

Board of Directors

James F. Culbertson President
David C. Scull Vice President
Walter N. Dean Secretary
Carl S. Andren Treasurer
John D. Illgen Past President
John M. Beukers Exec. Administrator
James O. Alexander
David H. Amos
Kjell O. Enerstad
Bruce E. Hensel
Robert W. Lilley
Henry E. Marx
Edward L. McGann
Mark P. Morgenthaler
Maurice J. Moroney
William L. Polhemus
James P. Van Etten

Wild Goose Association

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*The International Loran
Radionavigation Forum*

July 25, 1991

-- Minutes --

97th MEETING OF THE BOARD OF DIRECTORS

Thursday, July 18, 1991, at NAVCOM Systems, Manassas, Virginia

1. Call to Order

The meeting was brought to order at 0923 hours by Vice President Dave Scull.

2. Attendance, Proxies and Statement of Quorum

The following board members were in attendance:

Dave Scull, Vice President
Carl Andren, Treasurer
Bob Lilley
Mike Moroney

Also in attendance was:

Dave Olsen, IOA Liaison

Since the requisite five directors were not present, a quorum was not established. Several proxies had been submitted; lacking a quorum, they were not read into the record.

3. Adoption of Minutes for the 96th Board Meeting

The minutes of the 96th BOD meeting (4/16/91 in Manassas, Virginia) had been received by all. While no comments were forthcoming, lack of a quorum precluded formal approval. Directors should be prepared to approve these minutes at the next meeting in Williamsburg.

4. Secretary's Report

No report was available for review.

5. Treasurer's Report

Carl Andren distributed copies of computer printouts including a balance sheet, income and expense statements (for the periods 4/15/91 to 7/17/91 and 10/1/90 to 7/17/91), plus other tabulations. **These are attached as Exhibit 1.** Carl highlighted \$13,727.83 which was received from Jim Alexander to close out the 1990 Long Beach convention. A question as to how much of this was profit led to discussion of our conventions as separate cost centers. Looking at the income and expense statement for 10/1/90 to 7/17/91, it would appear that a total \$14,227.83 revenue from the '90 convention is partially offset by a \$1,950.00 proceedings expense and another \$394.00 expense. The board was at a disadvantage as there was no consolidated report available for the convention. Mike Moroney said he would approach Jim Alexander for the required report; it will be needed by the Treasurer for our tax filing.

6. Executive Committee

Jim Culbertson's report dated 6/13/91 was reviewed. This led to discussion of several other topics:

IALA Membership: It was agreed that the WGA's membership in IALA was worthwhile. The reports that we receive as a benefit of our IALA membership are often interesting and pertinent. How can we make them available to interested WGA members? [Mike Moroney said he would copy and distribute to the Directors one recent report, "Fifth IALA Loran-C Meeting for Mediterranean Countries, 26-27 February, 1991."] Bob Lilley sometimes publishes excerpts from IALA materials in the Goose Gazette. Suggestion was made to publish a description of items received, like the RTCM does in their newsletters; but it was felt that the staff at NAVCOM was ill equipped to respond to a flood of requests for IALA materials. Perhaps the availability of IALA reports could, at least for now, be announced just to the Board of Directors? That thought led to discussion on the next topic:

BOD Newsletter: Now that we are functioning without an Executive Administrator, will we continue to have a Directors' Newsletter? Who will edit and publish it? *[John, we miss you already!]*

7. Standing Committee Reports

Audit: No report available; Dave Carter is no longer serving in this capacity. Dave Scull has identified a possible candidate to assume audit responsibilities.

Awards: Bob Frank's report of 6/23/91 was reviewed. Since Bob had proposed the next step ("...a more active approach will be taken"), it was felt that no particular action was called for by the BOD. The El Paso mid-continent dedication was mentioned as a possible source for award nominees.

Constitution: Jim Van Etten's report of 6/10/91 was reviewed. Now that we've instituted several changes to the Constitution and Bylaws, we need to re-publish; last done in 1989. Dave Scull said he would take this for action, but that he needs the formal definition for the "Rule of Eighty". [The Rule was sent out with the 1991 ballots; Jim Culbertson has provided a copy to Dave.] The Rule needs to be published in the Goose Gazette, together with the procedure by which members should apply for this status. (It was agreed that it should be the responsibility of individual members to specifically request this special status.)

1990 Convention: (See discussion under Item 5, Treasurer's Report.)

1991 Convention: Authors were notified of the acceptance or rejection of their abstracts by fax, telephone or mail by 6/18/91. A panel session had to be scrapped and four papers had to be refused to fit the schedule. Formal acceptance letters were mailed on 6/25/91, together with instructions for preparing manuscripts. This year we're allowing authors with desktop publishing capabilities to work directly onto 8½ x 11 inch paper, avoiding the hassle of the 11 x 14 inch manuscript sheets. Papers will be due by 8/15/91. The program was mailed out on 7/2/91. Dave Olsen mentioned that the Soviets wanted to meet with the USCG either the week before or the week after the convention.

1992 Convention: John Beukers' fax of 7/17/91 was reviewed; it is attached as Exhibit 2. All seemed in agreement with John's recommendation that we still go to England, despite the U.K. decision to back out of the NW Europe Loran-C planning group. John has recommended the Birmingham Convention Center (BCC) for the conference. Mike Moroney cautioned that the BCC gets real "sticky" on requiring, and holding firm to, guarantees for a minimum number of attendees.

1993 Convention: Discussed the Soviet offer to host our 1993 convention. It was generally agreed that back-to-back European conventions would be unwise, and that we should plan instead for a U.S. West Coast conference in 1993. Mike Moroney said he would sound out a possible chairman for a '93 convention in the San Francisco Bay area. It was further felt that we should encourage the Soviets to go ahead and organize their own conference in 1993, independent of the WGA [but not to conflict with our '93 convention].

Membership: No report was available for review. Several potential corporate members were mentioned: Austron; Modern Technologies; and EPC Laboratories. Discussion then touched on the future of the WGA if we continue to focus solely on a single radionavigation system. Bob Lilley felt we needed to address the evolution of the WGA, and pondered whether we might benefit from merging with the International Omega Association. "Interoperability" might be the key to any fundamental change in our focus.

Newsletter: Reviewed Bob Lilley's report of 6/14/91. While that report mentions a 9/1/91 deadline for the next issue, Bob will instead impose an 8/15/91 deadline. The summer issue will include the Williamsburg convention program, and Bob wants to get it out as early as possible. Bob pointed out that he previously obtained many articles for the Goose Gazette from the Directors' Newsletter, and that we need to fill the void left by John Beukers. *Articles are needed from the Directors.* Also, considering his election to the WGA presidency, Bob is looking for someone to take over editorship of the Goose Gazette. He will pursue the issue with a candidate he has in mind.

Nominations and Elections: Reviewed the committee report of 7/3/91, which included the election results. Reviewed the makeup of the Board of Directors, as it will stand following installation during the Williamsburg convention:

Bob Lilley	President; 1-yr term
Jim Culbertson	Past President
Walt Dean	Term Expires '94
Dave Scull	"
Laura Charron	"
Dave Amos	"
John Beukers	Term Expires '93
Mike Moroney	"
Jim Alexander	"
Mark Morgenthaler	"
Bill Polhemus	Term Expires '92
John Illgen	"
Carl Andren	"
Frank Cassidy**	"

**Since Bob Lilley has been elected to the presidency, his third-year term of office as a director is filled by the nominee with the next highest number of votes, Frank Cassidy. The terms of appointed directors Kjell Enerstad, Bruce Hensel, and Henry Marx will expire unless reappointed by the new president.

8. Special Committee Reports

- a. Technology: Reviewed Dave Amos's report of 6/27/91.
- b. Users Liaison: Reviewed Bruce Hensel's report of 6/14/91.

c. IOA Liaison: Dave Olsen's report of 7/18/91 was reviewed; it is attached as **Exhibit 3**. Of particular note was IOA's pending consideration of expanding to include satellite navigation systems.

9. Old Business

a. 1993 Convention in Moscow: (See discussion of 1993 convention under Item 7, Standing Committee Reports.)

10. New Business

a. Hawaiian Loran-C Chain: Dave Olsen distributed copies of two responses to USCG on the issue of terminating the CENPAC chain at the end of CY 1992, vice 1994; these are attached as **Exhibit 4**. DOD gives their approval; NASAO recommends operating through 1994 and studying whether the chain should be continued beyond then. Reviewed a draft WGA response. Bob Lilley offered to massage the letter and feed it back to Dave Scull the week of 22-26 July. Response is due to USCG by 8/2/91.

b. JIL Letter: Discussed JIL's \$2,160.00 invoice for El Paso promotional pins. Reworked draft of a proposed response for Carl Andren to send to JIL. In essence, Carl will tell JIL that the WGA had been promised to gain at least \$100; that paying their invoice would result in a net loss by the WGA; and that they should pursue the matter with their contact in the FAA.

c. Loran-C Handbook: WGA member and ex-USCG member Daniel Maxim is working on an update to the Loran-C User's Handbook. This is being done with the blessing of the USCG. Dave Scull has received the reworked Glossary from Mr. Maxim. Bob Lilley will set up a review committee; will try to arrange a meeting during the Williamsburg convention. Dave Scull expressed the need for good theory-of-operation texts; members sometimes ask us, but we have little to offer them. Several members were aware of an apparently well-acclaimed text by a Mr. Good, but the publisher seems to have gone out of business and efforts to locate the author have been unsuccessful. Perhaps one of our Directors has a copy of this text? Henry Marx was suggested.

d. FRP Review Committee: It was recommended that Jim Culbertson contact Mr. Andrew Serrell and request a report for review during the Williamsburg convention. Dave Olsen mentioned that the Federal Register notifications for the FRP and the user conferences were going out soon, and that the cutoff date for written comments will be 2/7/92.

e. U.K. Decision on Loran-C vs Decca: Discussed propriety of publishing formal statement by Mr. Malcolm Rifkin of the U.K. in the Goose Gazette; felt there would be no problem.

f. Tara Hyannis: Mike Moroney mentioned that the Tara, site of our 1989 Cape Cod convention, had solicited our business for future conventions.

g. FAA Loran-C National Aviation Standard: Mike Moroney had received a draft from Jerry Bradley of the FAA, and distributed it to several BOD members for comment; was developed by ARINC. This project has apparently been languishing in FAA for some time. It seems that much of the material in the document is outdated. Mike will consolidate comments and feed them back to Mr. Bradley.

h. Coast Guard VTS in Prince William Sound: Jim Culbertson's draft letter was distributed at the meeting, but was inadvertently left off the agenda and was not discussed. It is attached as **Exhibit 5** for the information of the Directors not present at the meeting.

11. 1991-92 Board Meeting Schedule

The next two meetings are scheduled during the Williamsburg convention:

98th Meeting: 1600 hours on Monday, 9/30/91

99th Meeting: 0700 hours on Thursday, 10/3/91


If we follow our established routine, the 100th meeting should be arranged in conjunction with the ION's 1992 National Technical Meeting which is scheduled for 27-29 January, 1992, at the Catamaran Resort Hotel in San Diego.

Bob Lilley mentioned that he and Jim Culbertson would be meeting in September to develop a transition plan. Bob was especially curious whether the Board felt whether our quarterly meeting schedule was sufficient. Dave Scull thought we could use an additional meeting each year. Bob felt that the larger issue was whether the Board was really doing what they *should* be doing. He made the suggestion that committee chairmen should perhaps be required to present reports to the membership at the convention, during the annual meeting.

12. Adjournment

The meeting was adjourned at 1430 hours.

Respectfully,



David L. Olsen

- Exhibits:
1. Treasurer's Report (Item 5)
 2. John Beuker's fax of 7/17/91 (Item 7, '92 Convention)
 3. IOA Liaison Report (Item 8c)
 4. DOD & NASAO responses on early shutdown of Hawaiian chain (Item 10a)
 5. Draft letter to USCG regarding VTS in Prince William Sound (Item 10h)

Ex 1

ASSETS

CURRENT ASSETS		
Operating Account	30,533.90	
Money Market	0.00	
Convention Temp Funds	0.00	
Bank C - Payroll	0.00	
Cash: Total		30,533.90
Accounts Receivable		0.00
Advances Receivable		0.00
Inventory		0.00
Office Equipment		1,478.70
TOTAL CURRENT ASSETS		32,012.60
TOTAL ASSETS		
		32,012.60
		=====

LIABILITIES

CURRENT LIABILITIES		
Accounts Payable		0.00
FIT Payable		0.00
SIT Payable		0.00
FICA Payable		0.00
FUTA Payable		0.00
SUTA Payable		0.00
SDI Payable		0.00
Local Tax Payable		0.00
Deduction A Payable		0.00
Deduction B Payable		0.00
Deduction C Payable		0.00
Sales Tax Payable		0.00
TOTAL CURRENT LIABILITIES		0.00

TOTAL LIABILITIES	0.00
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EQUITY

EARNINGS		
Retained Earnings		26,153.44
Current Earnings		5,859.16
TOTAL EARNINGS		32,012.60

TOTAL EQUITY	32,012.60
LIABILITIES AND EQUITY	32,012.60
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REVENUE

REVENUE

Dues Renewal	3,240.00
Dues - New Members	945.00
Papers	10.00
Bibliographies	0.00
Proceedings	510.00
Video Sales	624.50
Convention 1989	0.00
Convention 1990	13,727.83
Convention 1991	0.00
Business Cards	0.00
Journal Sales	0.00
Mid-continent Registration	2,080.00
Mid-continent Sponsor	1,500.00
Mid-continent Display Reg.	325.00
Newsletter Ads	0.00
Donations	0.00
Interest Earned	0.00
TOTAL REVENUE	22,962.33

TOTAL REVENUE

22,962.33

EXPENSE

ADMINISTRATION

Contract Services	0.00
President Expenses	166.52
V P Expenses	0.00
Secretary Expenses	572.73
Treasuer Expenses	0.00
Newsletter Expenses	1,387.24
Congressional Expense	0.00
Election Expense	702.68
Membership Expenses	60.00
Awards Expenses	0.00
I A L A Liaison	976.04
Convention Expense	0.00
Journal Expenses	0.00
Proceedings Expense	0.00
Freight Expense	549.40
Wages	0.00
FICA Expense	0.00
FUTA Expense	0.00
SUTA Expense	0.00
SDI Expense	0.00
Equipment Expenses	1,189.99
Proceedings Expenses	0.00
Mid-continent Expense	1,505.44
Convention Exp 1989	0.00
Convention Exp 1990	0.00
Convention Exp 1991	2,000.00
Misc	0.00
Postage/Delivery	368.61
Office Supplies	413.80
License/Permits	30.00
Accounting Expense	750.00
Bank Service Charges	7.00
Video Supplies	0.00
Document Expense	0.00
TOTAL ADMINISTRATION	10,679.45

TOTAL EXPENSE

10,679.45

INCOME

12,282.88

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REVENUE

REVENUE

Dues Renewal	11,573.00
Dues - New Members	3,325.00
Papers	40.00
Bibliographies	32.50
Proceedings	2,594.52
Video Sales	1,015.00
Convention 1989	0.00
Convention 1990	14,227.83
Convention 1991	0.00
Business Cards	0.00
Journal Sales	90.00
Mid-continent Registration	2,080.00
Mid-continent Sponsor	1,500.00
Mid-continent Display Reg.	325.00
Newsletter Ads	212.50
Donations	0.00
Interest Earned	0.00
TOTAL REVENUE	37,015.35

TOTAL REVENUE

37,015.35

EXPENSE

ADMINISTRATION

Contract Services	0.00
President Expenses	548.27
V P Expenses	0.00
Secretary Expenses	7,210.64
Treasuer Expenses	0.00
Newsletter Expenses	3,042.96
Congressional Expense	0.00
Election Expense	702.68
Membership Expenses	60.00
Awards Expenses	336.88
I A L A Liaison	976.04
Convention Expense	0.00
Journal Expenses	0.00
Proceedings Expense	1,950.00
Freight Expense	549.40
Wages	0.00
FICA Expense	0.00
FUTA Expense	0.00
SUTA Expense	0.00
SDI Expense	0.00
Equipment Expenses	8,189.99
Proceedings Expenses	99.00
Mid-continent Expense	1,505.44
Convention Exp 1989	0.00
Convention Exp 1990	394.40
Convention Exp 1991	4,000.00
Misc	0.00
Postage/Delivery	382.61
Office Supplies	413.80
License/Permits	30.00
Accounting Expense	750.00
Bank Service Charges	14.08
Video Supplies	0.00
Document Expense	0.00
TOTAL ADMINISTRATION	31,156.19

TOTAL EXPENSE

31,156.19

INCOME

5,859.16

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Goose Association
AL BALANCE Jul 17, 1991

	debits	credits
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105 Operating Account	30,533.90	-
106 Money Market	0.00	-
108 Convention Temp Funds	0.00	-
110 Bank C - Payroll	0.00	-
120 Accounts Receivable	0.00	-
124 Advances Receivable	0.00	-
126 Inventory	0.00	-
130 Office Equipment	1,478.70	-
220 Accounts Payable	-	0.00
231 FIT Payable	-	0.00
232 SIT Payable	-	0.00
233 FICA Payable	-	0.00
234 FUTA Payable	-	0.00
235 SUTA Payable	-	0.00
236 SDI Payable	-	0.00
237 Local Tax Payable	-	0.00
240 Deduction A Payable	-	0.00
242 Deduction B Payable	-	0.00
244 Deduction C Payable	-	0.00
260 Sales Tax Payable	-	0.00
356 Retained Earnings	-	26,153.44
410 Dues Renewal	-	11,573.00
420 Dues - New Members	-	3,325.00
430 Papers	-	40.00
431 Bibliographies	-	32.50
432 Proceedings	-	2,594.52
433 Video Sales	-	1,015.00
440 Convention 1989	-	0.00
441 Convention 1990	-	14,227.83
442 Convention 1991	-	0.00
445 Business Cards	-	0.00
450 Journal Sales	-	90.00
455 Mid-continent Registration	-	2,080.00
456 Mid-continent Sponsor	-	1,500.00
457 Mid-continent Display Reg.	-	325.00
460 Newsletter Ads	-	212.50
480 Donations	-	0.00
490 Interest Earned	0.00	-
501 Contract Services	548.27	-
502 President Expenses	0.00	-
503 V P Expenses	7,210.64	-
504 Secretary Expenses	0.00	-
505 Treasurer Expenses	3,042.96	-
510 Newsletter Expenses	0.00	-
511 Congressional Expense	702.68	-
512 Election Expense	60.00	-
513 Membership Expenses	336.88	-
514 Awards Expenses	976.04	-
515 I A L A Liaison	0.00	-
516 Convention Expense	0.00	-
517 Journal Expenses	1,950.00	-
518 Proceedings Expense		

Goose Association

AL BALANCE Jul 17, 1991

	debits	credits
520 Freight Expense	549.40	-
530 Wages	0.00	-
531 FICA Expense	0.00	-
532 FUTA Expense	0.00	-
533 SUTA Expense	0.00	-
534 SDI Expense	0.00	-
540 Equipment Expenses	8,189.99	-
550 Proceedings Expenses	99.00	-
555 Mid-continent Expense	1,505.44	-
560 Convention Exp 1989	0.00	-
561 Convention Exp 1990	394.40	-
562 Convention Exp 1991	4,000.00	-
570 Misc	0.00	-
571 Postage/Delivery	382.61	-
572 Office Supplies	413.80	-
573 License/Permits	30.00	-
574 Accounting Expense	750.00	-
575 Bank Service Charges	14.08	-
576 Video Supplies	0.00	-
577 Document Expense	0.00	-
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	63,168.79	63,168.79
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DGER Oct 1,1990 TO Jul 17,1991

				debits	credits	debit balance	credit balance
				-----	-----	-----	-----
105 Operating Account						24,674.74	-
10-15-90	John M. Beukers	Ck 1316	J1	-	3,300.53	21,374.21	-
10-15-90	John M. Beukers	Ck 1317	J2	-	752.09	20,622.12	-
10-18-90	Postmaster, Bedford Ma 01730	Ck 1318	J3	-	14.00	20,608.12	-
10-18-90	Dues, Proceedings & Papers	Cash	J4	455.00	-	21,063.12	-
10-18-90	Dues, Proceedings & Papers	Cash	J5	610.00	-	21,673.12	-
10-25-90	James F. Culbertson	Ck 1319	J6	-	221.08	21,452.04	-
11-12-90	Dues,proceedings,video & Papers	Cash	J7	1,084.50	-	22,536.54	-
11-12-90	John M. Beukers	Ck 1320	J8	-	461.80	22,074.74	-
11-12-90	The Athens Messenger	Ck 1321	J9	-	475.40	21,599.34	-
12-12-90	Robert L. Frank	Ck1322	J10	-	336.88	21,262.46	-
12-12-90	David Scull	Ck1323	J11	-	2,000.00	19,262.46	-
12-21-90	Dues, Proceedings, Videos & Papers	Cash	J12	1,097.50	-	20,359.96	-
12-21-90	John M. Beukers	Ck 1324	J13	-	899.17	19,460.79	-
12-21-90	Omni Press	Ck 1325	J14	-	700.00	18,760.79	-
01-07-91	Omni Press	Ck 1326	J15	-	1,250.00	17,510.79	-
01-18-91	John M. Beukers	Ck 1327	J16	-	160.67	17,350.12	-
01-23-91	James F. Culbertson	Ck1328	J17	-	160.67	17,189.45	-
02-01-91	John M. Beukers	Ck 1329	J18	-	7,000.00	10,189.45	-
02-04-91	The Athens Messenger	Ck1330	J19	-	1,180.32	9,009.13	-
02-04-91	Newsletter Ad	Cash	J20	212.50	-	9,221.63	-
02-04-91	Omni Press	Ck 1331	J21	-	99.00	9,122.63	-
02-05-91	Dues, Proceedings, Videos & Papers	Cash	J22	2,928.00	-	12,050.63	-
02-05-91	Dues & Proceedings	Cash	J23	1,740.00	-	13,790.63	-
02-05-91	John M. Beukers	Ck 1332	J24	-	297.11	13,493.52	-
02-06-91	Dues & Videos	Cash	J25	686.00	-	14,179.52	-
02-11-91	Bank Charge	Bank Ad	J26	-	7.08	14,172.44	-
02-12-91	Dues Proceedings & Videos	Cash	J27	1,085.00	-	15,257.44	-
02-15-91	Robert Gould	Ck1333	J28	-	30.00	15,227.44	-
02-15-91	John M. Beukers	Ck1334	J29	-	606.78	14,620.66	-
02-15-91	Dues, Video & Proceedings	Cash	J30	959.52	-	15,580.18	-
03-25-91	John M. Beukers	Ck 1335	J31	-	554.16	15,026.02	-
04-05-91	Dues & Proceedings	Cash	J32	2,370.00	-	17,396.02	-
04-05-91	Dues & Proceedings	Cash	J33	260.00	-	17,656.02	-
04-05-91	Dues, Proceedings & Video	Cash	J34	595.00	-	18,251.02	-
04-16-91	James F. Culbertson	Ck 1336	J35	-	166.52	18,084.50	-
04-30-91	The Athens Messenger	Ck 1338	J36	-	668.61	17,415.89	-
04-30-91	Commonwealth Of Massachusetts	Ck 1338	J37	-	15.00	17,400.89	-
04-30-91	Commonwealth Of Massachusetts	Ck 1339	J38	-	15.00	17,385.89	-
04-30-91	Gene Brusin	Ck 1340	J39	-	21.45	17,364.44	-
05-06-91	Dues	Cash	J40	1,155.00	-	18,519.44	-
05-06-91	Dues,Proceedings & Videos	Cash	J41	452.50	-	18,971.94	-
05-06-91	IALA Dues	Ck 1341	J42	-	976.04	17,995.90	-
05-14-91	The Athens Messenger	Ck 1342	J43	-	718.63	17,277.27	-
05-14-91	John M. Beukers	Ck 1343	J44	-	270.21	17,007.06	-
05-14-91	United Van Lines	Ck 1344	J45	-	549.40	16,457.66	-
05-14-91	Bank Charge	Bank St	J46	-	7.00	16,450.66	-
05-14-91	James P. Van Etten	Ck 1345	J47	-	702.68	15,747.98	-
05-17-91	David C. Scull	Ck 1346	J48	-	95.78	15,652.20	-
05-21-91	Rost Associates	Ck 1347	J49	-	535.46	15,116.74	-
05-21-91	John M. Beukers	Ck 1348	J50	-	969.98	14,146.76	-
05-21-91	Carl Andren	Ck 1349	J51	-	58.00	14,088.76	-
05-21-91	Video	Cash	J52	55.00	-	14,143.76	-
05-21-91	Convention Acct Closeout	Wire	J53	13,727.83	-	27,871.59	-

GER Oct 1,1990 TO Jul 17,1991

				debits	credits	debit balance	credit balance
				-----	-----	-----	-----
05-29-91	David C. Scull	Ck 1350	J54	-	2,000.00	25,871.59	-
06-05-91	Mid-continent Dedication	Cash	J55	3,905.00	-	29,776.59	-
06-05-91	Dues,proceedings & Videos	Cash	J56	982.00	-	30,758.59	-
06-13-91	John M. Beukers	Ck 1351	J57	-	661.64	30,096.95	-
06-13-91	Rost Associates	Ck 1352	J58	-	170.00	29,926.95	-
06-20-91	John M. Beukers	Ck 1353	J59	-	60.00	29,866.95	-
06-21-91	John M. Beukers	Ck 1354	J60	-	1,268.05	28,598.90	-
07-11-91	Linton, Shafer & Company PA	Ck 1355	J61	-	750.00	27,848.90	-
07-11-91	Dues, Proceedings & Videos	Cash	J62	2,685.00	-	30,533.90	-
				-----	-----		
				37,045.35	31,186.19		
106	Money Market					0.00	-
108	Convention Temp Funds					0.00	-
110	Bank C - Payroll					0.00	-
120	Accounts Receivable					0.00	-
124	Advances Receivable					0.00	-
126	Inventory					0.00	-
130	Office Equipment					1,478.70	-
220	Accounts Payable					-	0.00
231	FIT Payable					-	0.00
232	SIT Payable					-	0.00
233	FICA Payable					-	0.00
234	FUTA Payable					-	0.00
235	SUTA Payable					-	0.00
236	SDI Payable					-	0.00
237	Local Tax Payable					-	0.00
240	Deduction A Payable					-	0.00
242	Deduction B Payable					-	0.00
244	Deduction C Payable					-	0.00
260	Sales Tax Payable					-	0.00
356	Retained Earnings					-	26,153.44
410	Dues Renewal					-	0.00
10-18-90	Dues, Proceedings & Papers	Cash	J4	-	210.00	-	210.00
10-18-90	Dues, Proceedings & Papers	Cash	J5	-	190.00	-	400.00
11-12-90	Dues,proceedings,video & Papers	Cash	J7	-	60.00	-	460.00
02-05-91	Dues, Proceedings, Videos & Papers	Cash	J22	-	1,808.00	-	2,268.00
02-05-91	Dues & Proceedings	Cash	J23	-	1,615.00	-	3,883.00
02-06-91	Dues & Videos	Cash	J25	-	555.00	-	4,438.00
02-12-91	Dues Proceedings & Videos	Cash	J27	-	965.00	-	5,403.00
02-15-91	Dues, Video & Proceedings	Cash	J30	-	190.00	-	5,593.00
04-05-91	Dues & Proceedings	Cash	J32	-	2,190.00	-	7,783.00
04-05-91	Dues & Proceedings	Cash	J33	-	160.00	-	7,943.00
04-05-91	Dues, Proceedings & Video	Cash	J34	-	390.00	-	8,333.00
05-06-91	Dues	Cash	J40	-	1,080.00	-	9,413.00
05-06-91	Dues,Proceedings & Videos	Cash	J41	-	70.00	-	9,483.00
06-05-91	Dues,proceedings & Videos	Cash	J56	-	565.00	-	10,048.00
07-11-91	Dues, Proceedings & Videos	Cash	J62	-	1,525.00	-	11,573.00
				-----	-----		
				0.00	11,573.00		
420	Dues - New Members					-	0.00
10-18-90	Dues, Proceedings & Papers	Cash	J4	-	225.00	-	225.00
10-18-90	Dues, Proceedings & Papers	Cash	J5	-	315.00	-	540.00
11-12-90	Dues,proceedings,video & Papers	Cash	J7	-	875.00	-	1,415.00
12-21-90	Dues, Proceedings, Videos & Papers	Cash	J12	-	420.00	-	1,835.00

GOOSE ASSOCIATION

JGER Oct 1,1990 TO Jul 17,1991

				debits	credits	debit balance	credit balance
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02-05-91	Dues, Proceedings, Videos & Papers	Cash	J22	-	395.00	-	2,230.00
02-12-91	Dues Proceedings & Videos	Cash	J27	-	50.00	-	2,280.00
04-05-91	Dues, Proceedings & Video	Cash	J34	-	100.00	-	2,380.00
05-06-91	Dues	Cash	J40	-	75.00	-	2,455.00
05-06-91	Dues, Proceedings & Videos	Cash	J41	-	50.00	-	2,505.00
07-11-91	Dues, Proceedings & Videos	Cash	J62	-	820.00	-	3,325.00
				-----	-----		
				0.00	3,325.00		
						-	0.00
430 Papers							
10-18-90	Dues, Proceedings & Papers	Cash	J4	-	20.00	-	20.00
11-12-90	Dues, proceedings, video & Papers	Cash	J7	-	10.00	-	30.00
07-11-91	Dues, Proceedings & Videos	Cash	J62	-	10.00	-	40.00
				-----	-----		
				0.00	40.00		
						-	0.00
431 Bibliographies							
10-18-90	Dues, Proceedings & Papers	Cash	J5	-	10.00	-	10.00
12-21-90	Dues, Proceedings, Videos & Papers	Cash	J12	-	22.50	-	32.50
				-----	-----		
				0.00	32.50		
						-	0.00
432 Proceedings							
10-18-90	Dues, Proceedings & Papers	Cash	J5	-	95.00	-	95.00
11-12-90	Dues, proceedings, video & Papers	Cash	J7	-	95.00	-	190.00
12-21-90	Dues, Proceedings, Videos & Papers	Cash	J12	-	435.00	-	625.00
02-05-91	Dues, Proceedings, Videos & Papers	Cash	J22	-	205.00	-	830.00
02-05-91	Dues & Proceedings	Cash	J23	-	125.00	-	955.00
02-12-91	Dues Proceedings & Videos	Cash	J27	-	65.00	-	1,020.00
02-15-91	Dues, Video & Proceedings	Cash	J30	-	724.52	-	1,744.52
04-05-91	Dues & Proceedings	Cash	J32	-	180.00	-	1,924.52
04-05-91	Dues & Proceedings	Cash	J33	-	100.00	-	2,024.52
04-05-91	Dues, Proceedings & Video	Cash	J34	-	60.00	-	2,084.52
05-06-91	Dues, Proceedings & Videos	Cash	J41	-	185.00	-	2,269.52
06-05-91	Dues, proceedings & Videos	Cash	J56	-	200.00	-	2,469.52
07-11-91	Dues, Proceedings & Videos	Cash	J62	-	125.00	-	2,594.52
				-----	-----		
				0.00	2,594.52		
						-	0.00
433 Video Sales							
11-12-90	Dues, proceedings, video & Papers	Cash	J7	-	44.50	-	44.50
12-21-90	Dues, Proceedings, Videos & Papers	Cash	J12	-	130.00	-	174.50
02-05-91	Dues, Proceedings, Videos & Papers	Cash	J22	-	20.00	-	194.50
02-06-91	Dues & Videos	Cash	J25	-	131.00	-	325.50
02-12-91	Dues Proceedings & Videos	Cash	J27	-	5.00	-	330.50
02-15-91	Robert Gould	Ck1333	J28	30.00	-	-	300.50
02-15-91	Dues, Video & Proceedings	Cash	J30	-	45.00	-	345.50
04-05-91	Dues, Proceedings & Video	Cash	J34	-	45.00	-	390.50
05-06-91	Dues, Proceedings & Videos	Cash	J41	-	147.50	-	538.00
05-21-91	Video	Cash	J52	-	55.00	-	593.00
06-05-91	Dues, proceedings & Videos	Cash	J56	-	217.00	-	810.00
07-11-91	Dues, Proceedings & Videos	Cash	J62	-	205.00	-	1,015.00
				-----	-----		
				30.00	1,045.00		
						-	0.00
440 Convention 1989							0.00
441 Convention 1990							500.00
02-05-91	Dues, Proceedings, Videos & Papers	Cash	J22	-	500.00	-	500.00
05-21-91	Convention Acct Closeout	Wire	J53	-	13,727.83	-	14,227.83
				-----	-----		
				0.00	14,227.83		

				debits	credits	debit balance	credit balance
442	Convention 1991					-	0.00
445	Business Cards					-	0.00
450	Journal Sales					-	0.00
	12-21-90 Dues, Proceedings, Videos & Papers	Cash	J12	-	90.00	-	90.00
				0.00	90.00		
455	Mid-continent Registration					-	0.00
	06-05-91 Mid-continent Dedication	Cash	J55	-	2,080.00	-	2,080.00
				0.00	2,080.00		
456	Mid-continent Sponsor					-	0.00
	06-05-91 Mid-continent Dedication	Cash	J55	-	1,500.00	-	1,500.00
				0.00	1,500.00		
457	Mid-continent Display Reg.					-	0.00
	06-05-91 Mid-continent Dedication	Cash	J55	-	325.00	-	325.00
				0.00	325.00		
460	Newsletter Ads					-	0.00
	02-04-91 Newsletter Ad	Cash	J20	-	212.50	-	212.50
				0.00	212.50		
480	Donations					-	0.00
490	Interest Earned					-	0.00
501	Contract Services					0.00	-
502	President Expenses					0.00	-
	10-25-90 James F. Culbertson	Ck 1319	J6	221.08	-	221.08	-
	01-23-91 James F. Culbertson	Ck1328	J17	160.67	-	381.75	-
	04-16-91 James F. Culbertson	Ck 1336	J35	166.52	-	548.27	-
				548.27	0.00		
503	V P Expenses					0.00	-
504	Secretary Expenses					0.00	-
	10-15-90 John M. Beukers	Ck 1316	J1	3,300.53	-	3,300.53	-
	10-15-90 John M. Beukers	Ck 1317	J2	357.69	-	3,658.22	-
	11-12-90 John M. Beukers	Ck 1320	J8	461.80	-	4,120.02	-
	12-21-90 John M. Beukers	Ck 1324	J13	899.17	-	5,019.19	-
	01-18-91 John M. Beukers	Ck 1327	J16	160.67	-	5,179.86	-
	02-05-91 John M. Beukers	Ck 1332	J24	297.11	-	5,476.97	-
	02-15-91 John M. Beukers	Ck1334	J29	606.78	-	6,083.75	-
	03-25-91 John M. Beukers	Ck 1335	J31	554.16	-	6,637.91	-
	06-13-91 John M. Beukers	Ck 1351	J57	572.73	-	7,210.64	-
				7,210.64	0.00		
505	Treasuer Expenses					0.00	-
510	Newsletter Expenses					0.00	-
	11-12-90 The Athens Messenger	Ck 1321	J9	475.40	-	475.40	-
	02-04-91 The Athens Messenger	Ck1330	J19	1,180.32	-	1,655.72	-
	04-30-91 The Athens Messenger	Ck 1338	J36	668.61	-	2,324.33	-
	05-14-91 The Athens Messenger	Ck 1342	J43	718.63	-	3,042.96	-
				3,042.96	0.00		

		debits	credits	debit balance	credit balance
511 Congressional Expense				0.00	-
512 Election Expense				0.00	-
05-14-91 James P. Van Etten	Ck 1345 J47	702.68	-	702.68	-
		702.68	0.00		
513 Membership Expenses				0.00	-
06-20-91 John M. Beukers	Ck 1353 J59	60.00	-	60.00	-
		60.00	0.00		
514 Awards Expenses				0.00	-
12-12-90 Robert L. Frank	Ck1322 J10	336.88	-	336.88	-
		336.88	0.00		
515 I A L A Liaison				0.00	-
05-06-91 IALA Dues	Ck 1341 J42	976.04	-	976.04	-
		976.04	0.00		
516 Convention Expense				0.00	-
517 Journal Expenses				0.00	-
518 Proceedings Expense				0.00	-
12-21-90 Omni Press	Ck 1325 J14	700.00	-	700.00	-
01-07-91 Omni Press	Ck 1326 J15	1,250.00	-	1,950.00	-
		1,950.00	0.00		
520 Freight Expense				0.00	-
05-14-91 United Van Lines	Ck 1344 J45	549.40	-	549.40	-
		549.40	0.00		
530 Wages				0.00	-
531 FICA Expense				0.00	-
532 FUTA Expense				0.00	-
533 SUTA Expense				0.00	-
534 SDI Expense				0.00	-
540 Equipment Expenses				0.00	-
02-01-91 John M. Beukers	Ck 1329 J18	7,000.00	-	7,000.00	-
06-21-91 John M. Beukers	Ck 1354 J60	1,189.99	-	8,189.99	-
		8,189.99	0.00		
550 Proceedings Expenses				0.00	-
02-04-91 Omni Press	Ck 1331 J21	99.00	-	99.00	-
		99.00	0.00		
555 Mid-continent Expense				0.00	-
05-21-91 Rost Associates	Ck 1347 J49	535.46	-	535.46	-
05-21-91 John M. Beukers	Ck 1348 J50	969.98	-	1,505.44	-
		1,505.44	0.00		
560 Convention Exp 1989				0.00	-
561 Convention Exp 1990				0.00	-
10-15-90 John M. Beukers	Ck 1317 J2	394.40	-	394.40	-
		394.40	0.00		
562 Convention Exp 1991				0.00	-
12-12-90 David Scull	Ck1323 J11	2,000.00	-	2,000.00	-

			debits	credits	debit balance	credit balance
05-29-91	David C. Scull	Ck 1350 J54	2,000.00	-	4,000.00	-
			4,000.00	0.00		
570	Misc				0.00	-
571	Postage/Delivery				0.00	-
10-18-90	Postmaster, Bedford Ma 01730	Ck 1318 J3	14.00	-	14.00	-
04-30-91	Gene Brusin	Ck 1340 J39	21.45	-	35.45	-
05-14-91	John M. Beukers	Ck 1343 J44	200.25	-	235.70	-
05-21-91	Carl Andren	Ck 1349 J51	58.00	-	293.70	-
06-13-91	John M. Beukers	Ck 1351 J57	88.91	-	382.61	-
			382.61	0.00		
572	Office Supplies				0.00	-
05-14-91	John M. Beukers	Ck 1343 J44	69.96	-	69.96	-
05-17-91	David C. Scull	Ck 1346 J48	95.78	-	165.74	-
06-13-91	Rost Associates	Ck 1352 J58	170.00	-	335.74	-
06-21-91	John M. Beukers	Ck 1354 J60	78.06	-	413.80	-
			413.80	0.00		
573	License/Permits				0.00	-
04-30-91	Commonwealth Of Massachusetts	Ck 1338 J37	15.00	-	15.00	-
04-30-91	Commonwealth Of Massachusetts	Ck 1339 J38	15.00	-	30.00	-
			30.00	0.00		
574	Accounting Expense				0.00	-
07-11-91	Linton, Shafer & Company PA	Ck 1355 J61	750.00	-	750.00	-
			750.00	0.00		
575	Bank Service Charges				0.00	-
02-11-91	Bank Charge	Bank Ad J26	7.08	-	7.08	-
05-14-91	Bank Charge	Bank St J46	7.00	-	14.08	-
			14.08	0.00		
576	Video Supplies				0.00	-
577	Document Expense				0.00	-
*** End ***						

					debits	credits
					-----	-----
10-15-90 J1	John M. Beukers	Ck 1316 504	Secretary Expenses		3,300.53	-
		105	Operating Account		-	3,300.53
10-15-90 J2	John M. Beukers	Ck 1317 504	Secretary Expenses		357.69	-
		561	Convention Exp 1990		394.40	-
		105	Operating Account		-	752.09
10-18-90 J3	Postmaster, Bedford Ma 01730	Ck 1318 571	Postage/Delivery		14.00	-
		105	Operating Account		-	14.00
10-18-90 J4	Dues, Proceedings & Papers	Cash 410	Dues Renewal		-	210.00
		420	Dues - New Members		-	225.00
		430	Papers		-	20.00
		105	Operating Account		455.00	-
10-18-90 J5	Dues, Proceedings & Papers	Cash 431	Bibliographies		-	10.00
		432	Proceedings		-	95.00
		410	Dues Renewal		-	190.00
		420	Dues - New Members		-	315.00
		105	Operating Account		610.00	-
10-25-90 J6	James F. Culbertson	Ck 1319 502	President Expenses		221.08	-
		105	Operating Account		-	221.08
11-12-90 J7	Dues,proceedings,video & Papers	Cash 410	Dues Renewal		-	60.00
		420	Dues - New Members		-	875.00
		432	Proceedings		-	95.00
		433	Video Sales		-	44.50
		430	Papers		-	10.00
		105	Operating Account		1,084.50	-
11-12-90 J8	John M. Beukers	Ck 1320 504	Secretary Expenses		461.80	-
		105	Operating Account		-	461.80
11-12-90 J9	The Athens Messenger	Ck 1321 510	Newsletter Expenses		475.40	-
		105	Operating Account		-	475.40
12-12-90 J10	Robert L. Frank	Ck1322 514	Awards Expenses		336.88	-
		105	Operating Account		-	336.88
12-12-90 J11	David Scull	Ck1323 562	Convention Exp 1991		2,000.00	-
		105	Operating Account		-	2,000.00
12-21-90 J12	Dues, Proceedings, Videos & Papers	Cash 420	Dues - New Members		-	420.00
		431	Bibliographies		-	22.50
		432	Proceedings		-	435.00
		450	Journal Sales		-	90.00
		433	Video Sales		-	130.00
		105	Operating Account		1,097.50	-
12-21-90 J13	John M. Beukers	Ck 1324 504	Secretary Expenses		899.17	-
		105	Operating Account		-	899.17

					debits	credits
					-----	-----
12-21-90 J14	Omni Press	Ck 1325 518	Proceedings Expense		700.00	-
		105	Operating Account		-	700.00
01-07-91 J15	Omni Press	Ck 1326 518	Proceedings Expense		1,250.00	-
		105	Operating Account		-	1,250.00
01-18-91 J16	John M. Beukers	Ck 1327 504	Secretary Expenses		160.67	-
		105	Operating Account		-	160.67
01-23-91 J17	James F. Culbertson	Ck1328 502	President Expenses		160.67	-
		105	Operating Account		-	160.67
02-01-91 J18	John M. Beukers	Ck 1329 540	Equipment Expenses		7,000.00	-
		105	Operating Account		-	7,000.00
02-04-91 J19	The Athens Messenger	Ck1330 510	Newsletter Expenses		1,180.32	-
		105	Operating Account		-	1,180.32
02-04-91 J20	Newsletter Ad	Cash 460	Newsletter Ads		-	212.50
		105	Operating Account		212.50	-
02-04-91 J21	Omni Press	Ck 1331 550	Proceedings Expenses		99.00	-
		105	Operating Account		-	99.00
02-05-91 J22	Dues, Proceedings, Videos & Papers	Cash 410	Dues Renewal		-	1,808.00
		420	Dues - New Members		-	395.00
		432	Proceedings		-	205.00
		433	Video Sales		-	20.00
		441	Convention 1990		-	500.00
		105	Operating Account		2,928.00	-
02-05-91 J23	Dues & Proceedings	Cash 410	Dues Renewal		-	1,615.00
		432	Proceedings		-	125.00
		105	Operating Account		1,740.00	-
02-05-91 J24	John M. Beukers	Ck 1332 504	Secretary Expenses		297.11	-
		105	Operating Account		-	297.11
02-06-91 J25	Dues & Videos	Cash 410	Dues Renewal		-	555.00
		433	Video Sales		-	131.00
		105	Operating Account		686.00	-
02-11-91 J26	Bank Charge	Bank Ad 575	Bank Service Charges		7.08	-
		105	Operating Account		-	7.08
02-12-91 J27	Dues Proceedings & Videos	Cash 410	Dues Renewal		-	965.00
		420	Dues - New Members		-	50.00
		432	Proceedings		-	65.00
		433	Video Sales		-	5.00
		105	Operating Account		1,085.00	-
02-15-91 J28	Robert Gould	Ck1333 433	Video Sales		30.00	-
		105	Operating Account		-	30.00

					debits	credits
					-----	-----
02-15-91 J29	John M. Beukers	Ck1334	504	Secretary Expenses	606.78	-
			105	Operating Account	-	606.78
02-15-91 J30	Dues, Video & Proceedings	Cash	410	Dues Renewal	-	190.00
			433	Video Sales	-	45.00
			432	Proceedings	-	724.52
			105	Operating Account	959.52	-
03-25-91 J31	John M. Beukers	Ck 1335	504	Secretary Expenses	554.16	-
			105	Operating Account	-	554.16
04-05-91 J32	Dues & Proceedings	Cash	410	Dues Renewal	-	2,190.00
			432	Proceedings	-	180.00
			105	Operating Account	2,370.00	-
04-05-91 J33	Dues & Proceedings	Cash	410	Dues Renewal	-	160.00
			432	Proceedings	-	100.00
			105	Operating Account	260.00	-
04-05-91 J34	Dues, Proceedings & Video	Cash	410	Dues Renewal	-	390.00
			420	Dues - New Members	-	100.00
			432	Proceedings	-	60.00
			433	Video Sales	-	45.00
			105	Operating Account	595.00	-
04-16-91 J35	James F. Culbertson	Ck 1336	502	President Expenses	166.52	-
			105	Operating Account	-	166.52
04-30-91 J36	The Athens Messenger	Ck 1338	510	Newsletter Expenses	668.61	-
			105	Operating Account	-	668.61
04-30-91 J37	Commonwealth Of Massachusetts	Ck 1338	573	License/Permits	15.00	-
			105	Operating Account	-	15.00
04-30-91 J38	Commonwealth Of Massachusetts	Ck 1339	573	License/Permits	15.00	-
			105	Operating Account	-	15.00
04-30-91 J39	Gene Brusin	Ck 1340	571	Postage/Delivery	21.45	-
			105	Operating Account	-	21.45
05-06-91 J40	Dues	Cash	410	Dues Renewal	-	1,080.00
			420	Dues - New Members	-	75.00
			105	Operating Account	1,155.00	-
05-06-91 J41	Dues, Proceedings & Videos	Cash	410	Dues Renewal	-	70.00
			420	Dues - New Members	-	50.00
			432	Proceedings	-	185.00
			433	Video Sales	-	147.50
			105	Operating Account	452.50	-
05-06-91 J42	IALA Dues	Ck 1341	515	I A L A Liaison	976.04	-
			105	Operating Account	-	976.04
05-14-91 J43	The Athens Messenger	Ck 1342	510	Newsletter Expenses	718.63	-

				debits	credits
				-----	-----
		105	Operating Account	-	718.63
05-14-91 J44	John M. Beukers	Ck 1343 571	Postage/Delivery	200.25	-
		572	Office Supplies	69.96	-
		105	Operating Account	-	270.21
05-14-91 J45	United Van Lines	Ck 1344 520	Freight Expense	549.40	-
		105	Operating Account	-	549.40
05-14-91 J46	Bank Charge	Bank St 575	Bank Service Charges	7.00	-
		105	Operating Account	-	7.00
05-14-91 J47	James P. Van Etten	Ck 1345 512	Election Expense	702.68	-
		105	Operating Account	-	702.68
05-17-91 J48	David C. Scull	Ck 1346 572	Office Supplies	95.78	-
		105	Operating Account	-	95.78
05-21-91 J49	Rost Associates	Ck 1347 555	Mid-continent Expense	535.46	-
		105	Operating Account	-	535.46
05-21-91 J50	John M. Beukers	Ck 1348 555	Mid-continent Expense	969.98	-
		105	Operating Account	-	969.98
05-21-91 J51	Carl Andren	Ck 1349 571	Postage/Delivery	58.00	-
		105	Operating Account	-	58.00
05-21-91 J52	Video	Cash 433	Video Sales	-	55.00
		105	Operating Account	55.00	-
05-21-91 J53	Convention Acct Closeout	Wire 441	Convention 1990	-	13,727.83
		105	Operating Account	13,727.83	-
05-29-91 J54	David C. Scull	Ck 1350 562	Convention Exp 1991	2,000.00	-
		105	Operating Account	-	2,000.00
06-05-91 J55	Mid-continent Dedication	Cash 455	Mid-continent Registration	-	2,080.00
		456	Mid-continent Sponsor	-	1,500.00
		457	Mid-continent Display Reg.	-	325.00
		105	Operating Account	3,905.00	-
06-05-91 J56	Dues,proceedings & Videos	Cash 410	Dues Renewal	-	565.00
		432	Proceedings	-	200.00
		433	Video Sales	-	217.00
		105	Operating Account	982.00	-
06-13-91 J57	John M. Beukers	Ck 1351 571	Postage/Delivery	88.91	-
		504	Secretary Expenses	572.73	-
		105	Operating Account	-	661.64
06-13-91 J58	Rost Associates	Ck 1352 572	Office Supplies	170.00	-
		105	Operating Account	-	170.00
06-20-91 J59	John M. Beukers	Ck 1353 513	Membership Expenses	60.00	-

				debits	credits
				-----	-----
		105	Operating Account	-	60.00
06-21-91 J60	John M. Beukers	Ck 1354 540	Equipment Expenses	1,189.99	-
		572	Office Supplies	78.06	-
		105	Operating Account	-	1,268.05
07-11-91 J61	Linton, Shafer & Company PA	Ck 1355 574	Accounting Expense	750.00	-
		105	Operating Account	-	750.00
07-11-91 J62	Dues, Proceedings & Videos	Cash 410	Dues Renewal	-	1,525.00
		420	Dues - New Members	-	820.00
		105	Operating Account	2,685.00	-
		433	Video Sales	-	205.00
		432	Proceedings	-	125.00
		430	Papers	-	10.00
				-----	-----
				68,231.54	68,231.54

Ex. 2

FAX TO DAVE SCULL AT NAVCOM 703-361-0535
FROM JOHN BEUKERS 5080-106 HARMONY CIRCLE
VERO BEACH FL 32967
4 PAGES. 407-563-0627

JULY 17th 1991

DEAR DAVE,

WE HAVE SETUP OUR CONDO HERE BUT UNFORTUNATELY I DO NOT HAVE A WORKING PRINTER FOR MY COMPUTER! MY CONTRIBUTION FOR THE 97th BOARD MEETING HAS TO BE WRITTEN LONGHAND. HAVE A GOOD MEETING AND WE WISH YOU THE BEST FOR YOUR MOVE ON THE 28th.

1. PROXY

WE LEAVE FOR ENGLAND AT NOON TODAY AND I WILL NOT BE ABLE TO ATTEND THE 97th WGA BOARD OF DIRECTORS MEETING TOMORROW.

* I HAVE SPOKEN TO CARL ANDREN AND HE IS TO REPRESENT ME AT THE MEETING

2. CONVENTION 92

THE UK DECISION TO BACK OUT OF THE N.W. EUROPE LORAN-C PLANNING GROUP HAS PUT A WRINKLE IN THE PROPOSED LORAN COVERAGE OF THAT AREA AND ADDS A NEW DIMENSION TO THE 1992 CONVENTION PLANNING IN THE UK. I HAVE DISCUSSED THE MATTER WITH JIM CULBERT WHO GENERATED THE ATTACHED NOTES.

MY RECOMMENDATION TO THE BOARD IS THAT WE DO NOT HAVE TO ALTER OUR PLANS TO HOLD THE CONVENTION IN THE UK BUT WE DO HAVE TO CHANGE THE CONTENT OF THE TECHNICAL SESSIONS TO EMPHASIZE THE BROADER APPLICATIONS OF LORAN AND PROVIDE TUTORIAL WE SHOULD STAY AWAY FROM DEEP TECHNICAL MATTERS THAT WOULD HAVE BEEN PERTINENT HAD THE DECISION TO MOVE AHEAD BE CONFIRMED. I WILL BE TAKING THIS UP WITH OUR TECHNICAL CHAIRMEN.

THE VENUE SELECTED IS BIRMINGHAM. MIKE MORONEY IS THE U.S. CHAIRMAN AND HAS READ THE PROSPECTUS OF THE LOCATION AND WILL BE ABLE TO PROVIDE DETAILS TO THE BOARD.

UNLESS OTHERWISE INSTRUCTED I WILL BE MAKING ARRANGEMENTS IN THE UK DURING THE NEXT TWO MONTHS AND PLAN TO PROVIDE DETAIL TO THE BOARD AND ATTENDEES OF THE WILLIAMSBURG CONVENTION IN OCTOBER.

3. N.W. EUROPE

I PLAN ON GETTING CLOSER TO THE SUBJECT NOW THAT I AM IN THE UK. IN ADDITION THE RION HAS ACCEPTED A PAPER OF MINE ENTITLED "THE POLITICS, ECONOMICS AND IMPLEMENTATION OF GLOBAL RADIONAVIGATION SYSTEMS" TO BE PRESENTED AT THEIR 1991 INTERNATIONAL CONFERENCE ON SATELLITE NAVIGATION. PERHAPS THIS SOAP BOX CAN BE USED TO LEVEL THE PLAYING FIELD A LITTLE. ANY CONTRIBUTIONS FROM THE BOARD TO THIS PAPER WILL BE DULY ACKNOWLEDGED. Jim.

Board of Directors

ies F. Culbertson President
avid C. Scull Vice President
valter N. Dean Secretary
Carl S. Andren Treasurer
John D. Illgen Past President
John M. Beukers Exec. Administrator
James O. Alexander
David H. Amos
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Bruce E. Hensel
Robert W. Lilley
Henry E. Marx
Edward L. McGann
Mark P. Morgenthaler
Maurice J. Moroney
William L. Polhemus
James P. Van Etten

Ex 3



Wild Goose Association

David L. Olsen
DOT/RSPA/DRT-20
400 7th St. S.W.
Washington, DC 20590-0001

Business: (202) 366-4354
Fax: (202) 366-3272
Home: (301) 868-8328

*The International Loran
Radionavigation Forum*

July 18, 1991

IOA Liaison Committee Report for 97th Board of Directors Meeting

The International Omega Association is preparing for their 16th Annual Meeting, to be held 5-9 August, 1991, in Vancouver, British Columbia. I've attached a copy of the program, which includes 17 technical papers.

It's interesting to note that a sizeable Soviet delegation (six) is expected to attend, and to present two papers. This will be the first IOA meeting attended by the Soviets. I've attached correspondence which lists the expected delegates.

In keeping with the international nature of their membership and of the Omega system itself, the IOA has traditionally alternated their annual meetings between sites on the North American continent and elsewhere. Suggested locales under consideration for IOA's 1992 meeting include Helsinki, Cairo, Istanbul and Barcelona. There is also interest in considering the Orlando, Florida area, as it offers great appeal to international visitors.

Charlie Sakran will pass the IOA presidency to John Waltz of the FAA during the Vancouver meeting. Charlie has served for three one-year terms. Perhaps the heaviest issue facing the Association is consideration whether to "die a graceful death" together with the seemingly inevitable termination of the Omega system, or to change the nature (and name) of the organization to include global satellite navigation systems.

Respectfully,

David L. Olsen

Encls: IOA-16 Program
Soviet correspondence

REGISTRATION FORM

5-9 AUGUST 1991
INTERNATIONAL OMEGA ASSOCIATION
SIXTEENTH ANNUAL MEETING
SHERATON PLAZA 500
VANCOUVER, BC, CANADA

Name Last First Initial
Address
City State
Country Postal Code
Telephone (Work) (Home)
Affiliation

International Omega Association, Inc.
P.O. Box 2324
Arlington, Virginia 22202-0324 U.S.A.

Members \$235.00/US dollars
(Includes all IOA Functions)
Non-Members \$260.00/US dollars
(Includes all IOA Functions
and 1-year Membership)
Extra IOA Luncheon @ \$25.00(U.S.)
Extra Dinner Cruise @ \$25.00(U.S.)
Extra Airshow @ \$25.00(U.S.)
TOTAL ENCLOSED

INTERNATIONAL OMEGA ASSOCIATION P.O. BOX 2324 ARLINGTON, VIRGINIA 22202-0324

Formed in 1975, the IOA exists to foster inter-
change of information between individuals and
organizations having a common interest in the
International Omega Radio Navigation System.

BOARD OF DIRECTORS -- 1990-91

President
Frank C. Sakran, Jr.
Naval Air Test Center (U.S.A.).....301-863-4578

Vice President
Henry B. Schiachta
Canadian Marconi Company (Canada).....514-340-3043

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Federal Aviation Administration.....317-247-2491

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Ian S. Anderson
Canadian Airlines
International Ltd (Canada).....604-276-4626

Darrell W. Davis
Trimble Navigation (U.S.A.).....512-873-2222

William M. Molesworth
Federal Aviation Administration, Flight Standards
District Office #3 (U.S.A.).....415-876-9013

Past President
Dr. Peter B. Morris
The Analytic Sciences Corp (U.S.A.)...617-942-2000
ext - 2756

Dr. Andrew Stratton
(United Kingdom).....44-252-542514

Eric R. Swanson
(U.S.A.).....619-222-9642

Dr. Kasuo Taguchi
Fac. Fisheries, Kagoshima University
(Japan).....0992-54-2181

James D. Wheeler
American Airlines, Inc. (U.S.A.).....918-292-2362

Past Presidents:

Irving Lublin
Max H. Carpenter

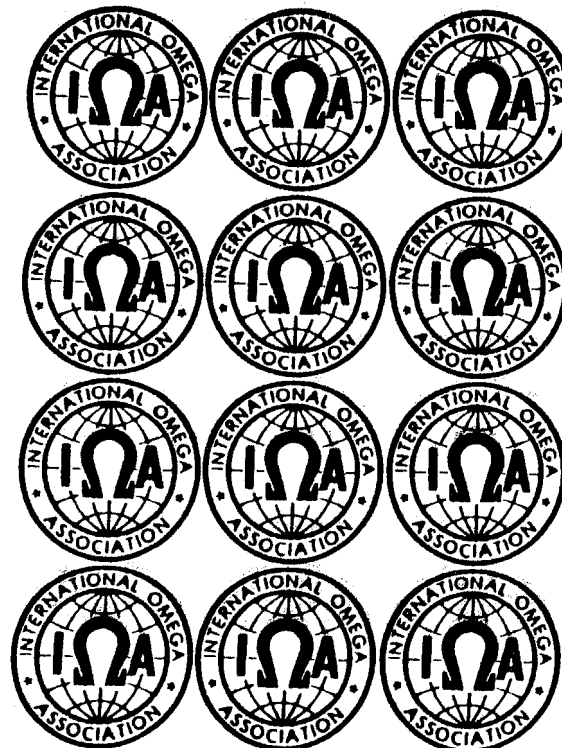
Graham J. Gibbs
Peter B. Morris

PROGRAM

INTERNATIONAL OMEGA
ASSOCIATION, INC.
SIXTEENTH ANNUAL MEETING
5-9 AUGUST 1991

SHERATON PLAZA 500
VANCOUVER, BC, CANADA

"NEW HORIZONS WITH OMEGA"



SUNDAY, 4 AUGUST 1991

1800-2000 Early Registration

MONDAY, 5 AUGUST 1991

0800-1000 Registration Desk Opens
 1000-1200 SESSION I--OMEGA USERS TUTORIAL
 System configuration
 Signal format
 Hyperbolic and direct ranging methods
 Propagation and coverage
 Differential Techniques
 Aircraft Equipment and Installation
 Airborne Operational Practice
 1200-1330 OPEN TIME FOR LUNCH
 1330-1630 SESSION II--OMEGA USERS TUTORIAL
 (Continued)

TUESDAY, 6 AUGUST 1991

0730-0830 SPEAKERS' BREAKFAST
 0830-0930 WELCOMING REMARKS--F.C. SAKRAN, JR.,
 President, IOA
 IOA BUSINESS MEETING
 0930-1200 SESSION III--NAVIGATION SYSTEMS MANAGEMENT, POLICY, AND OPERATION
 Chairman: E.R. SWANSON, (U.S.A.)
 1. "Is There A Future For Omega?"
 H.O. SHIRER, U.S. Dept. of Transportation, Research & Special Programs Administration (U.S.A.)
 2. "Omega System Status Update-1991"
 R.J. WENZEL and G.T. GUNTHER, USCG Omega Navigation System Center (U.S.A.)
 3. "The Fall and Rise of Omega Station Liberia"
 C.D. KETCHUM III and D.C. NEEDHAM, USCG Omega Navigation System Center (U.S.A.)
 1200-1330 OPEN TIME FOR LUNCH
 1330-1630 SESSION IV--AVIATION USERS FORUM
 Moderator: L. BABCOCK, United Parcel Service (U.S.A.)
 1800-2100 MANUFACTURER'S RECEPTION
 GROUSE MOUNTAIN
 (Transportation Provided)

WEDNESDAY 7 AUGUST 1991

0730-0830 SPEAKERS' BREAKFAST
 0830-1130 SESSION V--SYSTEM DESIGN
 Chairman: M. Needer, DAC Intntl. (U.S.A.)
 4. "Practical Implications for Omega Navigation Derived From Modeling Analysis of Equatorial Zone Mode Conversion of Omega & VLF Signals"
 V.E. HILDEBRAND, Inotech (U.S.A.)
 5. "The Probability of Cycle Jumps In Omega Receivers and Other Phase Locked Loop Applications"
 B.B. PETERSON, USCG Academy Center for Advanced Studies and Department of Engineering (U.S.A.)
 and W. JONES, USCG Reserve
 6. "USSR Internavigation Report"
 A.G. FUNTICOV, Internavigation Committee (USSR)
 7. "USSR VLF System"
 S.B. VOLOSHIN, Internavigation Committee (USSR)

1130-1330 IOA AWARDS LUNCHEON

Guest Speaker: T.F. NORD, Canadian Airlines International (Canada)
 1330-1630 SESSION VI--APPLICATION TECHNIQUES
 Chairman: J.D. WHEELER, American Airlines (U.S.A.)
 8. "Omega System Performance Assessment of Alternative System Options"
 R.R. GUPTA & P.B. MORRIS, The Analytic Sciences Corp. (U.S.A.)
 9. "Sync3: Enhancements to the Omega System Synchronization Software"
 R.M. CASSWELL, USCG Omega Navigation System Center (USA) and G.L. NOSEWORTHY, Synetics Corp. (U.S.A.)
 10. "Omega Performance Assessment and Coverage Evaluation (PACE) Workstation"
 C.D. KETCHUM III, USCG Omega Navigation System Center (U.S.A.) and G.R. DESROCHERS, The Analytic Sciences Corp. (U.S.A.)
 11. "Omega: A Synergistic Approach To The Integrity Problem of Satellite Navigation"
 A. STRATTON (U.K.)
 12. "Omega for Marine Collision Avoidance and Lifesaving"
 J.F. KEMP, (U.K.)
 1700 IOA BOARD OF DIRECTORS' MEETING

THURSDAY 8 AUGUST 1991

0730-0830 SPEAKERS' BREAKFAST
 0830-1130 SESSION VII--USER EQUIPMENT
 Chairman: P.B. MORRIS, The Analytic Sciences Corp. (U.S.A.)
 13. "Omega - A Building Block for an Airline Integrated Navigation System"
 J.D. WHEELER, American Airlines (U.S.A.)
 14. "GPS Glonass Integration"
 H.B. SCHACHTA, Canadian Marconi (Canada)
 15. "Omega/Complementary System for GPS"
 D.W. DAVIS, Trimble Navigation (U.S.A.)
 16. To Be Announced
 B. PAGEL, Litton Aero Products (U.S.A.)
 17. "GNS-X Flight Management System and the Integration of GPS"
 F. CHAMBERS, Global Wulfsberg Systems (U.S.A.)
 1130-1300 OPEN TIME FOR LUNCH
 1300-1530 SESSION VIII--SYSTEM USER FORUM II
 Moderator: To be announced
 1530-1630 SUMMARY OF TECHNICAL SESSIONS
 CLOSING COMMENTS
 IOA 17 PLANS
 1630 ADJOURNMENT
 1800 SUNSET DINNER CRUISE

FRIDAY 9 AUGUST 1991

0830 FIELD TRIP TO "AIRSHOW CANADA", ABBOTSFORD AIRPORT (Complimentary Admission & Transportation Provided for IOA Registrants, Extra Charge for Guests)

GENERAL INFORMATION**TUTORIAL**

An Omega Users Tutorial, expanded from past years, will precede the formal technical sessions. This Tutorial is offered gratis to registered attendees, and will cover the theoretical basis of Omega radio navigation as well as engineering and operational characteristics. Copies of instructional materials used will be provided.

USER FORUMS

The forum sessions will allow a sharing of experiences with Omega and an open discussion of plans, policies, problems, and support. Attendees are encouraged to prepare and present their observations and/or concerns during these sessions. Manufacturer representatives, technical specialists, and government officials will be present to help answer questions and resolve problems concerning use of the Omega system.

SPEAKERS' BREAKFAST

All speaker for the corresponding day are requested to meet with their chairperson at an IOA sponsored breakfast starting at 0730. Location of the breakfasts will be posted in the hotel. Please bring slides, viewgraphs, handouts, and your biographical sketch to the breakfast.

REGISTRATION

The Annual Meeting sessions are open to anyone providing they register and pay the applicable fee. Advance registration is not required. Early registration will be Sunday, 4 August 1991 at the Sheraton Plaza 500. Registration fees (\$235/US dollars for members, \$260/US dollars for non-members) include all IOA-sponsored meals, social functions, and a copy of the printed Proceedings of the Annual Meeting. Non-member registration fee includes a one-year regular membership in the IOA. Guest fees for the IOA Luncheon, Sunset Dinner Cruise, and "Airshow Canada" will be \$25/US dollars for each event.

HOTEL ACCOMMODATIONS

Special hotel arrangements have been made with the Sheraton Plaza 500 to accommodate IOA attendees. There will be equipment demonstrations and displays set up at the Plaza. August is a prime holiday month in the Pacific Northwest so we strongly recommend early hotel arrangements to assure accommodations and benefits.

Sheraton Plaza 500

500 West 12th Avenue

Vancouver, British Columbia, Canada V5Z 1M2

604-873-1811 or FAX 604-873-5103

\$87 US/\$100 CAN - Single or Double

COMMITTEE:

General Chairman/ Arrangements Chairman:	Ian S. Anderson 604-276-4626
Technical Chairman:	Darrell W. Davis 512-873-2222
Mfg's Reception Chairman:	Henry Schlachta 514-340-3043
Registration Chairman:	Christopher Stevens 301-863-4578

IDA CONFERENCE

RECEIVED

MAY 31 1991

C.A.P. MARKETING

10: P.C. SAKKAW.

FAX No: ~~222-2222~~

301-737-2884

Code FW-401

ACV22865

07:44 05/31/91

FYI.

92

*
ARCON MTL

QR RQ

4111660 SMT SU

MY TLX NUMBER 411369 SMT SU . PLS PLACE IRN BEFORE TEXT

STF AFS0331011 05311435 IRN (1166) XL1303 05311439

TO: CANADIAN MARCONI CO.

ATTN: MR. HENRY SCHLACHTA, VICE PRESIDENT

FM: V. DENISOV, VICE CHAIRMAN INTERNAVIGATION COMMITTEE

DT: 05.31.91

31 MAY 91 FROM SOVIETS

DEAR MR. SCHLACHTA .

THANK YOU RECEIVED YOUR TELEX DATED 27.05.91.

I'M HAPPY TO INFORM YOU THAT 'INTERNAVIGATION' COMMITTEE
DELEGATION WILL TAKE PART AT THE ANNUAL MEETING OF INTER-
NATIONAL OMEGA ASSOCIATION (IOA-16) IN VANCOUVER ON 5 TO
9 AUGUST, 1991.

THE COMPOSITION OF SOVIET DELEGATION IS:

1. MR. ANATOLY G. FUNTICOV - THE HEAD OF DELEGATION
2. MR. ALEXANDER V. YAKOVLEV
3. MR. NICOLAY N. STAYTSEV
4. MR. SERGEY B. VOLOSHIN
5. MR. ANDREY V. GREBNEV

(Lt. Gen.)

5 people!!

THANK YOU VERY MUCH FOR THE OPPORTUNITY OF PRESENTING
A PAPER ON THE MEETING. THE HEAD OF THE SOVIET DELEGATION
MR. FUNTICOV WILL MAKE A PRESENTATION OF THE SOVIET 'INTER-
NAVIGATION' COMMITTEE AND MAKE A SHORT REPORT ABOUT OF
RADIO NAVIGATION SYSTEMS DEVELOPMENT IN THE USSR. MR. VOLOSHIN
WILL PRESENT A PAPER ON THE USSR VLF SYSTEM.
IN A SHORT TIME WE WILL SEND YOU TITLES OF BOTH PAPERS AND
SHORT BIOGRAPHIES OF THE AUTHORS.

2 more
papers.

BEST REGARDS

VLADIMIR V. DENISOV, VICE CHAIRMAN, INTERNAVIGATION
COMMITTEE
NNNN

MY TLX NUMBER 411369 SMT SU . PLS PLACE IRN BEFORE TEXT

*
ARCON MTL

CANADIAN VCR

GA

*

CANADIAN VCR

27/06/91 19:37:30

VANCOUVER BC CANADA JUN 27/91D

TLX 411369 SMT SU

IRN

MR V DENISOV

VICE-CHAIRMAN

INTERNAVIGATION COMMITTEE

IRN USSR.

IOA CONFERENCE

27 JUN 91 TO SOVIETS

DEAR MR DENISOV

AS GENERAL CHAIRMAN FOR THE 16TH ANNUAL INTERNATIONAL OMEGA ASSOCIATION MEETING /IOA-16/ I AM EXTREMELY PLEASED THAT THE FOLLOWING MEMBERS OF YOUR STAFF WILL BE ATTENDING THE MEETING

MR ANATOLY B FUNTIKOV /HEAD OF DELEGATION/

MR GRIGORY N ANDREEV

MR ALEXANDER V YAKOVLEV

MR SERGEI B VOLOSHIN

MR NICOLAI N STAVTSEN

MR ANDREI V GRENEV

This name was not in
their 5/31/91 Telex

AS WELL AS PRESENTING TWO PAPERS.

THE MEETING WILL BE HELD AT THE SHERATON PLAZA 500 HOTEL,
12TH AND CAMBIE VANCOUVER B.C. CANADA V5Z 1M2
TELEPHONE NUMBER /604/ 873-1811 FAX NUMBER /604/ 873-5103
FROM AUG 5-9 INCLUSIVE. ROOM RATES ARE 57 USD /100 CAD
SINGLE OR DOUBLE.

REGISTRATION FEE FOR THE CONFERENCE IS 235 USD FOR MEMBERS AND 250
FOR NON-MEMBERS OF IOA AND INCLUDES A 1 YEAR MEMBERSHIP. THE FEE
INCLUDES FOUR SOCIAL EVENTS - RECEPTION/LUNCHEON/SUNSET DINNER
CRUISE AND ABBOTSFORD INTERNATIONAL AIR SHOW.

WOULD YOU PLEASE ADVISE ME OF YOUR DELEGATIONS TRAVEL PLANS
DATES/FLIGHT NUMBERS, AND IF I CAN BE OF ANY FURTHER ASSISTANCE YOU
MAY REACH ME VIA --

TELEPHONE /604/ 276-4626

FAX /604/ 276-3605

TELEX 043-55587

SITA YVROSCP

PLEASE INDICATE ON ADDRESS --

IAN S ANDERSON

SENIOR ENGINEERING ANALYST

MAIL DROP YVR0474

CANADIAN AIRLINES INTERNATIONAL LTD

VANCOUVER B.C. CANADA V7B 1V1

I LOOK FORWARD TO MEETING THE MEMBERS OF THE IRN DELEGATION IN
AUGUST.

KINDEST REGARDS

IAN S ANDERSON

GENERAL CHAIRMAN IOA-16.

CANADIAN VCR

181/

411369 SMT SU*...../

DURATION MINS 04:32



COMMAND, CONTROL,
COMMUNICATIONS
AND
INTELLIGENCE

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

Ex. 4-1

7/1
7/1

JUN 26 1991

MEMORANDUM FOR COMMANDANT (G-N), UNITED STATES COAST GUARD
SUBJECT: Central Pacific (CENPAC) LORAN-C Chain

In response to your letter of March 15, 1991, we concur with your request to close the CENPAC Loran-C chain at the end of calendar year 1992. Our concurrence is contingent on the Coast Guard providing alternate methods for current DoD LORAN-C users in the area to replace CENPAC services. To date, we have not identified additional DoD users beyond those mentioned in your letter. Should we learn of additional DoD activities affected by early closure, we will advise you immediately. In addition, our concurrence in this case does not affect the overall DoD requirement for Loran-C coverage, which remains firm through the end of calendar year 1994.

Richard G. Howe
Director, Theater & Tactical C3

cc: Joint Staff/J6J
DCA/DITT
DAMO-FDC
CNO(OP 943)
HQ USAF/XOO

TWO LTRS IN
RESPONSE TO USCG'S
SOLICITATION ON
THE EARLY CLOSING
OF THE HAWAIIAN
CHAIN

Dave Olson



Ex. 4-2

NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

Metro Plaza One • Suite 505 • 8401 Colesville Road • Silver Spring, MD 20910
(301) 588-0587 • FAX: (301) 588-1288

July 10, 1991

Capt. John F. Weseman, Chief
Radionavigation Division, G-NRN
United States Coast Guard
2100 Second Street, SW
Washington, DC 20593

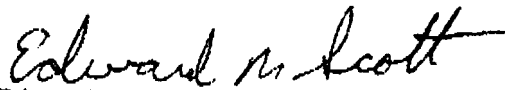
Dear Capt. Weseman;

The National Association of State Aviation Officials (NASAO) has learned of Coast Guard interest in decommissioning the Central Pacific Loran-C chain. We are also aware of your intent to proceed swiftly on that decision, possibly resulting in decommissioning by the end of calendar year 1992.

The State aviation agencies that compose NASAO have been heavily involved with the Coast Guard, FAA, and others in ensuring recent Loran-C coverage of the so-called mid-continent gap. With this chain and other new ones providing additional signal coverage and expanded Loran usage, we would urge the Coast Guard to proceed more slowly in its evaluation of the usefulness of the Central Pacific chain. On its face, it makes little sense to discontinue Loran-C signal coverage when there are worldwide efforts to do just the opposite.

NASAO urges the Coast Guard to continue with the intent of the Federal Radionavigation Plan to continue the Central Pacific Loran-C chain until at least the end of calendar year 1994. Meanwhile, a Coast Guard study should determine the chain's future after that date. That study should also address whether needed technical upgrades of the chain would in fact result in greater utility by both maritime and aviation users.

Respectfully,


Edward M. Scott
Staff Associate

July 15, 1991

Commandant (G-ACS)
USCG Headquarters
2100 2nd Street, SW
Washington, DC 29593

Dear Mr. Manko:

The Wild Goose Association takes exception to the narrow scope of DOT USCG RFP DTCG23-91-R-721001-2 that restrict the effort to the application of "differential GPS" to vessel traffic management in Prince William Sound and the approaches to Valdez, Alaska.

The U.S. Coast Guard installed Loran-C to cover Prince William Sound in response to a Congressional mandate. The Coastal Confluence Zone (CCZ) Loran-C system is the designated maritime radio navigation system of choice for the coastal confluence. The driving force behind establishing Loran-C along our coasts was tanker traffic and the threat of a major offshore oil spill such as was experienced with Argo Merchant.

While GPS may in time become a certified maritime radio navigation system, at present it is not and the present satellite constellation does not provide 24-hour coverage in Prince William Sound.

Loran-C receiving hardware is highly developed and the characteristics of the Gulf of Alaska Loran-C Chain are well known. The Coast Guard has performed many tests of Loran-C in precision radio navigation and of the use of differential Loran-C as well. These results and the knowledge of the Loran-C grid in Prince William Sound will verify that Loran-C can meet the requirements for precision navigation as indicated by the RFP.

It seem incongruous to our association that the Coast Guard would put an RFP on the street which calls for a radio navigation system other than the one which was installed specifically for tanker traffic and which is operated and maintained by the Coast Guard.

We respectfully recommend that the RFP be amended to at least include Loran-C so that taxpayers may take advantage of the investment already made in Loran-C in the Gulf of Alaska.

Sincerely,

J.F. Culbertson
President

Copy to: Commandant (G-N)

DAVE: I would
like the Board to look
this over & comment
before I send it out
see McGinnis letter
attached
Jim

Ex. 5-1

Exhibit 5-2

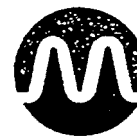
July 10, 1991

Commandant G-ACS-2/AG
USCG Headquarters
2100 2nd Street, SW
Washington, DC 20593

Attention: Mr. John Manko

Subject: VTS for Valdez

Reference: DOT USCG RFP # DTCG 23-91-R-721001-2
Prince William Sound VTS



Megapulse

8 Preston Ct
Bedford
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(617) 275-2010
Telex 92-3358
MEG-BFRD
FAX (617) 275-9636

Dear Sir:

It is our understanding that the referenced RFP is directed toward the design and implementation of 2 VTS of Valdez B.C. utilizing Differential Global Positioning System (DGPS) techniques. This effort came to our attention by a reference to it in the magazine GPS World. Megapulse has expressed in a letter to GPS World our comments on this issue – specifically that the requirements of VTS programs (including Valdez) and the broader Harbor/Harbor Entrance prospects can be met by Differential Loran-C and that for this Valdez program both Differential GPS and Differential Loran-C should be implemented side-by-side so as to evaluate without prejudice the performance of each system. The Valdez project offers a unique and timely opportunity to make this important evaluation.

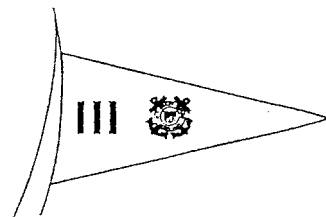
Megapulse hereby formally requests the USCG to cancel the referenced RFP and reissue a new RFP, including the Loran-C implementation.

Sincerely,

E.L. McGann
Executive Vice President

ELM/mh

UNITED STATES COAST GUARD
AUXILIARY



OFFICE OF THE
DIVISION CHIEF

15 North Main Street
Cranbury, NJ 08512

28 June 1991

Mr. David C. Scull
Vice President
Wild Goose Association
2112 Wittington Blvd
Alexandria, VA 22308

Dear Dave,

Enclosed is the draft of the glossary that you sent to me for review. In general, it is quite good. I have made comments on the draft where appropriate.

My overall thought is that there are many arguably relevant terms that are not defined in the glossary. As I do not know the purpose of the glossary, it is difficult for me to judge whether these omissions are material.

Accordingly, I have enclosed Appendix C of the draft of the new *Loran-C Handbook*, which the authors might wish to consider. Please treat this appendix as draft material. This draft has not yet been approved by the Coast Guard, and should not be considered an "official" document by any means. I had thought to include simply a list of terms, but felt that the authors could benefit from these unofficial definitions. At such time that the draft is reviewed and approved, I will forward another for official use and attribution.

I will be sending you a draft of the *Loran-C Handbook* as it stands for review by the Wild Goose Association within the next two weeks.

Kindest Personal Regards,

A handwritten signature in cursive script, appearing to read "Dan", which is the signature of Dr. L. Daniel Maxim.

Dr. L. Daniel Maxim, DVC-ED

Enclosure

Wild Goose Association

1991 Directors/Committee Chairmen (*) Phone List

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Van Etten	201-661-0876	None	201-575-5467 (5)	201-661-0876

Notes:

- (1) 47-2-40-26-19 Direct to desk. 47-2-40-2400 NODECA Switchboard.
- (2) Will use local Service Bureau
- (3) Chairman 1991 Convention
- (4) Technical Chairman 1990 Convention
- (5) Mark for the attention of Bill Van Etten

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Maurice J. Moroney
William L. Polhemus
James P. Van Etten
Ron Wiener

Wild Goose Association



July 10, 1991

SUBJECT: INITIATIVE TO OBTAIN "SOLE MEANS" CERTIFICATION FOR
LORAN-C

Officers and Fellow Directors:

I urge the WGA to join with AOPA which has already publicly proposed the subject initiative to press FAA to undertake the efforts necessary to have Loran-C qualify as a "Sole Means" aid for as many phases of aviation operations as studies show to be possible.

In the extreme it has been noted that doubling the number of existing Xmtrs (and locating these appropriately) could most probably achieve "sole means" capability and cost no more than the cost of placing GPS satellite into orbit.

Respectfully

Edward L. McGann
Director

cc: AOPA, Attn: M. Shuey

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Robert W. Lilley
Henry E. Marx
Edward L. McGann
Maurice J. Moroney
William L. Polhemus
James P. Van Etten
Ron Wiener



Wild Goose Association

July 10, 1991

SUBJECT: DIFFERENTIAL LORAN-C FOR USE IN VTS AND HARBOR/HARBOR
ENTRANCE APPLICATIONS

Officers and Fellow Directors:

Attached are Megapulse comments on the subject issue in response to references made in GPS World Magazine. Also attached is our letter to the USCG asking that the current RFP on the Subject be cancelled or withdrawn and modified so as to include Differential Loran-C. I would like to ask the support of the WGA as the advocacy organization for Loran-C to support this issue and I encourage the support of individual WGA members and their organizations.

Respectfully,

A handwritten signature in cursive script, appearing to read "Ed McGann".

Edward L. McGann
Director

July 10, 1991

Glen Gibbons, Editor
GPS World
P.O. Box 10460
859 Williamette Street
Eugene, OR 97440



Megapulse

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Telex 92-3358
MEG-BFRD
FAX (617) 275-9636

Subject: "Alaskan Tankers to get GPS"

Reference: Washington View, GPS World, June 1991

Dear Sirs:

While Megapulse is indeed proud of its contributions to and its continuing role in the USCG Differential GPS (DGPS) Programs, we feel the following comments are appropriate on the Subject item -

- (1) " - Merely GPS", in our opinion, is not the "...only existing radionavigation aid (which) will provide the 10-20 meter accuracy required". In fact, USCG studies have shown by actual long term measurements of Loran-C signals at the significant harbors of the United States including those in the Great Lakes that at 50% of these harbors, year-round accuracies of +40 meters exist. Further, at 90%, 80M accuracies are achieved. Please understand that these accuracies were determined without differential corrections; take into account all operational factors - since it is real data; were achieved before the new mid-continent configurations enhanced the performance in some CONUS areas; were derived using the lowest standards of receiver performance - precluding what can be achieved using today's and tomorrow's cross-rate and range-range-range (any transmitter) user equipment. And, since this performance was achieved using the signals that existed at the time the data was collected, it also obviously precluded the harbor percentage performance improvements which can be achieved by simple and operationally logical extensions of the existing Loran-C coverage, for instance, into the Caribbean, Ontario, and Northwest Mexico.

Quite obviously, the inclusion of any or hopefully all of the above existing or readily implemented capabilities would increase the percentage of the significant harbors at which Loran-C performance would approach the USCG VTS accuracy requirements without Differential corrections - and, remember that the above statistics and comments reflect the attainable performance in all significant harbors - not just those in which VTS will be required - but rather in the broader view of the harbor/harbor entrance accuracy requirements of the Federal Radio-navigation Plan (FRP) to which your comments also allude.

Past efforts by the USCG define some of the improvements which can be expected using Differential Loran-C techniques that can further enhance the above results. More to the point, however commercial organizations today provide Differential Loran-C services guaranteeing performance to the USCG/VTS requirements. And, if Megapulse may be allowed the privilege of citing our own achievements, the Loran-C subsystem of the Suez Canal VTS installed in the early 1980's achieved - even with 1970's technology - accuracies in the differential mode of less than ten meters (Two Sigma!!) over the canal length of approximately 100 miles. In one test the aircraft carrier USS America had three carry-on Loran-C receiver/VHF transceiver (CORT) packages on-board during its Canal transit. Placed bow, stern and on the starboard flying bridge the units were polled from the Suez VTS control center every ten seconds. The processed data showed a maximum "flight deck length variation" of less than three meters and a commensurate "centerline-to-flying bridge variation" of less than one and one-half meters throughout the entire 24 hour canal transit time.

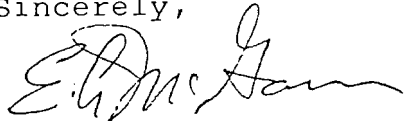
Considering the above, you will therefore pardon us please if we reject your rather arrogant "Merely GPS" assertion.

- (2) Since Loran-C is now the official RNAV System for navigable waters for both the United States and Canada and carriage of Loran-C Rcvrs (or equivalent) is mandatory for vessels over 1600 gross tons operating in these waters; and considering that Loran-C is the legally accepted position fixing reference in these areas, it would seem that precluding its use in this Valdez application - either instead of GPS based on demonstrated performance or together with GPS - is unacceptable. In the latter case side by side performance comparisons will be obtained and the systems can serve as a truth/integrity checking means for one another. We note that the RTCM specification RTCM 104 Version 2.0, with admirable foresight allows for this type of operation and defines a signal format to accomplish it. Again, if this installation is being projected as a prototype not only for other VTS installations but also for harbor harbor entrance applications it does not seem reasonable to just ignore the 600-700,000 Loran-C users much of whose equipment could be modified to accommodate this added capability for additional safety and signal integrity reasons even if they are too small to be addressed by regulatory operational directives.

- (3) Additionally, there would appear to be considerable reasons for caution in going forward with only GPS at this time recognizing that it is in the developmental, use-at-own-risk, phase of development and signals may change without notice at any time. It is not even clear what the forms of the SA might be in the future and whether or not these forms can be handled within the data rate/spectrum constraints of the Differential link back to the users particularly in the H/HE mode. The simple VTS implementation is not, of course, necessarily effected. Further, Valdez would also appear to be potentially a difficult operating area for either Loran-C or GPS considering weather and multipath effects and therefore considerable evaluation should be called for and a dual system installation could serve this purpose as well. In addition to the tankers, support vessels might be included in such an assessment as well as aircraft using the Valdez runway in order to assess the capability of the systems to provide an augmented NPA to that landing area.
- (4) As a point of comment (not having reviewed the RFP), we would hope that the accuracy specifications are set forth not so much for the determination of vessel position which, of course, is interesting but rather so as to allow for accurate vessel velocity and acceleration determinations. In our experience, it is more important to set alarms based on what the vessel appears to be going to do, as compared with expected and acceptable transit profiles, than to wait for the vessel to actually get into trouble. Such assessments and alarming were the basis of the operation of the Suez VTS mentioned above.

Considering the issues raised above, Megapulse will ask that the cited RFP be cancelled and replaced with one recognizing the potential role and merits of Loran-C as applicable to the VTS and harbor/harbor entrance requirements.

Sincerely,



Edward L. McGann
Executive Vice President

mv

hilly in late March, its recommendations unchanged. Next case, please.

ALASKAN TANKERS TO GET GPS

By September, all tankers sailing Prince William Sound in Alaska will be tracked by differential GPS. The Coast Guard has issued a Request for Proposals (RFP) for a GPS system that will monitor movements of tankers for about 40 miles — from a point some 20 miles seaward from Cape Hinchinbrook near the Sound to dockside at Valdez. Presently, radar covers only about 12 miles from Valdez.

All tankers that now trade in Prince William Sound — where the Exxon Valdez ruptured on rocks, spilling 11 million gallons of crude oil on March 29, 1989 — will be required to carry GPS receivers. That's about 50 vessels. The shipboard GPS data will be radioed to a differential station at Cape Hinchinbrook, which will transmit the corrected data to a traffic center in Valdez, terminus for the Trans-Alaska Pipeline. The Coast Guard expects to achieve accuracies of better than 10 meters.

At the Valdez control center, tankers can be tracked on computer displays with electronic charts. Funding for the system is being provided under the Oil Pollution Act, a law enacted by Congress in direct response to the Exxon Valdez environmental disaster. The Coast Guard expects the system to be installed by September 1, before winter weather shuts down construction on remote Cape Hinchinbrook.

Although the Coast Guard has provided radar-based vessel control systems in Prince William Sound, New York City, Puget Sound, and elsewhere in the past, this is the first such use of GPS, and the first time that ship carriage has been mandated. Conceivably, the same technology could be extended to widespread harbor and harbor approach control in the future. No existing radionavigation aid will provide the 10–20-meter accuracy required by the Coast Guard for such extensive vessel traffic control in congested port areas — merely GPS.

CIVIL INTERFACE COMMITTEE

The Department of Defense is negotiating the final terms of a formal memorandum that will spell out the manner in which GPS information is disseminated to civil users. The memorandum between DoD and the Department of Transportation (DoT) is intended to cover a host of subjects relating to responsibilities for the means by which the civil community can access and use GPS. These include how applications are to be processed

for civil users requesting use of the P-code for precision positioning; how almanac, as well as post-ephemeris, data are made available by the military; and other issues generally relating to the public interface between a military system and civil users.

The Civil GPS Interface Committee will discuss progress on the memorandum at its meeting scheduled for June 5–7 in Reston, Virginia. Other items on the agenda (see also

the May issue of *GPS World*) include planned presentations on FAA studies dealing with the use of GPS for precision approaches to airports, a review of the CIGNET global-monitoring system established by the National Geodetic Survey, the Ohio State University project of digital photo imagery combined with GPS positioning, and a status report on the GPS system. ■

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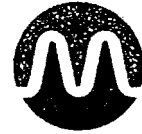
July 10, 1991

Commandant G-ACS-2/AG
USCG Headquarters
2100 2nd Street, SW
Washington, DC 20593

Attention: Mr. John Manko

Subject: VTS for Valdez

Reference: DOT USCG RFP # DTCG 23-91-R-721001-2
Prince William Sound VTS



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Dear Sir:

It is our understanding that the referenced RFP is directed toward the design and implementation of 2 VTS of Valdez B.C. utilizing Differential Global Positioning System (DGPS) techniques. This effort came to our attention by a reference to it in the magazine GPS World. Megapulse has expressed in a letter to GPS World our comments on this issue – specifically that the requirements of VTS programs (including Valdez) and the broader Harbor/Harbor Entrance prospects can be met by Differential Loran-C and that for this Valdez program both Differential GPS and Differential Loran-C should be implemented side-by-side so as to evaluate without prejudice the performance of each system. The Valdez project offers a unique and timely opportunity to make this important evaluation.

Megapulse hereby formally requests the USCG to cancel the referenced RFP and reissue a new RFP, including the Loran-C implementation.

Sincerely,

A handwritten signature in dark ink, appearing to read 'E.L. McGann'. The signature is fluid and cursive, with a large, sweeping 'M'.

E.L. McGann
Executive Vice President

ELM/mh

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James P. Van Elten

Wild Goose Association



*The International Loran
Radionavigation Forum*

July 27, 1991

Attn: WGA Board of Directors

I have added two items to Dave Olsen's Minutes of the last Board of Directors Meeting:

- 1) A letter from Dan Maxim requesting help in reviewing the Loran-C
User Handbook
- 2) New Lists of Phone Numbers and Addresses

Jim Culbertson and I wish to thank Dave for the outstanding job he did on preparing the minutes of 97th Board of Directors Meeting.

Sincerely,

David C. Scull

Wild Goose Association, Inc.
P.O. Box 556, Bedford, MA 01730, USA