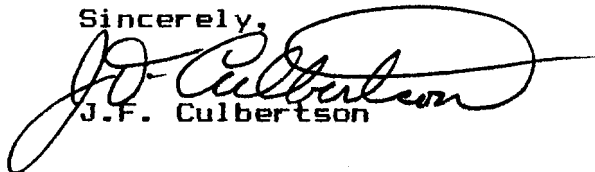
13 July 1988

Leo F. Fehlner  
Secretary,  
Wild Goose Association  
118 Quaint Acres Drive  
Silver Spring, MD 20905

Dear Leo:

I hereby appoint David A. Carter as my proxy for the July 21, 1988 WGA Board Meeting to be held at ANI in Frederick, MD. I will be unable to attend this meeting in person.

Sincerely,

  
J.F. Culbertson

COPY TO: CARTER

**82nd Brd. Mtg.  
Exhibit 4**

July 19, 1988

TO: Leo Fehlner, Secretary, WGA

FROM: Walt Dean

I hereby appoint John Illgen as my proxy for the Board of Directors meeting to be held July 21, 1988

  
Walter N. Dean



**POLHEMUS ASSOCIATES INC.**

P.O. BOX 5, CAMBRIDGE, VERMONT 05444; PHONE 802/644-5569

**82nd Brd. Mtg.  
Exhibit 5**

July 18, 1988

Mr. John Illgen, President  
Wild Goose Association  
c/o J. Toms  
Advanced Navigation, Inc.  
61 Thomas Johnson Drive  
Frederick, MD 21701

Subject: Directors Meeting, 20 July 1988 -- PROXY

1. Request that any business requiring my vote or participation coming before the Board during the meeting 20 July be referred to Jimmy Toms, my designee as proxy.
2. At this writing I have a schedule conflict which I may not be able to resolve in time to join you in Frederick.

Sincerely,

  
William L. Polhemus

WLP/avs

Encls.



Attachment I  
Inputs to WGA/FRP Critique

A. Responsiveness of the FRP.

It is becoming increasingly clear that the need for radio location, navigation and/or timing services is expanding at a rate that even those of us close to the activity are not fully aware.

It is my feeling that WGA should encourage the formation of a "civil-users advisory group or committee" adjunct to the DOT/DOD Nav Working Group. This advisory group should have at least two functions....it should assist the Nav Working Group in identifying individuals and organizations who can present in some systematic way, authoritative information about requirements, needs and desirable capabilities for and of radio location services across the full spectrum of Users.

Almost every branch of government is involved as are a very wide range of Users not necessarily represented in the Washington scene.

Examples:

- o Law Enforcement -- (the Michigan Court of Appeals recently directed states' law enforcement officers to utilize Loran-C, or an aid of equivalent accuracy, when involved in arrest and/or seizure actions where the geographic location is a factor in the arrest).
- o Emergency Medical Services
- o Agriculture Applications
- o Natural Resource Management
- o Fish and Wildlife Management
- o Automatic Vehicle Location, Monitoring, Dispatch, etc.
- o More than 20 discrete modes of use not traditional air or marine



-2-

At present DOD and DOT (primarily CG & FAA) identify requirements and form of solution.

I suspect that the nation is outgrowing this approach. Perhaps the role of RSPA should be expanded....if so, statutes and staffing will be factors.

Certainly it is inappropriate for the DOD, FAA and/or the CG to dictate requirements/solutions to say Justice Dept. or Forest Service or Agriculture.

It seems to me that we should recommend that the 1990-edition of FRP better reflect the needs of the growing, non-traditional, user community.

Something more substantial than the process now in use (User Conferences) is needed to produce a really credible "Section Two, Requirements" to the FRP. Done professionally, it should assist everyone in defining R & D budgets, marketing strategies, regulatory policies, Cost/Benefit arguments, etc.

(Please note the attached vu-graph originals used in the 22 June ION Annual Meeting....indicating the magnitude of the world-wide User community....and the rhetorical question regarding growth during the next 12 years).

#### B. Critique Illgen's Letter

Comments regarding Illgen's 20 June letter to Dave Scull.

You did not mention the fact of the improvements to Loran directed and funded by the Congress which will assure its major role in U.S.-provided radionavigation aids for at least the next 25 years.....i.e. synchronization of Master Stations utilizing a "Common-view" time reference and the eventual interoperability of Loran with GPS (??and other space-based systems).

P. 2 of Illgen's/WGA's critique:

Subpara 1 - "no circumventions should be allowed" What about the "Denny Smith initiative"?



-3-

Subpara 2 - pretty categorical....could be used "against" Loran and progress in its use just as much as "for"....i.e. the NPA program would not have gotten underway.

Subpara 5 - Not workable. With respect to Canada they are five years behind the U.S.....i.e. an appropriate solution for northern Canada is officially stated as a "continuation of the NDB". In sum, the U.S. is the leader....and if one is going to lead he has to get out in front!

Subpara 6 - Change 5th word (must) to "should take cognizance of"...the FRP is a domestic plan for civil users. I agree with the references to oversell of GPS, however.

Subpara 7 - Change 6th word (must) to the word "should". Change end of sentence to read "between radiolocation, communications, surveillance and timing services".

Page 3. The paragraph related to DOD, needs to be re-thought and re-written. I'll try to submit some ideas by Thursday.

Page - Near Term Actions.

- Item 1 - Is this an appropriate action to take if the majority of Users are non-military and non-aviation?
- Item 2 - I don't understand why WGA lists "Completion of midcontinent gap program". This is assured, why mention it...UNLESS the recommendation is "take action to expedite completion on or before ?? 31 December 1989 ". Recall that the task of synchronizing Master stations is due to be completed by 30 September 1989. Why not tie the two in some way?
- Item 3 - Change "Expand" to "Accelerate significantly" and add "and address separately the use of Loran-RNAV for SIDs, STARs, HOLds and Missed Approach Procedures as means for increasing utilization and capacity of terminal airspace".



-4-

- Item 4 - Change to read "Encourage the utilization of RNAV Direct-To Procedures" within domestic U.S. Enroute airspace so as to increase airspace capacity, reduce congestion, and relieve controller workload.
- Item 6 - I think DOD will resist the notion of the civil side of the house "providing a DOD Plan". What might be acceptable would be utilization of an adjunct committee to the Nav Working Group which would present to DOD a non-parochial on-going seminar on the possible mix of radiolocation systems and their potential for survivability and acceptance in the international maritime and air spheres of activity.
- Item 8 - The thrust is OK. The words for FRP which WGA would encourage might be the U.S. DOT has undertaken to evaluate on a continuing basis the achievement of interoperable system relationships among the various available radiolocation aids with a view to assuring a very high availability of signals.
- Item 9 - M/M synchronization is underway. Perhaps change the words to state "Encourage the achievement of a M/M synchronization to not worse than  $\pm 30$  ns because of the potential benefits this capability may afford to emerging communities of Users".
- Item 10 - I don't understand this one.
- Item 11,12 - Not a function of the FRP.
- Item 14 - Change to read "Publish a rigorous Minimum Navigation Performance Required (MNPR) criterion for award of 'sole means use' designation for any radionavigation aid.
- Item 15 - Same as 8.



THE  
INSTITUTE OF  
NAVIGATION



FORTY-FOURTH ANNUAL  
MEETING

THE USERS' VIEWPOINT REGARDING  
INNOVATIONS IN NAVIGATION

21-23 JUNE 1988

U.S. NAVAL ACADEMY  
ANNAPOLIS, MARYLAND

# **FRP - TABLE OF CONTENTS**

- 1. INTRODUCTION TO THE FEDERAL RADIONAVIGATION PLAN**
- 2. RADIONAVIGATION USER REQUIREMENTS**
- 3. SYSTEMS USED IN PHASES OF NAVIGATION**
- 4. RADIONAVIGATION RESEARCH, ENGINEERING AND DEVELOPMENT SUMMARY**

**APPENDICIES - A,B,C**

RADIONAVIGATION-USER EQUIPMENT  
(Estimated - Worldwide)  
- 1990 -

	CIVIL MARITIME	CIVIL AVIATION	DOD	LAND & OTHER	SUB-TOTALS
OMEGA	7,500	11,880	2,100	--	21,480
LORAN-C	450,000	76,000	690	--	526,690
VOR/DME	--	341,000	12,020	--	353,020
TACAN	--	--	14,558	--	14,558
ILS	--	175,000	10,500	--	185,500
MLS	--	1,401	160	--	1,561
TRANSIT	95,000	--	650	--	95,650
RBn/NDB	500,000	163,000	12,100	--	675,100
SPACE-BASED	--	--	--	--	--
TOTAL AIDS IN USE	1,052,000	768,281	52,778	--	1,873,559

FEDERAL RADIONAVIGATION PLAN (1986)

is this    10,000  
             100,000  
             1,000,000  
             10,000,000  
             or ?

**1,873,559 units**

SUMMARY: FRP ESTIMATES -- 1990

	All Applications	Civil Maritime	Civil Aviation	US DOD	LAND & OTHERS
Total Installed Radionavigation Aids, Worldwide	1,873,559	1,052,000	768,281	52,281	?
%	100	56.2	41.0	2.8	?

WHAT SIGNIFICANCE WILL THE EMERGING CIVIL DEMAND FOR RADIONAVIGATION AIDS HAVE ON

FEDERAL GOVERNMENT POLICY, FUNDING AND MANAGEMENT IF THE TOTAL OF "LAND & OTHER IS:

10,000  
100,000  
1,000,000  
10,000,000  
etc.

RADIONAVIGATION-USER EQUIPMENT  
(Estimated - Worldwide)  
- 2000 -

	CIVIL MARITIME	CIVIL AVIATION	DOD	LAND & OTHER	SUB-TOTALS
OMEGA	7,500	15,870	2,100	10,000	21,480
LORAN-C	500,000 <sup>1</sup>	136,000 <sup>2</sup>	--	100,000	354,470
VOR/DME	--	465,000	--	--	465,000
TACAN	--	--	2,175	--	2,175
ILS	--	165,000	8,000	--	173,000
MLS	--	80,180	18,501	--	98,681
TRANSIT	89,000 <sup>*</sup>	--	--	--	89,000
RBn/NDB	320,000	238,000	3,000	--	571,000
SPACE-BASED	6,000	7,200	32,700	20,000	65,900
TOTAL AIDS IN USE	922,500	1,107,250	66,476	130,000	2,226,226

FEDERAL RADIONAVIGATION PLAN (1986)      What if 1,000,000  
or  
10,000,000

- 1 - New or Improved Chains: China, Europe, etc.  
2 - Continuing Growth, New/Improved Chains, New Procedures  
\* - Adjustments

## 0 THE MARITIME USER

- BROGDON

"The Maritime Navigator and His Use of  
Improved Aids to Navigation"

## 0 THE AIR CARRIER USER

- WALLACE

"The Benefits of Area Navigation in  
Regional Aviation"

## 0 THE LAND VEHICLE USER

- GENDLER

"Emerging Needs for Land Vehicle Navigation  
and Related Services: Tracking, Location,  
Dispatch, Timing and Communication"

## 0 AN AGRICULTURAL APPLICATION

- PALMER

"Precise Navigation, Guidance and Control  
Services Within the Agricultural Community"

-----COFFEE BREAK-----

o **NATURAL RESOURCE MOTIVATED  
APPLICATIONS**

- BROWN

(EMS-AIR AMBULANCE, FISH AND WILDLIFE MANAGEMENT  
FOREST FIRE DETECTION AND SUPPRESSION)

"Utilization of Navigation, Surveillance  
and Communications Services Within the  
Province of Ontario "

o **AIR TRAFFIC MANAGER'S VIEWPOINT**

- MASSOGLIA

"Utilization of Dependent Surveillance  
Technology Within Domestic and Oceanic "

o **SENSOR DATA MANAGEMENT**

- FARRELL

"A Critical Review of Sensor Fusion "

James P. Van Etten

Consultant

230 Rutgers Place  
Nutley, New Jersey 07110  
(201) 661-0876

July 15, 1988

82nd Brd. Mtg.  
Exhibit 6

Mr. Leo Feller, Secretary  
Wild Goose Association,  
118 Quaint Acres Drive  
Silver Spring, MD. 20904

Dear Leo,

In accordance with WGA bylaws, I hereby designate Mr. Vernon Johnson as my proxy at the Board of Directors meeting to be held Thursday, July 21, 1988 in Frederick, Md. In the event Vernon is not in attendance, my proxy is given to the Secretary.

My report as Chairman of the Nominations & Election Committee is contained in the report dated July 5, 1988 on the Results of the Election 1988. Also my report on WGA comments on the <sup>1986</sup> FLP is contained in my memorandum to the President dated July 5, 1988. Copies of both of these documents have been mailed to all members of the Board.

Yours truly,

James P. Van Etten

cc. Mr. Vernon Johnson.



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82nd Brd. Mtg.  
Exhibit 7

## WILD GOOSE ASSOCIATION

### TREASURER'S REPORT

JULY 21, 1988

Balance from April 27, 1988

\$15,095.06

### TRANSACTIONS

#### RECEIPTS

Dues	1,128.00	
Proceedings/Journals	<u>110.00</u>	
	1,238.00	\$16,333.06

#### EXPENDITURES

Treasurer's Expense	25.00	
Vice President's Expense	97.16	
Stationery Expense	250.74	
Newsletter Expense	1,093.25	
Bank Charges	57.72	
Awards Expense	76.70	
1988 Election Expense	485.99	
17th Convention Advance	<u>2,500.00</u>	
	4,586.56	\$11,746.50

WGA Account Balance as of July 21, 1988

\$11,746.50

Submitted: July 21, 1988

Approved: Date 21 July 88

  
Carl S. Andren Treasurer

  
John D. Illgen President

**ILLGEN SIMULATION TECHNOLOGIES, INC.**

---

14 June 1988

**82nd Brd. Mtg.  
Exhibit 8**

Mr. William Marchal  
P.O. Box 23504  
Harahan, LA 70813

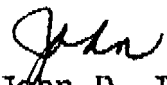
Dear Mr. Marchal:

This letter, in accordance with WGA Board Direction, is to advise you that all 1986 Convention accounts have been closed by Carl Andren (WGA Transurer). No further charges will be accepted.

In behalf of the WGA I want to extend our gratitude for accepting the New Orleans Convention responsibilities. The WGA depends on its members and contributions from volunteers such as yourself. With the Loran-C interest now booming, WGA Conventions play a major role in the sharing and fostering of this excellent system.

Again, thank you for your contribution.

Sincerely,

  
John D. Illgen  
President, WGA

JDI/sg

cc: C. Andren  
J. Culbertson  
L. Fehlner

## 1988 WGA CONVENTION BUDGET WORKSHEET

82nd Brd. Mtg.

Exhibit 9

Quantity @	Unit Cost	Total
------------	-----------	-------

## I. ESTIMATED EXPENSES

## A. Technical Sessions:

## Room

Tuesday		\$0.00
---------	--	--------

Wednesday		\$0.00
-----------	--	--------

Thursday		\$0.00
----------	--	--------

Audio-Visual Equipment		\$900.00
------------------------	--	----------

## Coffee Breaks

Tuesday AM		\$350.00
------------	--	----------

Tuesday PM		\$130.00
------------	--	----------

Wednesday AM		\$350.00
--------------	--	----------

Wednesday PM		\$130.00
--------------	--	----------

Thursday AM		\$350.00
-------------	--	----------

Thursday PM		\$130.00
-------------	--	----------

## Photography

Tuesday		\$25.00
---------	--	---------

Wednesday		\$25.00
-----------	--	---------

Thursday		\$25.00
----------	--	---------

## TOTAL TECH SESSIONS:

\$2,410.00

## B. Speakers:

Breakfast Tuesday	14 @	\$12.76	\$180.00
-------------------	------	---------	----------

Breakfast Wednesday	14 @	\$12.76	\$180.00
---------------------	------	---------	----------

Breakfast Thursday	14 @	\$12.76	\$180.00
--------------------	------	---------	----------

## TOTAL SPEAKERS:

\$540.00

## C. Luncheons:

Tuesday	100 @	\$16.25	\$1,625.00
---------	-------	---------	------------

Wednesday	100 @	\$15.00	\$1,500.00
-----------	-------	---------	------------

Thursday	100 @	\$12.75	\$1,275.00
----------	-------	---------	------------

## TOTAL LUNCHEONS:

\$4,400.00

## D. Hospitality:

Welcome Reception		\$3,500.00
-------------------	--	------------

Suite	4 @	\$300.00	\$1,200.00
-------	-----	----------	------------

Bartender		\$0.00
-----------	--	--------

Liquor		\$980.00
--------	--	----------

Food		\$350.00
------	--	----------

Misc.		\$100.00
-------	--	----------

## TOTAL HOSPITALITY:

\$6,130.00

# 1988 WGA CONVENTION BUDGET WORKSHEET

	Quantity @	Unit Cost	Total
<hr/>			
E. Banquet:			
Meals	130 @	\$22.00	\$2,860.00
Entertainment			\$0.00
Flowers			\$0.00
Bartender			\$50.00
Photographer			\$25.00
Other			\$0.00
TOTAL BANQUET:			\$2,935.00
F. Administrative:			
Printing			
Proceedings	100 @	\$11.00	\$1,100.00
Call for Papers			\$600.00
Registration packet			\$650.00
Program			\$400.00
Stationary			\$350.00
Other [ ]			\$0.00
Mailings			
Proceedings	100 @	\$2.50	\$250.00
Call for Papers			\$200.00
Registration packet			\$200.00
Program			\$0.00
Other [ ]			\$0.00
Registration Assistance			\$0.00
Secretarial Assistance			\$0.00
Awards			\$0.00
Signs/Decorations			\$100.00
Badges			\$80.00
Misc. Supplies			\$0.00
Other [ ]			\$0.00
TOTAL ADMINISTRATIVE:			\$3,930.00
G. Contingency:			\$3,000.00
TOTAL EXPENSES:			\$23,300.00
<hr/>			

## II. ESTIMATED RECEIPTS

A. Registration:			
Advance	60 @	\$140.00	\$8,400.00
On-Site	60 @	\$165.00	\$9,900.00
TOTAL REGISTRATION:			\$0.00

# 1988 WGA CONVENTION BUDGET WORKSHEET

	Quantity @	Unit Cost	Total	
<hr/>				
B. Luncheons:				
Tuesday			\$0.00	
Wednesday			\$0.00	
Thursday			\$0.00	
TOTAL LUNCHEONS:			\$0.00	
C. Banquet:	30 @	\$35.00	\$1,050.00	
D. Contributions:			\$4,000.00	
TOTAL RECEIPTS:				\$23,300.00
<hr/>				

# REPORT

82nd Brd. Mtg.  
Exhibit 10

To: WGA Board of Directors  
From: John M. Beukers  
Date: July 20, 1988

**Subject:** Journal; WGA database; Convention; Fact sheet; Card.

Due to numerous distractions and difficulties with both hardware and software, I am not as far along as planned but there has been substantial progress. With the board's previous consensus to enter into an expansion phase of the WGA, I am pleased to report that the ground work has been laid to accept additional members and non-members onto the organization's database and mailing list. In addition some, but not a lot, of work has been done with the Journal.

## 1. Journal:

A wish list for the Journal content and a business plan was submitted to the Executive Committee and the Journal Committee (consisting of Scull, Frank, Dean and vacancies). Comments were received back during early June. Of those requiring board attention are (a) the relationship of Beukers Promotions and the WGA during this promotion phase, (b) concerns relating to the non-profit status of the WGA, and (c) the change in name of the Journal and its appearance. In addition I will have to ask for cooperation for content and identification of sources of information.

It is our plan to promote the Journal during the next few months and have a flyer available at the convention. We propose to take advance orders. Companies and organizations as well as individuals will be approached for advertisements.

It is our intention to get as much into the 1987-88 Journal and to start work now on the 1989 edition.

## 2. Database:

I have spent a great deal of time (and have by no means finished) creating a database and human interface that will enable the organization to expand and be run with a minimum of training. The objective has been to get the information into a program that can be run in the Mac-world and accept files from the PCDos-world. Unfortunately (for me) I started with dBase Mac version 1 and have spent much of the past few weeks on the phone with

Ashton Tate. Rev 1.01 is better and has an excellent human interface. Dbase III plus will move to dBase IV shortly in the DOS environment. I have been successful in moving the files from one environment to the other. It is my recommendation that the WGA purchase a hard disk for Leo Fehlner's Mac plus (programs are so hungry for space these days that one drive goes nowhere) and a copy of dBase Mac. The plan would be for me to work in parallel with Leo and Dave Carter, exchanging files as necessary. I would be willing to maintain read-only backups on our network which could be accessed remotely using a program called Carbon-Copy.

Attached are diagrams showing the structure which will be covered at the meeting.

I have also attached a diagram of the pre-press system that is currently in operation. I am counting on this to put the Journal together before the end of the year.

### **3. Fact Sheet and Card:**

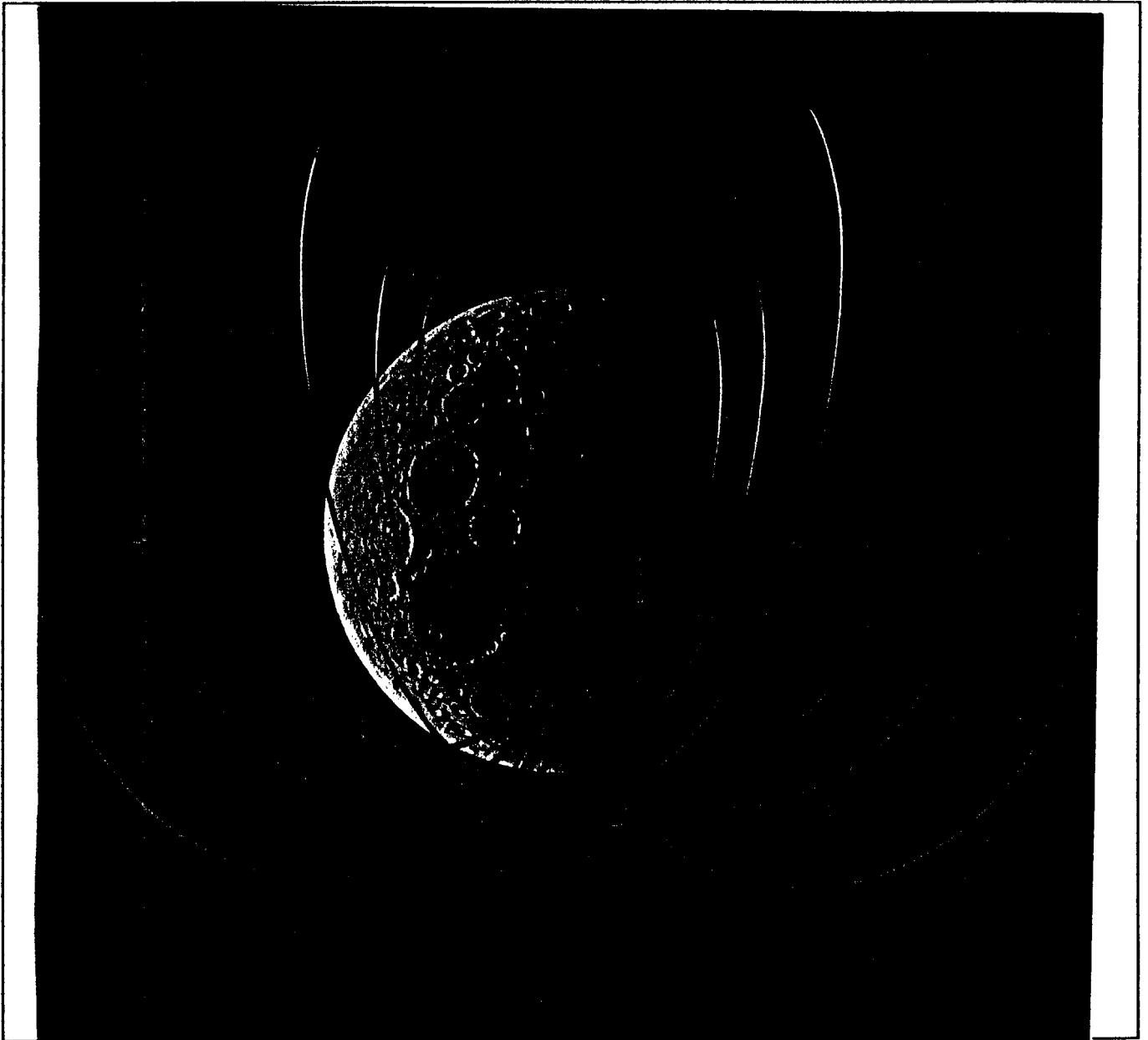
Unfortunately these items have not been on the top of the list but will receive attention in the next week or so unless someone wishes to propose an alternative.

1987-1988 Edition

\$15.00 US

# Journal of Loran Navigation

*A General Reference for Terrestrial and Satellite Long Range Navigational Aids*



The recently installed loran transmitter at Somewhere in Country

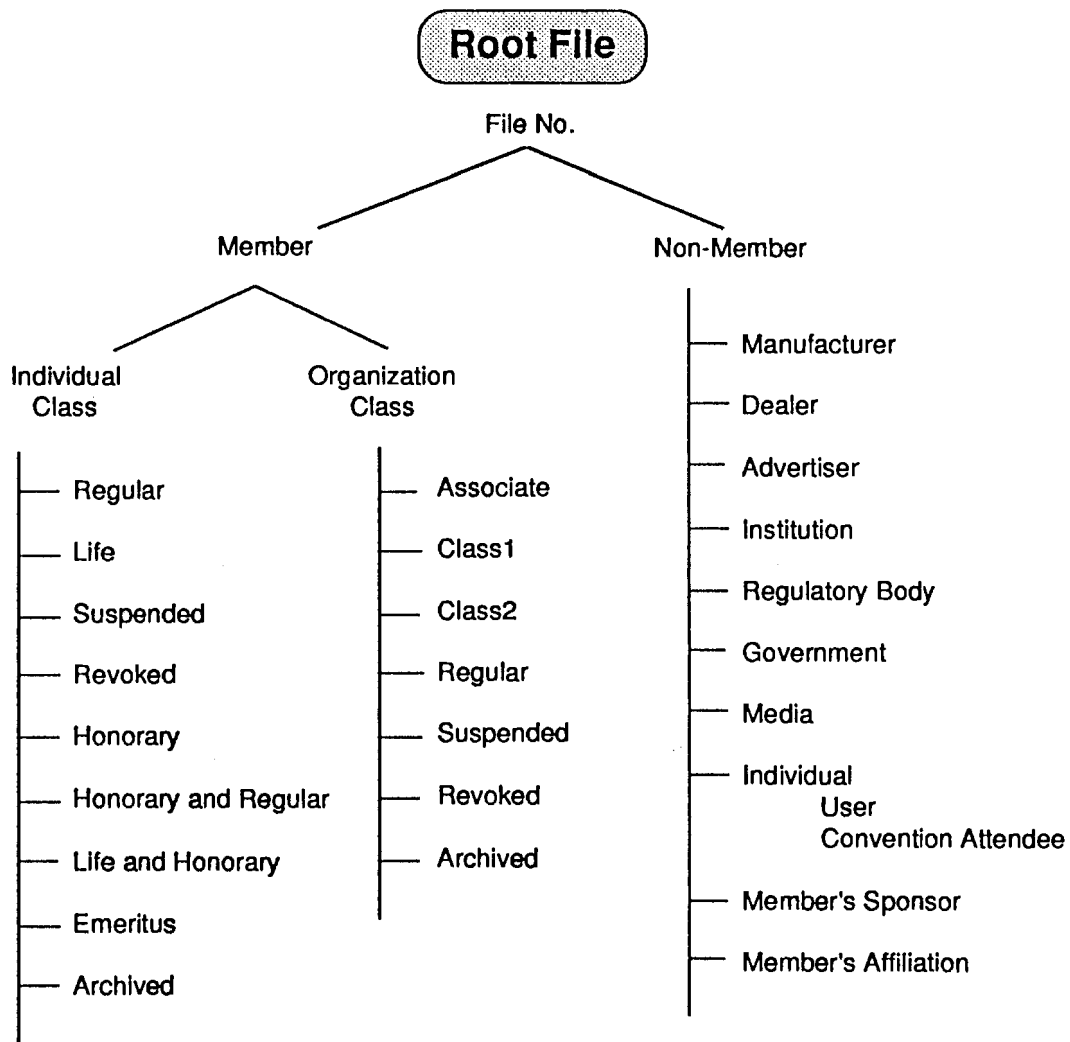
This space will be occupied by Titles of Features

This space will be occupied



A Publication of the Wild Goose Association



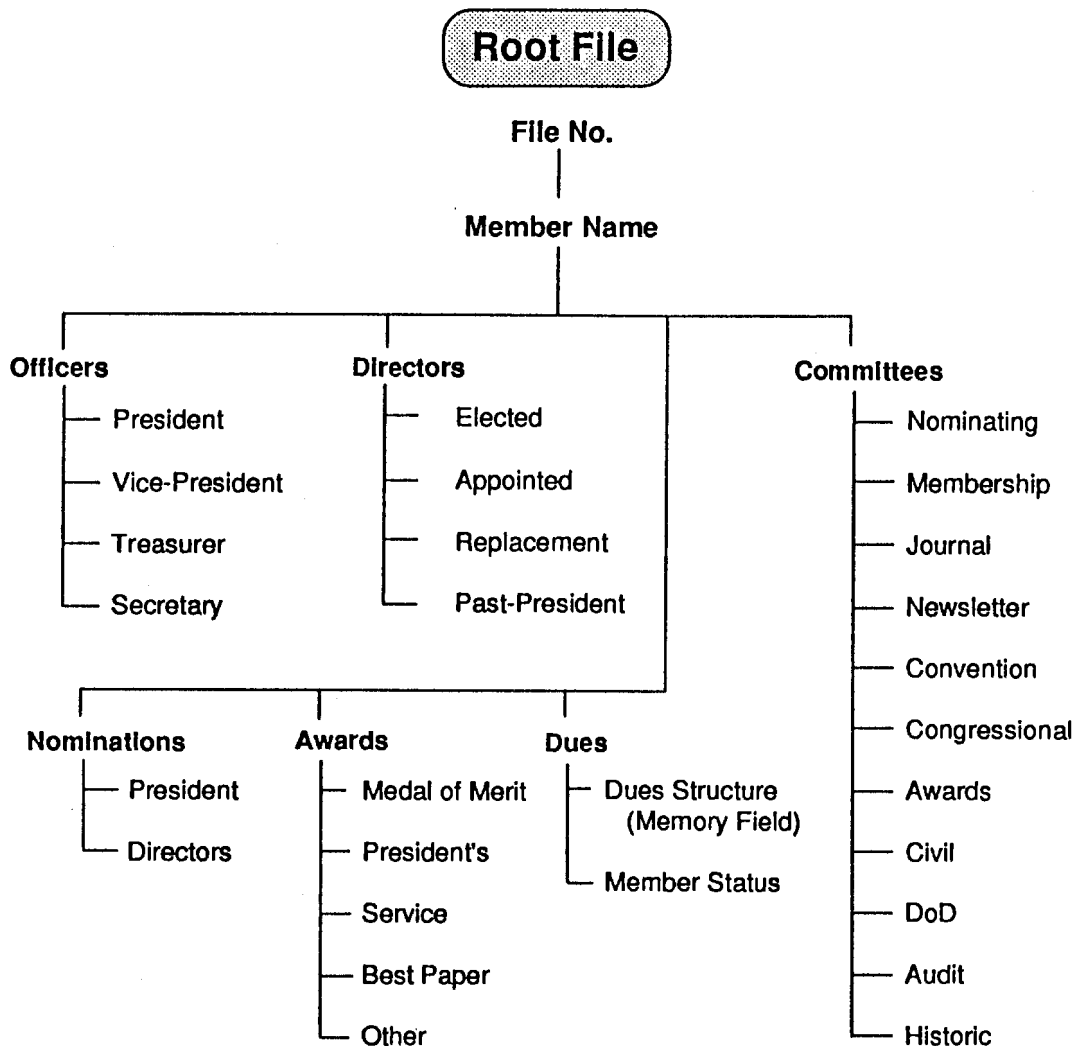


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## Basic Information

## WGA Input View

Name
Title
Organization
Address
Communications



---

## Membership Information

### Input Views



## Membership

## Root

## Promotion

### Journal

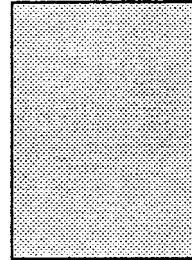
Year  
Size  
Costs  
Editor & Staff  
Quantity  
Circulation  
Revenue

### Convention

Location  
Attendees  
Year  
Chairman  
Sponsors  
Costs

### Proceedings

Author  
Titles  
Year  
Awards  
Cost  
Pages  
Contents



### Manufacturers

Name  
Products

### Products

Category  
Quantity Sold  
Year  
Price Range  
Customer Class

### Advertisers

Name  
Ad Placed  
Size  
Color/B&W  
Amount Paid

### Meetings

Executive  
Board  
Attendees  
Motions  
Date

### Newsletter

Editor  
Staff  
Costs  
Contributors  
Circulation

### Organizations

Sponsors  
Affiliation

### Media

Audience  
Advertiser  
Rates  
Media type  
Item

### Dealers

Name  
Products  
Territories  
Annual Volume

### Governments

Name  
Country  
Department  
Congress

### Bibliography

Titles  
Authors  
Date  
Publications

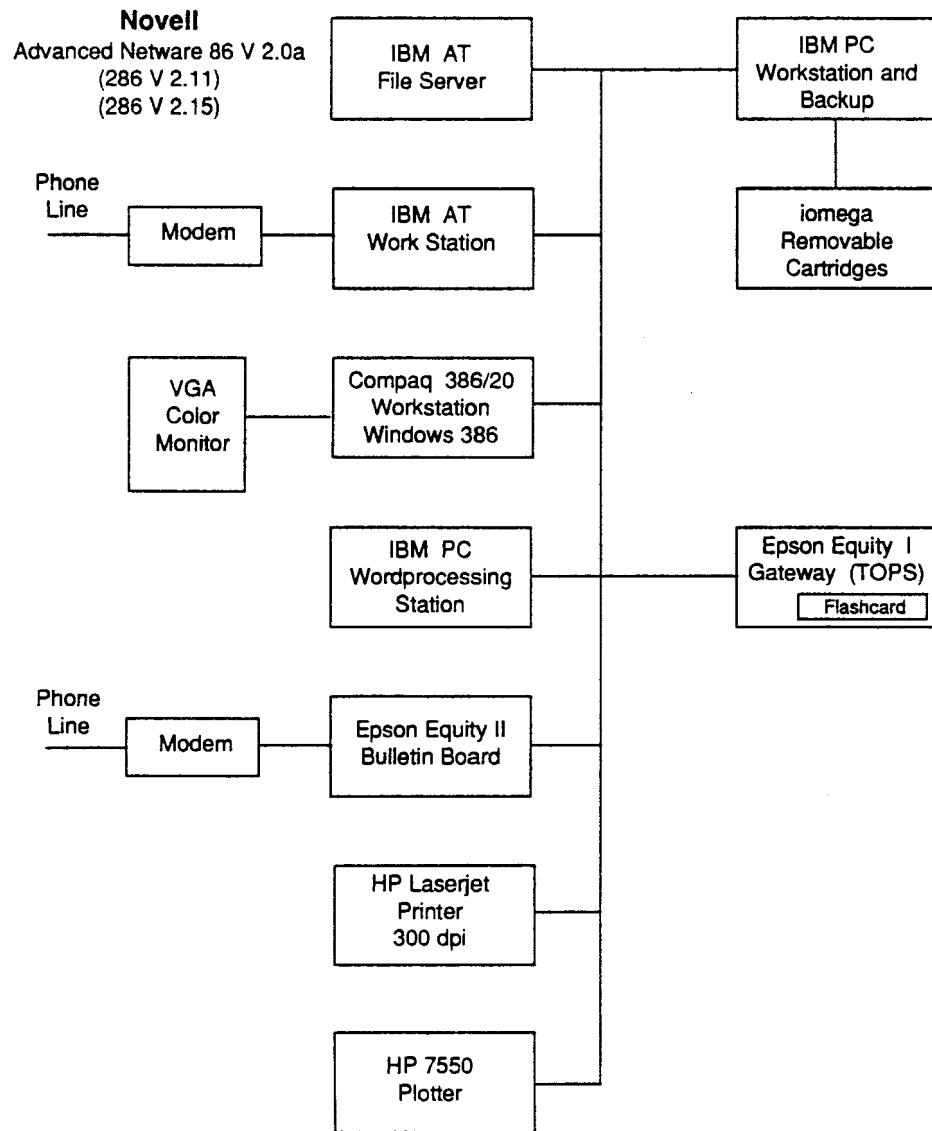
### Fulfillment

Wholesalers  
Distributors  
Libraries  
Direct Mail  
Universities  
Overseas  
Advertisements

**WGA Relational Database  
File Structure**

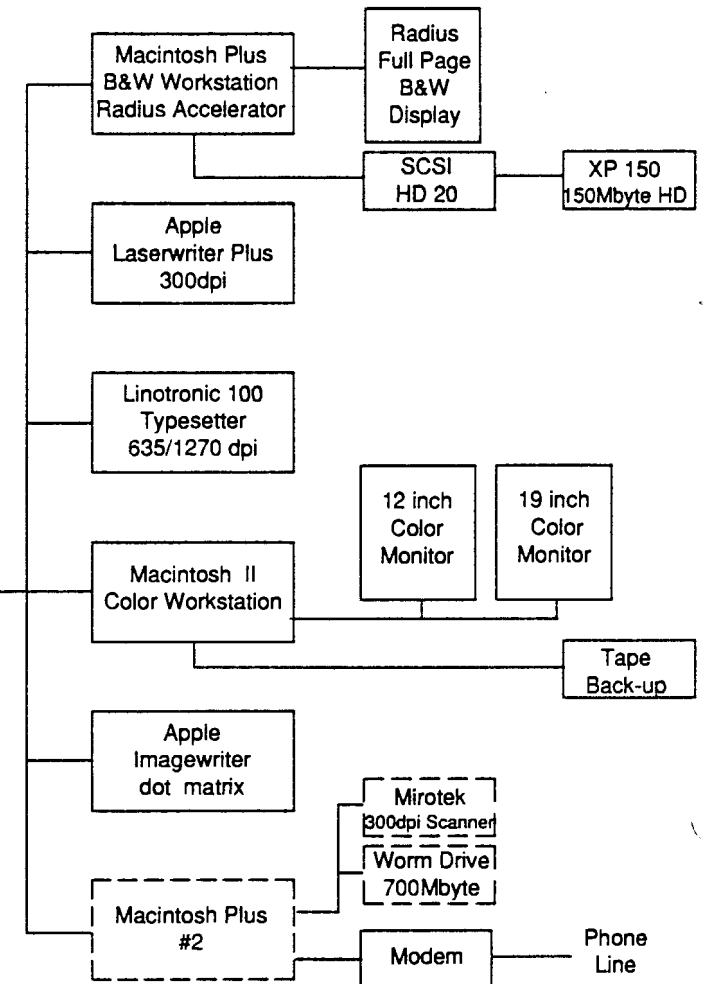
## Ethernet

(IBM PCs and Compatibles)



## Appletalk

(Apple Macintosh)



Beukers Promotions, Inc.

Pre-press Electronic Publishing System

# MEMORANDUM

82nd Brd. Mtg.  
Exhibit 11

**To:** Executive Committee, Journal Committee  
  
John Illgen Walter Dean  
Jim Culbertson Dave Scull  
Leo Fehlner Bob Frank  
Carl Andren A.N. Other (or 2)

**From:** John M. Beukers  
**Date:** May 9, 1988

**Subject:** Plan and Content of Journal

**Action:** *Please mark up, comment and return to me by June 1*

The enclosed is an unfinished first cut of a plan and possible content of the 1987/88 Journal. I wanted to get this out before I left for England for three weeks. It would be most helpful if you would make additions and comment upon the material so that I have your input upon my return on June 1.

This could be a milestone in the history of the organization so please give it an appropriate amount of time and thought. Many thanks.

# **Journal of the WGA 1987/88 Edition**

## **Outline of Contents**

***Note to the reader:** Please mark up as you wish, your input will be greatly appreciated. The order of listing has no relevance to the importance of the topic nor the position in the Journal.*

1. Editorial, Journal and WGA Policies
2. Preface by FAA Administrator
3. Letter from Commandant of Coast Guard
4. Presidents Message
5. Letters from Readers
6. News of People
  - 6.1 Retirees Movements
  - 6.2 Promotions and Changes
7. WGA
  - 7.1 Charter
  - 7.2 Membership Details and Forms, Corporate and Individual
  - 7.3 Committees
  - 7.4 Board of Directors
  - 7.5 Article about the WGA
  - 7.6 Service Awards, Medal of Merit Recipients
8. Loran-C Specification
9. The FRP, what it is and what it means
  - 9.1 Policy Issues
  - 9.2 How it gets updated
  - 9.3 How to provide an input
10. Loran-C Chain Information
  - 10.1 Tables of Transmitter information
  - 10.2 Table of TOT's
  - 10.3 Table of Rep Rates
  - 10.4 Coverage Diagrams
  - 10.5 Cross Chain Operation
11. Notices of Meetings
  - 11.1 WGA
  - 11.2 IOA
  - 11.3 ION
  - 11.4 PLANS
  - 11.5 Others
12. Dealers
  - 12.1 Installation Tips
  - 12.2 Responsibilities
  - 12.3 List of
13. Publications, list of
  - 13.1 WGA Proceedings, Newsletters, Journals, Back Issues
  - 13.2 Abstracts of Papers
  - 13.3 Books, list and reviews
  - 13.4 IOA, ION etc
  - 13.5 USNO circulars

14. Navigation Systems' Status
  - 14.1 Loran-C, Mid-Continent installation
  - 14.2 Naval Observatory dial in
  - 14.3 Omega Antenna Maintenance
  - 14.4 On/Off Air Statistics
  - 14.5 How to Obtain current information
  - 14.6 GPS Launch Schedule
  - 14.7 Decca Status and System future
  - 14.8 Use of VLF Stations
15. Navigation Systems, brief one paragraph lay review
  - 15.1 Loran-C, Differential loran
  - 15.2 Omega
  - 15.3 VLF Communication Stations
  - 15.4 GPS
  - 15.5 Hyperfix
  - 15.6 VOR
  - 15.7 Etc
16. Charts
  - 16.1 Lists
  - 16.2 Where to Obtain
17. Geodesy
  - 17.1 Datum definitions and Status
  - 17.2 Where to get information
  - 17.3 Defense Mapping Agency
18. Humor
  - 18.1 Cartoons
  - 18.2 Sayings
  - 18.3 Incidents
19. Spectrum Issues
  - 19.1 Protection, WARC, FCC
  - 19.2 PLC's
  - 19.3 What to do when you encounter interference
20. The Journal
  - 20.1 Advertising in the Journal, Rate Structure
  - 20.2 Members listings
  - 20.3 Consultant Ads
  - 20.4 List of Advertisers
  - 20.5 Circulation
  - 20.6 Free Listings
  - 20.7 Editorial Staff
  - 20.8 Credits
21. Glossary
  - 21.1 Navigation Terms
  - 21.2 Abbreviations
    - 21.2.1 Organizations
    - 21.2.2 Technical
22. Contracts
  - 22.1 Commercial
  - 22.2 Government
  - 22.3 Where is the work being done
23. Independent Development Labs

- 24. Feature Articles
  - 24.1 The Non-Precision Approach, State Impact, User Impact
  - 24.2 Mid Continent Coverage, what the enhancement means
  - 24.3 Differential Loran, the Ultimate for Precision
- 25. Regulatory Issues
  - 25.1 Rule Making Agencies
  - 25.2 Certification, what it takes, what it means
- 26. NASAO Who are they and what do they mean to loran
- 27. Loran Overseas
  - 27.1 DOD Policy Interpreted
  - 27.2 Loran and Decca
  - 27.3 Soviet loran, compatibility and cooperation
  - 27.4 Loran in China
  - 27.5 Loran in the Middle East
  - 27.6 Letter from Japan
  - 27.7 Loran in Europe
  - 27.8 IALA perspective of loran
  - 27.9 Canada status and cooperation with the US
- 28. The Loran Transmitter, how is a signal generated
- 29. Loran Uses, a list of all known with brief details
- 30. Loran History, in sequel form to cover several issues
- 31. Interoperability, what does this mean
- 32. Best Paper presented at the last convention, a reprint
- 33. What's New
  - 33.1 Land
  - 33.2 Sea
  - 33.3 Air
- 34. Applications
  - 34.1 Stories
- 35. Government Report
  - 35.1 DOD
  - 35.2 DOT



# **Journal of the WGA 1987/88 Edition**

## **Strategy and Business Plan**

### **1. Objectives**

There are three essential objectives to the publication of the 1987/88 Wild Goose Radionavigation Journal. These are:

(a) To create a useful reference document that will have an appeal to a wide range of people in diversified disciplines. To be genuinely interesting and technically current. To provide the membership with a useful document that makes the payment of dues worthwhile.

(b) To put the publication of the Journal on a sound financial footing so that regular publication is ensured and that, in the future, it can be turned over to a third party to produce and distribute.

(c) To be a source of income to the Association to help defray the costs of WGA functions and other publications.

### **2. Strategy**

Publication of the Journal is somewhat of a chicken-and-egg situation. To do it properly needs up-front financing which the Association is unable to do in its present financial condition. To overcome this difficulty I have proposed a bootstrap operation. The Journal is targeted to have 100+ pages and carry 20-30 pages of advertising. The cost of printing and fulfillment (distribution) will be covered by the advertising and the size of the Journal will be adjusted according to the advertising revenue. I will undertake to do the pre-press work (page layout, typesetting, copy preparation, scanning and sizing of photographs and graphics, etc) at Beukers Promotions (BPI), keeping an account of the time and materials. A run of 10,000 is contemplated targeted at the market defined in a later paragraph. The first 1000 copies goes to the membership, advertisers, those warranting complementary copies, for promotion and other deserving causes. The balance of 9000 copies will be sold to the identified market at prices starting at \$15 with discounts according to quantity. The revenue from these sales will be divided 50/50 between the WGA and BPI until the time and material costs incurred have been reimbursed. At this point the revenue will be divided 75/25 for the WGA and BPI and will be used by BPI to defray other expenses being incurred on behalf of the WGA. A full accounting of the activities will be made available to the WGA treasurer and executive committee upon request.

Once the publication of the Journal can be shown to be financially viable and that it indeed has a wide readership, subsequent issues could be published by an independent publishing company specializing in short run magazines of this nature.

### 3. Market Identification

To raise the confidence that 9000 copies of the Journal can be sold requires that the potential market be identified. A first effort at this has been done on the attached spread sheet. It would be most helpful if this could be marked up with additions or comments relating to over-optimism (or pessimism).

### 4. Advertising

The printing costs are estimated to be in the range of \$15,000 to \$20,000 and are dependant upon the amount of color. This requires matching advertising revenue. At \$1000 per full page this will require 40 advertisers each taking one half page on the average. This is considered to be a reasonable objective.

#### 4.1 Promotion to Advertisers

To get potential advertisers to make a commitment will require promotion. To do this an advertisers packet will be produced that will contain a rate schedule, the Journal's table of contents with some examples, the forecasted distribution and a letter selling the benefits of being in the Journal (a reference document) for an entire year. A direct mail campaign followed by phone calls and personal visits will be undertaken. This activity will require the cooperation of the board and individual members, not to mention the manufacturers who are members of the organization. It would be helpful if a list of potential advertisers could be generated by the executive committee and others.

The editorial policy will be strict, there being no favors granted to advertisers in return for their commitment. Credit and appreciation will be given to all advertisers as one.

A high standard of advertising will be encouraged to make the Journal a first class publication.

#### 4.2 Circulation

The circulation is identified in the attached spread sheet. There will be the initial circulation to members and others at no cost. We will attempt to obtain as many advance orders as possible through New Literature listings in the press, by a selective direct mail and by word of mouth. Following this the Journal will be promoted throughout the year.

#### 4.3 Rates

A rate schedule will be generated for full page color, full page black and white, half pages, quarter pages and listings. There will be a rate for consultants cards (members may be listed free of charge).

#### 4.4 Number of Pages

As mentioned, the number of pages will be 100+ but modulated according to the success of the advertising campaign. There will be 20 or more pages of advertising.

#### 4.5 Income

Income from advertising is projected to be \$20,000 and the objective is to cover all printing and distribution costs.

#### 5. Contents

The Journal contents is defined in an attachment to this plan. The theme is useful reference material and items of general interest for a wide readership.

#### 6. Generation of Material

The generation of material poses a challenge. The first order of business is to take a look at the proposed contents and identify reliable contributors to execute the work. Good copy will require less work on our part however anything is better than none and we will be able to edit and make the material presentable. How we do this is covered in the paragraph relating to Pre-press Operation.

#### 7. Pre-Press Operation

BPI has a comprehensive facility of computers, page composition software and output devices. We can except material on 5 1/4 diskettes in MS-DOS format or 3 1/2 Mac OS by mail or modem. We operate IBM AT's and compatibles, Mac+ and Mac II's. We can manipulate in Pagemaker 2 or 3, MacWrite/Draw. We use Microsoft Word4 (pc) and Word3 (Mac) word processors. Graphics can be done on Adobe Illustrator88 or Aldus Freehand. Documents can be scanned on Microtek 300 gray scale scanner. It is our goal to produce the Journal in its entirety without paste up and typeset it on our Linotronic 100 to 1270 dpi.

#### 8. Printing

To get competitive pricing, printing could go to Printing Impressions in Santa Barbara or go out to the mid-west or New Hampshire. Names of good quality competitive printers that specialize in short run magazines would be welcome. (Note: a short run is considered to be under 25,000 copies).

#### 9. Promotion of Journal

There are several ways in which the Journal can be promoted. Most magazines of the trade press carry listings of New Literature, the Journal can be listed as an important reference document. Listings will be requested in periodicals of Associations whose members use, or are potential users of

loran. A project to generate a mail list for a direct mail campaign will be undertaken. This will be targeted to those who have an interest in location and navigation both within the US and overseas. A flyer will be generated that defines the Journal and lists its content with examples, stating that no one in the navigation business can be without. Attempts will be made with companies having chains of bookstores to carry the Journal in the cartography and travel sections. Dealers of navigation equipment and allied electronics will be requested to carry a supply of Journals and at a minimum asked to carry the no-charge flyer. **Any** suggestions to add to the list of ways to promote the Journal are welcome.

## 10. Fulfillment

Fulfillment is the act of getting the Journal from the cartons, as delivered by the printer, to the consumer. It involves shipping and the collection of payments. Every effort will be made to minimize paper work and the time required to execute this function.

### 10.1 Single copies

Single copies will be mailed second class in clear polyethylene wrappers to all members and those that order prepaid. There will be no invoicing for the 1-5 quantity.

### 10.2 Multiple copy discounts

A price list for multiple copies over 5 will be generated and published and form part of the release for promotion.

### 10.3 Sales Terms

Terms will be cash with order of prepaid. For quantities over 5, invoicing on net 10 terms will be permitted for establishments with in good standing with credit bureaus.

### 10.4 Shipping methods

Shipping will be done through the US mail system unless otherwise requested and paid for. Except for the free issues all shipping costs will be born by the customer.

## 11. Schedule

It would be desirable to publish the Journal in time for the WGA annual convention in October. This will not be possible due to the short amount of time. Instead, the flyer referred to above will be available and orders (other than members) can be taken at that time. Every effort will be made to have the Journal mailed out prior to the end of the year with a goal being the end of November. A milestone schedule will be available early June to cover all aspects of the Journal's publication.

## 12. Financial Considerations

Last, but most important are the arrangements to make this project possible and successful. The bootstrap method of financing the publication was outlined in the Strategy. In support of this a first cut at a spreadsheet and market estimate has been made.

### 12.1 Spreadsheet

The preparation and printing of a 100+ page Journal with color is estimated at \$45,000 with the printing being \$18,000 for 10,000 copies. The requirement is that the printing is covered directly by the advertising revenue and that the size of the Journal is modulated to balance this equation. Beyond this the revenue that is produced will be used to defray the costs of preparation and administration. If this can be done then it will show that the Journal, or a magazine that replaces the Journal can be a financially sound proposition. It should be noted that at \$15 and with a membership form inside there is a strong inducement for the purchaser to consider membership to the WGA.

### 12.2 Financial risks and exposure

The bottom line is that the exposure to the WGA is none since there will be no expenditure over and above that which can be collected from advertisers. The possible exception here is bad debts or unpaid, cancelled commitments. Every effort will be made to access the advertisers record before entering a contract for space. The exposure to BPI for preparation is the time, materials and third party contracts for services. It is my personal judgement that this risk is minimal since the first revenue to be obtained will be used to defray out-of-pocket expenses. It should not be difficult to promote sufficient sales to defray these costs. The benefits are indeed substantial. If successful the Journal will have been put on a sound financial footing without having to go to the membership for increased dues or rely upon a volunteer to make the publication a labor of love.

### 12.3 Excess revenue over expense

Beyond the break even point the Journal can bring in revenue so that the WGA can address the issues for which the organization was originally formed. I endorse Leo Fehlner's observation and comment, namely that the WGA should take up some of the more important technical issues and devote time and effort to ensure that there are resolutions to outstanding requirements.

## Breakdown of Income and Expenses for the 1987/88 WGA Journal

## Expenses

## Pre-press work and Expenses (Note 1)

	Hours	Rate	Extension
Page preparation	400	35.00	14000.00
Materials			1500.00
Outside Services			4000.00
			<u>\$19,500</u>
Printing of 10,000 copies			\$18,000
Promotion for Advertisers			\$1,000
Journal Promotion			\$5,000
Fulfillment Expense			
Shipping and Mailing			1000.00
Administration			500.00
			<u>\$1,500</u>
			<u>Total Expense \$45,000</u>

## Income

Advertising revenue			\$20,000
Sale of Journal (Note 2)			
	Quantity	Price	Extension
1 to 5 Copies	2000	15.00	30000.00
6 to 20 copies	3000	12.00	36000.00
21 to 100 Copies	4000	10.00	40000.00
			<u>\$106,000</u>
			<u>Total Revenue \$126,000</u>
			<u>Potential excess revenue \$81,000</u>

Note 1 All Copy and editing is to be done at no charge  
 Note 2 1-5 copies pre-paid including shipping

## Market Projection for the 1987/1988 Journal

Classification	Quantity of units	Journals per Unit	Extension
<b>Free</b>			
Membership	600	1	600
Promotion	100	1	100
Advertisers	60	2	120
Other	100	1	100
			<u>Total Free Issue 920</u>
<b>Paid</b>			
<b>Users (US)</b>			
Land	100	1	100
Sea	500	1	500
Air	700	1	700
Dealers	100	20	2000
Manufacturers	20	20	400
Government			
Agencies	50	5	250
Employees	200	1	200
Universities	10	5	50
Omega Community	100	1	100
GPS community	150	1	150
Libraries	50	1	50
Industry	300	1	300
IALA members	20	5	100
Congress	30	1	30
Countries			0
Canada	100	1	100
Norway	50	1	50
USSR	1	100	100
China	1	50	50
Middle East	1	20	20
Japan	1	200	200
England	1	50	50
Europe	1	100	100
Scandinavia	1	20	20
Korea	1	50	50
General Public	500	1	500
			<u>Total Paid 6170</u>

Note: Break even point is about 4000 Journals



Manufacturer of Quality Navigation and Communications Systems

A United Parcel Service Company

P.O. Box 13549  
Salem, OR 97309  
(503) 581-8101  
TWX 5105990110

8 July 1988

Mr. John Illgen  
Illgen Simulation Technologies, Inc.  
351 S. Hitchcock Way, Bldg. B, Suite 230  
Santa Barbara, CA 93105

**82nd Brd. Mtg.  
Exhibit 12**

Dear John:

You asked me to take a look at a newsletter example from John Beukers and give you my comments. I can't really comment on what might be involved because I would have to try out the application software to see what's involved in the layout, graphics capture and/or creation, printer requirements for output, etc. The example you sent is illustrative of a final product and it certainly has many attractive features. I suspect that there is probably a great deal of involvement with generating a layout on a standard PC CRT because of the limitations with rows and columns. I am almost sure that printing requires a laser printer.

I would need to review the material for the software to give any firm assessment of what is required to implement it. I believe what John Beukers found is an example obtained from a desktop publishing package.

I have to admit that I'm a bit apprehensive over what is needed to support it. I also have to state concern with the degree to which our newsletter could place a demand on such an upgrade. Inputs items from external sources for publication in the newsletter have dwindled to a new low in volume. The present trend is more and more towards my generating the entire content. Because of the additional time consumed in research to dig up the material, the newsletter is being published late (not enough content for the current schedule), and the quality of material is being degraded (publish anything you can to fill space). Your emphasis on getting input to me from other WGA responsible parties could provide some relief.

While we're on the newsletter issue, digital transfer of your column to Salem would save me many keystrokes. You could send it on a floppy disk or you could connect via modem for the transfer. Let me know if you can do it and by which means.

That's about it. Family's fine. We're still unpacking goods and looks like it'll be at least a year more until we're totally reorganized. Best to everyone at the office and at home.

Best regards,

*Bob Miller*

82nd Brd. Mtg.  
Exhibit 13

1989 Board Members

25 July 1988

LIST OF CURRENT WGA BOARD MEMBERS

PAGE 1

Walter N. Dean  
8060 Sacajawea Way  
Wilsonville OR 97070

PHONE: 503/684-1600 & 503/694-1443  
TYPE: Ex-President 1989  
TERM EXPIRES END OF: 1991

Edward L. McGann  
18 Wolcott Avenue  
Andover MA 01810

PHONE: 617/275-2010 & 617/475-8606  
TYPE: Elected  
TERM EXPIRES END OF: 1991

David C. Scull  
2112 Wittington Boulevard  
Alexandria VA 22308

PHONE: 202/366-4355 & 703/360-9430  
TYPE: Elected  
TERM EXPIRES END OF: 1991

James P. Van Etten  
230 Rutgers Place  
Nutley NJ 07110

PHONE: 201/661-0876  
TYPE: Elected  
TERM EXPIRES END OF: 1991

John M. Beukers  
8 Old Wood Road  
Stony Brook NY 11790

PHONE: 516/862-7500 & 516/751-0767  
TYPE: Appointed, replaces Ambroseno  
TERM EXPIRES END OF: 1990

Leo F. Fehlner  
118 Quaint Acres Drive  
Silver Spring MD 20904

PHONE: 301/622-0529  
TYPE: Elected  
TERM EXPIRES END OF: 1990

Vernon L. Johnson  
17 Maple Drive  
No. Caldwell NJ 07006

PHONE: 201/228-2642  
TYPE: Elected  
TERM EXPIRES END OF: 1990

Maurice J. Moroney  
21 Greenbrook Road  
South Hamilton MA 01982

PHONE: 617/494-2026 & 617/468-2665  
TYPE: Elected  
TERM EXPIRES END OF: 1990



1989 Board Members

25 July 1988

LIST OF CURRENT WGA BOARD MEMBERS

PAGE 2

James O. Alexander  
3262 Tigertail Drive  
Los Alamitos CA 90720

PHONE: 714/432-0516  
TYPE: Replacement for Dean  
TERM EXPIRES END OF: 1989

Carl S. Andren  
3160 Readsborough Court  
Fairfax VA 22031

PHONE: 202/331-9097 & 703/560-2198  
TYPE: Elected  
TERM EXPIRES END OF: 1989

James F. Culbertson  
15781 Exeter Street  
Westminster CA 92683

PHONE: 714/531-7974  
TYPE: Elected  
TERM EXPIRES END OF: 1989

John D. Illgen, President  
7819 Langlo Ranch Road  
Goleta CA 93017

PHONE: 805/563-0665 & 805/968-3995  
TYPE: President 1989  
TERM EXPIRES END OF: 1989

Robert W. Lilley  
6393 Radford Road  
Athens OH 45701

PHONE: 614/594-5263 & 614/594-2463  
TYPE: Replacement for Illgen  
TERM EXPIRES END OF: 1989

Jimmie L. Toms  
712 Ridge Drive  
McLean VA 22101

PHONE: 301/695-4040 & 703/448-6034  
TYPE: Elected  
TERM EXPIRES END OF: 1989

# FEDERAL RADIONAVIGATION PLAN, 1986

## COMMENTS BY THE WILD GOOSE ASSOCIATION

82nd Brd. Mtg.

Exhibit 14

### INTRODUCTION

These comments have been prepared by the Board of Directors of the Wild Goose Association (WGA), an organization for individuals who have a common interest in Loran and who wish to foster the art of Loran. The WGA has over 500 members, in the U.S. and overseas, representing users, manufacturers, and operators of Loran and association systems. The material to follow concerns itself with the Federal Radionavigation Plan (FRP), both generally and specifically, with regard to its treatment of all systems.

The WGA notes with pride that users of Loran-C constitute the world's largest community of users of a single aid-to-navigation system. The current Loran-C user population is estimated at nearly one-half million and is projected to grow to over one million users by 1999 when Loran-C celebrates the 25th anniversary of its civilian reincarnation. (In 1974, DOT selected Loran-C as the most cost-effective radionavigation system for the coastal confluence region.)

During the past two years Loran-C improvement and expansion progress has continued. A few examples of this progress are as follows:

- The program to fill the U.S. mid-continent gap is underway with a program to install four new transmitting stations.
- The Loran-C nonprecision approach (NPA) program has continued to expand with: (1) the certification of additional approved landing areas; (2) the continuing success of the data collection efforts (from the early implementation phase monitors) illustrates the accuracy and integrity of the Loran-C signals; (3) the award of the contract for the operational monitors to be emplaced across the country; and (4) the NPA certification of user equipments from more manufacturers.
- Performance, operational features, and user friendliness of Loran-C user equipments has continued to improve.
- Expansion and growth of Loran-C has continued in other parts of the world. This includes: (1) completion of 3 transmitting stations on the southern coast of the Peoples Republic of China and their commitment to Loran-C as their official coastal aid-to-navigation system, and (2) the formation of the Northwest European Working Group, comprised of representatives of 7 countries in the area; this group's goal is to take over operation of the existing DoD-sponsored Loran-C transmitting stations and to add new ones to establish a complete and effective Loran operation in that area.

We are very pleased to note that the 1986 FRP very clearly recognized the rapidly changing scenario of radionavigation today. This recognition, which sets a more creditable tone for the detailed considerations in the body of the FRP, is summarized by the following excerpts from the FRP Executive Summary:

*"A major goal of DoD and DOT is to select a mix of these common-use civil/military systems which meets diverse user requirements for accuracy, reli-*

- The FRP decision process must reflect consideration of the U.S. foreign policy and of the trade and economic issues involved in the selection and implementation of specific radionavigation system mixes. Premature promulgations of system availability and overstatements of performance such as have occurred with respect to GPS have negatively affected the availability of radionavigation and position-fixing services to many potential users...nationally and internationally...and have adversely affected U.S. foreign trade.
- The FRP system mix considerations needs to be expanded to include complementary communications systems in recognition of the growth in interactive and interdependent relationship between navigation and communications.

The WGA is concerned over the direction our National Defense is taking on the issues of eliminating certain DoD navigation/position location and timing requirements. In particular the WGA feels the DoD policy for the future radionavigation mix is inadequate. A misunderstanding of technical and cost requirements appear to be steering a premature phase out schedule of DoD use of Loran-C and other systems overseas.

The WGA strongly urges that the FRP policy makers and authors drop from the FRP the phase out schedule for overseas Loran-C and other radionavigation systems and to reexamine the wisdom of depending on only one radionavigation system for military application until the following issues are resolved:

1. A proper mix of systems has been selected to provide higher confidence in survivability and avoid a total dependency in space.
2. A definitive resolution of GPS accuracy, coverage, schedule, integrity, financial issues, and space segment replenishment has been accomplished.

#### **ACTION ITEMS FOR NEAR TERM CONSIDERATION**

The following represents an outline list of recommended DOT/DoD near-term action items that should be addressed in the 1988 edition of the FRP.

- Establishment of a Department of Transportation level office as a focal point for the concerns of ALL civil navigation and position-fixing users in recognition of the huge growth of the user population in many different applications.
- Complete the mid-continent gap program.
- Continue and expand the on-going NPA program.
- Modify the NAS improvement program so as to effectively allow direct origin-to-destination (RNAV) traffic whether its reference is VOR/DME/GPS or Loran-C so as to take advantage of RNAV benefits.
- Implement the Master/Master synchronization program and examine DOT implications.
- Examine the impact of Master/Master synchronization on all user communities, along with the receiver MOPS necessary to achieve the advantages of such operation. Operational procedural changes and user warning formats need also be considered.

more cost-effective approach than reliance upon a single GPS system for civil use. United States civil users are concentrated in continental U.S. and in the coastal confluence zone. The requirements of these users are now economically satisfied with the existing Loran-C radionavigation system.

Historically, FRP timetables have been overly optimistic and unrealistic. The planning process needs to be much more realistic, to properly and effectively support the policy decision process.

WGA urges continuance and expansion of User Conferences, and, as was done in the past, that they be held in multiple locations throughout the United States. They provide a much needed forum for user dialog and the development, dissemination, and support of national radionavigation plans and policy.

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**ILLGEN SIMULATION TECHNOLOGIES, INC.**

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**82nd Brd. Mtg.  
Exhibit 15**

18 July 1988

Leo Fehlner  
118 Quaint Acres Drive  
Silver Spring, MD 20904

**Subject: WGA DoD Working Group Report**

Dear Leo:

I have attached a status report summarizing WGA DoD Working Group activities since its inception. Several key meetings have occurred since the attached was prepared. These include:

1. I met with Jim Culbertson to convey names of key DoD people that should be invited to the Portland Convention. I also provided Jim suggestions for the letters of invitation that could enhance DoD participation. I believe these people will attend the Convention but only if they have an advance program citing the titles and authors of the papers to be presented. Travel funds are tight throughout the government and early advance notice is critical.
2. Ed McGann and Bahar Uttam met with NAVAIR to discuss expansion/modification of Loran-C in the Middle East to support mine-sweeping and other U.S. Navy activities (separate report on the outcome of this meeting is expected at the WGA Board meeting). I believe meetings with organizations such as NAVAIR on *hot spot* issues must be treated with care. I will discuss as next Board meeting.
3. I am in the process of assigning sections to WGA DoD Working Group members to start preparation of the report outlined in the attached status report.
4. I do not believe I have reported in writing that I briefed the January 1988 ION (luncheon address) on the need for *A Mix of Navigation/Position Location/Timing Systems*. The presentation went very well and I have received additional invitations for further discussions.

**PLANNED ACTIVITIES**

1. Meet with LtCol Russ Nakamura (OSD) to develop a seminar (classified) for DoD Special Programs. This will be a DoD sponsored seminar-not WGA.
2. Meet with Dr. T. Quinn and Richard Howe (ASD/C3I).
3. Nurture NAVAIR interests started by Ed McGann and Bahar Uttam.
4. Continue to develop interests for the Portland Convention (DoD participation).

5. Develop a draft WGA DoD Working Group report for WGA Board review by the end of the calendar year.

Sincerely,

John D. Illgen

Attachments

## **DoD MIX OF NAVIGATION AND TIMING SYSTEMS A WGA DoD Working Group Status Report**

John D. Illgen  
Illgen Simulation Technologies, Inc.  
351 South Hitchcock Way, Suite B230  
Santa Barbara, California 93105

### **ABSTRACT**

This paper summarizes efforts by the WGA to convey to the Department of Defense (DoD) technical, economic, and management issues addressing the need for a *Mix of Navigation Systems*. The WGA established a Working Group after the New Orleans Convention to address the issues and convey them to the DoD. This paper provides a summary of WGA Working Group objectives and actions.

### **THE CONCERN**

The Working Group wants to convey its concern (which is shared by Don Latham former Assistant Secretary of Defense for Command, Control, Communications, and Intelligence) over the direction our National Defense is taking on the issues of phasing out certain navigation/position location and timing system. In particular the Working Group feels the DoD/DOT policy stated in the 1986 Future Radionavigation Systems Mix and the National Radionavigation Plan are inadequate. A misunderstanding of technical and cost requirements appears to be steering a phase-out schedule for Loran-C and other systems abroad prematurely. The Working Group is in favor of a mix of satellite and terrestrial navigation systems and most important feel strongly, *We must be very careful not to put ourselves in a situation where our dependency on space is so overwhelming that we jeopardize national security; We must have the right balance of survivability, endurance, capability, and cost between space systems and terrestrial systems.* This is a quote from a speech given by Don Latham (ASD/C3I).

Our navigation systems are also used for timing - a very important capability that supports satellite and terrestrial communication systems and, in particular, spread spectrum and frequency hopping communication systems. The WGA Working Group wants to convey four points:

- 1) Provide an update on progress made since DoD officials attended the WGA conference in 1985 (Santa Barbara)
- 2) Debrief on meetings the WGA has conducted at DoD
- 3) Further action.

### **STATUS FROM 1985 TO OCTOBER 1987**

In 1985 a company called II Morrow demonstrated Loran-C using a II Morrow Loran-C receiver and VMS for DoD officials. When the aircraft was taxiing, DoD personnel observed the aircraft was positioned on runway crossing points that indeed the Loran VMS system showed us positioned at that point. When flying and passing directly over landmarks shown on the video display output, it became clear to DoD personnel that Loran was again precisely on target and we were not even using differentially augmented Loran. Additionally, personnel in DoD have concerns that are similar to Mr. Latham's that were mentioned earlier. Many times we all lose sight of the fact that there are military systems that require the use of Loran-C and other systems for application today; i.e., NOW.

When the DoD officials departed from the above demo, I had several meetings with the Office of the Secretary of Defense for C3. The Working Group provided OSD a letter outlining WGA concerns regarding DoD policy. Excerpts from the letter are provided below.

"This letter is in response to our recent discussion regarding the Federal Radionavigation Plan (this plan has been updated; however, by the time it is published it is not current) policy for federally funded radionavigation systems to be supported for the remainder of this century and in the early part of the next. Specifically, I am concerned with the policy focused on 'where we are going in space and in particular, our dependency on space, not just for communications, but for navigation, reconnaissance (which is dependent on navigation), etc.' This quote is from a paper that appeared in the Armed Forces Communications Electronic Association monthly periodical dated August 1985. I have copies of the attached aforementioned paper.

I request that DoD's Positioning/Navigation Executive Committee (POS/NAV Committee), POS/NAV Working Group, and DOT's Navigation Council in coordination with the Joint chiefs of Staff Master Navigation Plan responsible for Radionavigation Plan strongly consider the following:

1. The speech and paper prepared by Mr. Latham.
2. A large fraction of the civil community requires better than 100 meter accuracy (C-code). It is true the DoD-DOT policy for the radionavigation systems mix (dated 13 November 1984) indicates some other enhanced form of GPS may provide accuracy equivalent to existing systems (see GPS Surface Use paragraph in the policy statement that is attached). There are only two ways GPS can provide the needed accuracy for the civil community. These are:
  - Differential GPS (which requires additional equipment and escalates cost)
  - Provide the civil user better accuracy than the planned C-code (i.e., improve the C-code accuracy).

There is no doubt GPS offers possible nuclear hardened and an anti-jam space navigation and timing system. However, from a DoD perspective we would assume complementary or redundant systems to improve survivability of our navigation and timing (also, timing for communication systems) system is desirable and in the best interest of our country. That is, avoid total dependence on space as stated by Mr. Latham.

The WGA Working Group strongly urges the Federal Radionavigation authors (DoD, DOT groups cited earlier in coordination with JCS) to revisit the phase out schedules for other navigation aids abroad and the wisdom in depending on only one navigation aid for military application until the following issues are resolved:

1. A proper mix of systems has been selected to provide higher confidence in survivability to avoid a total dependency in space.
2. DoD phase out schedules abroad (in particular Omega and Loran-C) for systems other than GPS be dropped from the Federal Radionavigation Plan until resolution of GPS accuracy, coverage, schedule, integrity, financial issues (cost of user equipment; costs must be acceptable to Loran and Omega communities), and space segment replenishment be resolved."



## DoD ORGANIZATIONS TO BE CONTACTED

The WGA DoD Working Group is in the process of contacting numerous organizations to discuss the need for a *Mix of Navigation Systems*.

Records by the WGA DoD Working Group are being kept of the visits made to DoD organizations. Interaction with these DoD organizations are strictly focused on an exchange of technical and economic data that impact the issues itemized earlier with absolutely no biases.

The WGA DoD Working Group is also conveying the need for A *Mix of Navigation Systems* through the presentation of technical papers at symposiums such as the Institute of Navigation, Association of Old Crows, Unmanned Aircraft Vehicle Association, Armed Forces Communication Electronics Association, and others.

As part of the process of conveying facts to various DoD organizations it has become apparent that there are two mindsets in DoD:

1. Those that are using Loran-C and find the system to meet their needs and realize Loran-C is a high accuracy, high technology, cost effective system.
2. Those that have not recognized that Loran has evolved beyond the *Old WW II system*.

To this end the WGA DoD Working Group members have used numerous vugraphs that summarize Loran-C technical and economic advantages. These are very briefly summarized in Table 1. The bottom line is that Loran-C is a high technology, accuracy, and cost effective system.

## FURTHER WGA DoD WORKING GROUP ACTION

The WGA DoD Working Group is preparing a report that will be completed for WGA Board review in 1988. This report is outlined below:

- Executive Summary
- Summary Mix
  - Loran-C/GPS
  - Omega/INS
  - DME/Others
- DoD Operational and Readiness Requirements
  - Community Requires Systems Now
  - Community Needs High Accuracy
- DOT/Civil
- DoD/DOT Interaction and Understanding of Requirements
  - Requirements/Users
  - Cost/GAO
- Single System Problems
  - DoD Survivability and Accuracy
  - DOT Civil Community
- Multiple System Enhancements
- Timing/Communications
- Cost Analysis
  - Single System
  - Multiple Systems
- Recommendations
- Appendix A - User List

The above report upon completion should be disseminated and published as approved and recommended by the WGA membership and Board of Directors and coordinated with DoD/DOT representatives.

Additionally, continual interaction and unbiased support to DoD will continue by WGA DoD Working Group members to assure our nation of a strong, redundant, and cost effective *Mix of Navigation and Timing Systems*.

**Table 1. (a) Loran-C error sources and compensation techniques.  
(b) Costs**

Error Source	Cause	Compensation Technique
1. Transmitter Timing fluctuations	Cesium, timer, and transmitter variations	Accurate and stable time base frequency, phase adjustments on short- and long-term basis, cycle compensation loop
2. Temporal fluctuations	Refractive index changes along propagation path Surface impedance variation along propagation path	Differential Loran-C and variations of this method Differential Loran-C and variations of this method
3. Spatial effects	Bridges (such as Golden Gate) docks; buildings; terrain elevation (islands, peninsulas in vicinity of harbor, river, etc.)	Conduct grid survey. Reflect warpage in grid. This is a one-time fix. Use position reference system or visual grid survey methods (PLAD)
4. Noise (atmospheric and man made)	Electrical discharges in the atmosphere and power generation equipment)	Band limiting and switched Q in the receiver. Linear: filtering done at low-level ahead of amplifier and clipped linear amplifier. Hard limiter: all linear processing at low-level output has square wave shape. Signal processing filters to minimize effects of interference and noise, shape the envelope, and minimize unwanted distortions. Narrow-band switching of the filters is provided to gain SNR.
5. Frequency interference	In-band 90-100 kHz Near-band 70-90 kHz Out-of-band 70 and 130 kHz	Band limiting. Interference filters (notch filters) - number depends on operational area. Filter the analog signal or change cross-correlation process to eliminate synchronous interference
6. Receiver	Design	Good design principles now in process
Equipment	Cost	Comments
Receivers	Start at several hundred dollars	Receivers use high technology to eliminate manual operation. Loran-C is automated and precise
Transmitters and Control Stations	O&M costs are in the noise when compared to the DoD budget	User community is growing worldwide

**ILLGEN SIMULATION TECHNOLOGIES, INC.**

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**82nd Brd. Mtg.  
Exhibit 16**

14 June 1988


Dr. Calvin Culver, President  
Micrologic  
20801 Dearborn Street  
Chatsworth, CA 91311

Dear Cal:

It has been brought to my attention that I must establish an Audit Committee Chairman for the WGA. The requirement is that the Chairman may not be on the Board, but must be a member in good standing. Your only responsibility will be to review the treasury reports and spot check any records you desire. Records being kept by Leo Fehlner and Carl Andren are outstanding and I suspect the task should be straightforward.

Please sign the xerox copy of the attached letter if you accept and return to me.

Best regards,

  
John D. Illgen  
President, WGA

JDI/sg

WILD GOOSE ASSOCIATION  
DRAFT FY 1989 Bk ET  
OCTOBER 1, 1988 — SEPTEMBER 30, 1989

		ESTIMATED FY 88	DRAFT FY 89 BUDGET	82nd Brd. Mtg. Exhibit 17
INCOME				
1				
2	DUES	1123928	13000-	
3	DOCUMENT SALES	435-	500-	
4	CONVENTION INCOME	564510	6000-	
5	JOURNAL ADS	3710-	-	
6	RESERVE FUND (DEFICIT)		3595-	
7		2102938	23095-	
8				
9				
10	EXPENDITURES			
11				
12	PRESIDENT EXPENSE			
13	VICE PRESIDENT EXPENSE	24807	250-	
14	SECRETARY EXPENSE	87883	900-	
15	TREASURER EXPENSE	9680	50-	
16	NEWSLETTER EXPENSE	450145	5000-	
17	PROCEEDINGS EXPENSE	1165462	12000-	
18	JOURNAL EXPENSE			
19	STATIONERY EXPENSE	82434	850-	
20	MEMBERSHIP EXPENSE			
21	CONVENTION ADVANCE	2500-	3000-	
22	CONVENTION EXPENSE			
23	AWARDS EXPENSE	29902	300-	
24	ELECTIONS EXPENSE	48599	550-	
25	CORPORATE REGISTRATION	10-	10-	
26	BANK FEES	10537	125-	
27	DUES REFUND	36-	60-	
28				
29		2164049	23095-	
30				
31	NET INCOME OR (LOSS)	(62111)		
32				
33				
34	STARTING CASH	1088261	1026150	
35	ENDING CASH	1026150	666650	
36				
37				
38				
39				
40				

# WILD GOOSE ASSOCIATION FINANCIAL REPORT FY 88

		ACTUAL FY88 THRU 7/21	ESTIMATED FY88 7/21 - 9/30	ESTIMATED FY88	
	INCOME				
1					
2	DUES	1091928	320-	1123928	
3	DOCUMENT SALES	405-	30-	435-	
4	CONVENTION INCOME	564510		564510	
5	JOURNAL ADS	3710-		3710-	
6					
7		2067938	350-	2102938	
8					
9					
10	EXPENDITURES				
11					
12	PRESIDENT EXPENSE				
13	VICE PRESIDENT EXPENSE	17307	75-	24807	
14	SECRETARY EXPENSE	47883	400-	87883	
15	TREASURER EXPENSE	9680		9680	
16	NEWSLETTER EXPENSE	340145	1100-	450145	
17	PROCEEDINGS EXPENSE	1165462		1165462	
18	JOURNAL EXPENSE				
19	STATIONERY EXPENSE	59934	225-	82434	
20	MEMBERSHIP EXPENSE				
21	CONVENTION EXPENSE				
22	AWARDS EXPENSE	29902		29902	
23	ELECTIONS EXPENSE	48599		48599	
24	CORPORATE REGISTRATION	10-		10-	
25	BANK FEES	8037	25-	10537	
26	DUES REFUND	36-		36-	
27	CONVENTION ADVANCE	2500-		2500-	
28					
29		1981549	1825-	2164049	
30					
31	NET INCOME OR (LOSS)	86389		(621.11)	
32					
33					
34	STARTING CASH	1088261		1088261	
35	ENDING CASH	1174650		1026150	
36					
37					
38					
39					
40					

Wild Goose Association  
FINANCIAL REPORT  
FOR FISCAL YEARS\* 1985, 1986, 1987 AND 1988

		FY85	FY86	FY87	FY88 ESTIMATED
	<b>INCOME</b>				
1					
2	DUES	702660	646050	6887-	1123928
3	DOCUMENT SALES	862-	360-	89250	435-
4	CONVENTION INCOME	257701	841167	3560-	564510
5	JOURNAL ADS	6600-	1155-	225-	3710-
6					
7		1706561	1638717	1153450	2102938
8					
9					
10	<b>EXPENDITURES</b>				
11					
12	PRESIDENT EXPENSE		39194		
13	VICE PRESIDENT EXPENSE			3377	24807
14	SECRETARY EXPENSE	85972	400-	99217	87883
15	TREASURER EXPENSE	40-	62-	47-	9680
16	NEWSLETTER EXPENSE	114174	43539	277674	450145
17	PROCEEDINGS EXPENSE	600-	1014339		1165462
18	JOURNAL EXPENSE	567068		592751	
19	STATIONERY EXPENSE		51056	111051	82434
20	MEMBERSHIP EXPENSE	600-	500-		
21	CONVENTION ADVANCE	4500-	2000-	3500-	2500-
22	CONVENTION EXPENSE	103877			
23	AWARDS EXPENSE	218385	20835	27988	29902
24	ELECTIONS EXPENSE	44147	48381	68217	48599
25	CORPORATE REGISTRATION	140-	20-		10-
26	BANK FEES	6631	3893	905	10537
27	DUES REFUND	154-	50-		36-
28					
29		1743654	1524437	1535880	2164049
30					
31	NET INCOME OR (LOSS)	(37093)	114280	(380430)	(62111)
32					
33					
34	STARTING CASH	1391504	1354411	1468691	1088261
35	ENDING CASH	1354411	1468691	1088261	1026150
36					
37					
38					
39					
40	* FISCAL YEARS ADJUSTED FROM STARTING SEPTEMBER 1 TO OCTOBER 1				

## BOARD OF DIRECTORS

J.D. ILLGEN ..... *President*  
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## WILD GOOSE ASSOCIATION

82nd Brd. Mtg.  
Exhibit 18

17 May 1988

VADM Donald C. Thompson, USCG  
Commander Atlantic Area  
U.S. Coast Guard  
Governors Island, NY 10004-5000

Dear Admiral Thompson:

The Wild Goose Association sincerely appreciates having had the opportunity to brief you and your staff on "Loran-C Status Today And Its Applications In MARDEZ" on 28 April 1988. We hope this presentation shed some new light on the rapidly growing interest and applications of Loran-C worldwide. If you or you staff have any questions or would like additional copies of the briefing book, please let me know.

The use of Loran-C by the civil aviation and land-mobile community has been growing explosively over the past few years. This rapid growth has not been matched with effective dissemination of information on this growth to the public or the military. The U.S. Coast Guard, by not now performing an active role in any major Loran-C initiatives, is not playing its traditional role as teacher and disseminator of knowledge on this important radio navigation system. The Wild Goose Association believes this role must be picked up by some aggressive organization in order to make the best use of this valuable national asset. Our briefing to you is one aspect of the WGA effort in pursuing Loran-C awareness among the civilian and military leadership of this country.

At the conclusion of our briefing to you on 28 April 1988 you offered to assist the Wild Goose Association in scheduling similar briefings at appropriate levels in the U.S. Navy. We accept your offer and would appreciate your facilitating such introductions. If you would have your designated staff officer contact me, we will follow through with briefings to those you have contacted. We will keep you advised of any briefing we deliver and the results. If you think such a summary briefing also would be appropriate within some Coast Guard activities we would be pleased to reach these elements as well.




Loran-C is now beginning to be viewed again by DOD as a terrestrial based partner to the Global Positioning System (GPS). The shuttle disaster and SPAWARS reasearch has shown that the satellite based systems are more vulnerable than previously advertised. Loran-C receivers are appearing on naval vessels, purchased with shipboard discretionary funds, thereby taking advantage of the complete coastal U.S. coverage being provided. A common grid system, that is being used by both military and civilian mariners, therefore now exists over every major port in the Nation.

We believe this message must be delivered to every level of the DOD and in particular to those who have for years been working under the impression that GPS would be the singular radio navigation system for military use for the rest of this century. The prudent navigator and the wise Defense planner will take advantage of all available assets in acheiving his goals.

The WGA believes that DOD's past resistance to Loran-C was more political and economic than technical or operational. However many years of non-involvement leave many folks at DOD and in their support contractor ranks with a wealth of prejudice and ignorance. We believe this can be overcome only by continued education as to the growing performance benefits of Loran-C and then, of course, the successful performance of the missions to which it can be applied.

Again, your assistance in the WGA crusade is most welcome and appreciated.

Sincerely,

  
J.F. Culbertson  
Vice President

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## WILD GOOSE ASSOCIATION

82nd Brd. Mtg.  
Exhibit 19

July 17, 1988

TO: WGA Board of Directors

FROM: Walt Dean

SUBJECT: PLC and the FCC

As you know, the FCC last October proposed to amend Part 15 of its rules regarding the non-licensed operation of RF devices. As regards power line carrier systems, the proposed rule states "A power line carrier system shall operate on an unprotected, non-interference basis . . . . If harmful interference occurs, the electric power utility shall discontinue use or adjust its power line carrier operation as required, to remedy the situation".

As you also know, it is not easy for the ordinary loran user to know when he is being interfered with by a PLC. For that reason and others, the Coast Guard, the WGA, Geostar and some loran manufacturers commented to the FCC on the necessity of protecting the loran frequency band from PLC interference.

I submitted the attached brief in May, following discussions at the last BOD meeting. I received no further communication from any Board members. The FCC subsequently extended the comment period one month.

Reading some of those briefs stimulated the Utilities Telecommunications Council to submit a 44 page diatribe which castigates the Coast Guard for its underhanded tactics and details the speciousness of the Coast Guard's arguments for protection of the loran frequencies. A copy of the Table of Contents, attached, gives the flavor of the text. One full copy is in the package.

Thanks to Ron Grandmaison of TTS-3, I have the feeling of being up to date on the inputs available. Perhaps others of the Board have also received copies of the submittals of the Coast Guard and the UTC.

Apparently all we can do now is wait and see what the FCC, in its infinite wisdom, decides to do.

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WILD GOOSE ASSOCIATION

May 24, 1988

Federal Communications Commission  
Washington DC 20554

Dear Sirs:

At the direction of the Board of Directors of the Wild Goose Association, I am forwarding comments of the Association in the matter of GEN Docket No. 87-389. We sincerely trust you will carefully consider our concerns in this matter.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'Walter N. Dean', with a long horizontal flourish extending to the right.

Walter N. Dean, P.E.  
Director  
8060 Sacajawea Way  
Wilsonville, OR 97070

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D. C. 20554

In the matter of	)	GEN Docket No. 87-389
	)	
Revision of Part 15 of the Rules	)	RM-5193
regarding the operation of radio	)	RM-5250
frequency devices without an	)	RM-5575
individual license	)	

To: The Commission

The Wild Goose Association respectfully submits its comments in the above-captioned proceeding.

Comments of the Wild Goose Association

INTRODUCTION

The Wild Goose Association (WGA), founded in 1972, has a worldwide membership of over 500, all interested in the Loran-C radionavigation system. Its members represent manufacturers of loran equipment, operators of the transmitting stations, both the U.S. Coast Guard and foreign governments, and users of the system for maritime, aviation and terrestrial navigation.

USE OF THE LORAN-C SYSTEM

Although the Loran-C system was initially deployed in support of military missions, it has, in the past ten years, come to be of major importance in the United States for safe navigation of marine craft, aircraft, and recently ground vehicles such as trucks and emergency vehicles. Over 300,000 marine loran receivers, over 40,000 aircraft navigators, and many thousand vehicluar units are now in operation. The U.S. Department of Defense has recently showed increasing interest in use of Loran-C in a variety of new military applications.

The WGA recognizes that the United States Coast Guard plans to submit comments to the Commission on this matter, and the WGA concurs with and supports those comments.

RADIO FREQUENCY CONCERNS

The frequency band 90-110 kHz has been allocated by the ITU for Radionavigation, specifically the Loran-C system, in recognition of the important role this system plays in the safety of navigation in both the maritime and aviation community. In addition, Loran-C receivers must be sensitive over a wider bandwidth to receive the pulse signals in the presence of skywaves. This means that Loran-C

receivers are susceptible to interference over the range 80-120 kHz.

Of primary interest to the members of the WGA is the safe and effective use of the Loran-C system. Key to this is maintenance of the band 80-120 kHz free of interference, as it has been amply demonstrated that radiations in that band can have a serious effect on the performance of loran receivers. There have been a number of studies, both theoretical and experimental, which show that radiation from powerline carrier (PLC) signals does produce harmful effects on loran receivers operating in the vicinity of such power lines. WGA members are concerned that there has been little incentive for designers and users of PLC systems to avoid the 80-120 kHz band. With the expanding use of both loran and PLC systems, increasing interference to loran receivers can only be avoided by prohibiting the proliferation of signals in the 80-120 kHz band.

A program which has the potential of serious impact from PLC interference is now underway under the auspices of the FAA and the National Association of State Aviation Officials. This will authorize the use of loran for non-precision approaches to airports in all 50 states which do not now have adequate approach facilities. This will require loran guidance to a point which may be only 250 feet above ground. A powerline carrier located within that distance could produce serious degradation of loran signals and effectively nullify the approach capability.

We therefore urge the Commission to modify proposed Section 15.113 to specify the frequency band for powerline carrier systems as 9 kHz to 80 kHz and 120 kHz to 490 kHz. Loss of the 40 kHz in the loran band should be insignificant to a system which has such a wide choice of frequencies and has no restrictions on the modulation means to transmit intelligence. We also urge the Commission to add the frequency band .080-.120 MHz to the table of restricted bands of emissions shown in Section 15.205(a) of the proposed regulations.

The alternative to this protection of the 80-120 kHz frequency band will be case-by-case argument and litigation of instances of interference, and the possibility that an interference situation may be discovered, literally, by accident.

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## WILD GOOSE ASSOCIATION

27 April 1988

### MINUTES OF THE 81st MEETING OF THE BOARD OF DIRECTORS

The 81st meeting of the Board of Directors was held as scheduled on 27 April 1988. See Exhibit 1.

#### Attendees:

#### Directors

J D Illgen  
J F Culbertson  
L F Fehlnr  
C S Andren  
J M Beukers  
D A Carter  
W N Dean  
V L Johnson  
E L McGann  
M J Moroney  
W Schorr  
J L Toms  
J P VanEtten

#### Proxies

R D Bronson  
(Exhibit 2)

#### Visitors

Irving Lublin IOA  
Larry V Grant USCG  
Andrew Sedlock USCG

#### Item 1- Call to Order

The meeting was called to order at 1301 27 April 1988. The number of Directors present met the requirements of a quorum.

In an opening statement, President Illgen announced with regret his acceptance of the resignation of Barney Ambroseno from the Board of Directors. The Board requested Illgen to send a letter of appreciation to Barney for his dedication to the WGA and the great effort he expended as Chairman of the Journal Committee and Editor of a series of outstanding Journals.

Illgen then extended the Board's appreciation for the willingness of John Beukers to accept an appointment to fill Barney's seat on the Board. The appointment had been approved by a poll of the Board by mail. The Board then extended a unanimous and hearty welcome to John, noting that his expertise and prior experience as President and Board member will be of great benefit to the WGA.