

**International Loran Association  
134th Meeting of the Board of Directors  
at the 29th Annual Convention and Technical Symposium  
Washington DC  
November 11, 2000**

**I. Call to Order**

President Linn Roth called the meeting to order at 4:10 PM

**Members Present - 2000 Board**

John Beukers	David Last
Langhorne Bond	Robert Lilley
William Brogdon	Martin Poppe
Harold Chadsey	William Roland
James Doherty	G. Linn Roth
Erik Johannessen	Durk Van Willigen
Dale Johnson	Nicholas Ward
Terje Jørgensen	

**Members not Present - 2000 Board**

Margot Brown  
Walter Dean

**Others Present**

Christian Forst  
Albert Frost (Editor, Loran Lines Newsletter)  
David Scull

A quorum was determined to be present.

**II. Approval of Minutes**

The minutes of the 133rd meeting of the Board were approved by voice vote.

**III. Treasurer's Report** (*Full report is available from Secretary's files*)

A summary of Treasurer Martin Poppe's report:

We are legal as to registration requirements for corporations in Massachusetts.

Reconfiguring the ILA's financial structure has been an interesting process. Marty reports moves to place money in accounts with better interest rates. Filing a tax form with the US Government is not required if our gross income is less than \$25,000. For this past year (October 1, 1999 through September 30, 2000) we are within this range.

We have been advised to treat this requirement as a "sleeping dog" and not kick it with respect to past years.

Review of books for ILA's fiscal year ending September 30, 2000:

Cash on hand:	\$33,390.60
Total income during fiscal year 2000:	\$17,685.63
Expenses during FY 2000	\$16,033.40
Net income over expenses	\$ 1,652.15

Toward an ILA Budget:

For now, the best budget is to use last year's actual numbers.

The only real difference year-to-year comes from convention income.

Last year's convention profit was \$4 - 5,000

This year should be more like \$8,000, and perhaps more.

Next year, the convention is outside the U. S. Will this affect expenses?

Over the longer term, ILA has been on an even keel, financially.

A goal is to harden the accounting system and get the process installed in the Operations Center.

Mr. Beukers: The account is still open on the 1999 convention; income and expenses for the CDs is yet to be included. We must negotiate with RIN, and close out the account.

Mr. Poppe: What does Loran Lines want / need as a budget?

Mr. Roth: Report shows needed improvement from past years. We are still looking at accounts -- which ones do we need? Do we need accounts in other countries? Euros?

#### **IV. Convention review - Linn Roth, Convention Chair**

The convention budget assumed 80 full-time registrants; we see 90 names now, although some are one-day registrants. There is a strong European contingent. Five registrants are here from China, representing both timing and navigation. The Congressional panel - four or five persons from the Capitol Hill staffs, should be most informative.

The meeting is coming together well; it looks like we are operating in the black. Proceedings will be on CD. See the CD demo from 1999. It looks good.

#### **V. Updates on Relevant Activities**

**NELS - Terje Jørgensen** - Eurofix is up and running. Papers here will discuss it. There is new interest in Loran in Europe on the part of individual nations' governments. We see development of more pro-loran nations, wanting to join NELS. There is interest in industry, also interest outside Reelektronika and Delft. Competition! That's good.

The worry is the political situation. The definition phase of Galileo is important factor; we need to have Loran and Eurofix as part of it. The GAUSS (Global Augmentation of Satellite Systems) initiative of NELS will also be dealt with at this conference.

**GAUSS - Linn Roth** - GAUSS is a consortium five countries and four companies. Develop international integrated receiver standards for developing combined systems -- GPS/GLONASS Loran, Eurofix. Draft standards are done for IMO; others are near approval. ITU-R is on its way, on the accelerated adoption path.

Mr. Last: EUROCONTROL started from a very negative position on Loran. There was a brief report recently with some amended language. Now EUROCONTROL calls for a more full study of Loran.

Mr. Forst: At least they are more neutral now, not as negative.

Next meeting is in Bonn in February, 2001.

**FERNS - Terje Jørgensen, John Beukers** - An October meeting in Moscow involved corporation members Russia, Japan, China and South Korea. The goal is an agreement among institutions of these nations, creating an intergovernmental structure to regulate the Loran corporation. There are diplomatic obstacles cultural and language differences. Nevertheless, there is movement, and a plan to have the agreement signed by the end of this year. The council meets in Seoul next year, China the year after that. (ILA plans a Beijing convention in conjunction with that 2002 FERNS meeting.) For the 2001 Seoul meeting, Durk Van Willigen and Terje Jørgensen have been approached by the Koreans to get Eurofix on the Poyhnyang station for demonstrations.

**European Commission Projects - Durk Van Willigen** - The European Commission has two major projects underway: GALA, a Galileo architecture study including Loran-C and Eurofix (the EGNOS architecture may also contain Eurofix). GLORIA - Austria, Switzerland, Germany, The Netherlands - Guidance technology - suitability of integrated Loran / GNSS Eurofix in mountainous areas (serving railroads and road transport). The EC is becoming more active in exploration of Loran as part of the equation.

**IALA - Nicholas Ward** - The IALA Radionavigation committee is engaged with the GAUSS group. IALA Radio Navigation Policy at present encourages members to provide Chayka / Loran, and this policy is under review. Members include The USCG, and NELS and FERNS nations, but also other members which are hostile to Loran. In order to insure that policy remains favorable to Loran, it needs to be seen as an integration of terrestrial systems with GNSS rather than stand-alone terrestrial systems.

Mr. Ward attended Navigation 2000 in Moscow, in October. He gave a presentation on the ILA, which "may have been lost in translation." Majority of attendees were Russian-speaking, and the translation left something to be desired.

**US and ICAO Activities - Langhorne Bond** - ICAO - A presentation by Mr. Bond in February presented information on the (un)reliability of GPS, by invitation from the German delegation. He recently had dinner with Richard Allison, the ICAO Air Navigation Commission Chair, and pressed the backup question, amid agreement.

This issue may well have turned around at a previous meeting in Rio, where then-FAA Associate Administrator George Donohue pronounced that backup was needed. ICAO opinion now is that backup needed. Should it be DME? Loran?

"In light of the upcoming national election," remember that Joe Canny, in DOT's office of Policy - will still be there, regardless of who wins the Presidency. A letter has gone from Mr. Bond to Mr. Canny with regard to mistakes related to satellite vulnerabilities and related subjects. A copy was passed around. The letter was sent to a variety of government addressees. *[A copy of the letter is in the Secretary's files.]*

The real point of the turn-off of selective availability was overlooked by much of the world. The system is now more accurate, but why was it possible to turn off SA? Simple: jamming works! This is the final death of the Johns Hopkins study. Forget about countermeasures. DoD can protect itself.

UWB -- Current FCC discussions are interesting. DOT is trying to halt it. Cisco, Sprint, ATT Wireless and Charles Trimble -- all agree that the UWB threat to GPS goes beyond navigation to timing users.

With the introduction, "Every now and then, a blind hog finds a truffle," Mr. Bond read a note from DOT Assistant Secretary Gene Conti, which shows out material is getting through to DOT. The text is being held closely for now, but it relates to the growing disaffection with GPS sole means.

"Al Gore is responsible for the present fantastical GPS position."

Note that Air Safety Week editor David Evans filed a FOIA on the FAA's Booz-Allen cost-effectiveness study. This report showed a positive Loran benefit, and was buried.

Mr. Roth: Wisconsin Governor Tommy Thompson might well be DOT Secretary in a Bush administration.

Our friend Jim Carroll is preparing the report for a Volpe study on the vulnerability and national infrastructure effects of GPS. The study is tied up in DOT (on Joe Canny's desk). The study reportedly says there are vulnerabilities. This report be released before new administration is inaugurated.

Mr. Johannessen: In my opinion the report may not be released. It is an internal government report. Will the new administration release all this stuff and blame the former administration?

Mr. Doherty: I cannot comment on WAAS status because of ongoing work in the Independent Review Board. I can comment on the IRB process and the schedule. The WAAS IRB started Aug 2000. There have been six meetings; the 7th is this week. There will be an interim report to the Administrator on findings of the WAAS Integrity Performance Panel. We meet again with the Administrator between now and January on progress.

### **RTCM - William Roland**

The GAUSS initiative is moving more quickly, and RTCM is following that activity closely..

**VI. Future ILA Global Strategy - Christian Forst and Hendrik Oltman** *(Letter available in secretary's files)*

Messrs. Forst and Oltmann presented a letter to the Board of Directors suggesting a future strategy.

Mr. Forst began the discussion with a review of the suggested strategy for the Board. Experience in running international projects, experience with the GAUSS group, and international processes at IMO, ITU and other organizations has given the authors a global as opposed to a regional view of navigation systems. There is a need to globalize the GAUSS initiative - to be sure it is carried on into the future. ILA could take the lead.

Mr. Jørgensen thanked the authors for introducing the strategy, and questioned, "What is a global radio-navigation system? Europe and the U. S. talk about cooperation (but satellite systems are the only ones on today's agendas). We should make better use of common resources through coordination; ILA members are helpful in the U. S. with their representatives. ILA needs to help Europe get Loran-C on their agenda, and on the FERNS agenda as well. ILA must be truly international and be the tool for this. Mr. Roth: We have tried, with little response to date, but will not stop trying. We see a little momentum building, and must keep getting into appropriate forums. The upcoming GAUSS PowerPoint presentation may be a good foundation for communication.

Mr. Beukers: The preparation for the 2002 convention with FERNS in Beijing is a very good opportunity for this. Of course, we will be with IALA also, in 2001.

Mr. Roland noted that conversations outside the Loran in-group; pooh-pooh Loran because it is described as a 1/4 mile system. We need to do something about that, because this belief limits interest in fitting Loran-C to needs. We can do better than that (maybe 50 meters instead of 500). We need to learn more propagation (he referenced David Last's ASF work). How does ASF vary; etc. This is a challenge that needs to be addressed. We started a project on accuracy improvement at Illgen, but were not funded for follow-on work beyond initial measurements on baseline extensions and an indication that improvements could be expected.

Mr. Lilley agreed with the characterization of the Illgen work, and added that availability, not accuracy, was at the top of FAA's list. Actually, 1/4-mile accuracy works for non-precision approaches, although most would like to see a little better accuracy to give some headroom and make some vertical computations possible. Modeling shows all-in-view Loran-C processing can be expected to result in 0.2 nmi accuracy throughout the U. S.

Mr. Last: The important thing is "demonstration" of a better Loran-C. Otherwise we're still just making words.

Mr. Doherty: Loran is the "other" independent time-based navigation system. Before I left the U. S. Coast Guard, we considered, "What could serve as a backup to DGPS?" In places like Tampa Bay and the Delaware Estuary a missed approach is difficult or impossible for the mariner. Radar does not work well there. A previous temporal study showed that differential Loran could give up to one hour of operation without exceeding a 10-meter error. Also spatial variations need to be investigated.

Mr. Last: Returning to the proposal by Messrs Forst and Oltmann, let's get viable demonstrations out of GLORIA or other projects. Let's make the most of those. We need to put Loran-C's ghosts to rest.

Mr. Jørgensen: Coordination is certainly the key! How do we realize the global potential? A challenge for the new ILA President!

Mr. Roth: Programs for demonstrations must come out of government. Industry won't do it, without a more stable market.

Mr. Lilley: ILA may already have a mechanism for entering this process. Perhaps we should use our annual convention Resolution as the tool, and then press harder between meetings, for *implementation*.

Mr. Forst: Perhaps we should form a coordination committee, so we have specific responsibilities assigned?. ILA should try to coordinate service providers; coordinate input papers to international organizations. Otherwise it's fragmented.

Mr. Beukers: What about seeking a government or foundation grant? This requires money to do it well.

Mr. Roland: Consider a private chat-room in the Internet, for exchange of materials and ideas.  
*[It was noted (anonymously) at this point that Mr. Bond will need to become Internet-connected!]*

Mr. Ward: Should we be referring to "international" concepts, not "global?"

Mr. Roth: From my point of view, it is certainly a global marketplace.

## **VII. Membership Status - Robert Lilley**

Membership data:

Members with dues expiring in 2000 or 2001	186
Complimentary members	31
Life members	61
Total	278

Complimentary memberships are typically held by Coast Guard station locations, and by a few people considered crucial to ILA success. For example, Phil Boyer, President of AOPA, holds such a membership. We exchange complimentary memberships with the National Boating Federation.

Membership by type:

Associate members	3
Corporate 1 -- 10 members	2
Corporate 2 -- 5 members	8
Sponsored members	42

## **VIII. Loran Lines - Albert Frost, Editor**

Mr. Frost urged the Board to submit materials for publication. Repetition is better than the opposite! (I can handle two reports of the same story, but I can't handle *no* reports.) Relative to content, we've beaten the U. S. DOT Loran-C decision matter to death.

Discussion: What about distribution to US Congress? Should it be full or selective, as now?

Mr. Bond: Congressional staffers are more important than representatives, likely.

Mr. Jørgensen: Readers in Europe should could provide more information for Loran Lines. Presently there is a U. S. "edge" to it.

Mr. Last: If it's to have political content, we will need to add a background section.

Perhaps we need "contributing editors" in key forums.

The newsletter is to be continued on the agenda for the 135th Board meeting.

## **IX. Operations Center**

Linn Roth distributed a letter suggesting changes in the ILA Operations Center, with the idea that the full discussion would take place at the 135th Board of Directors' meeting. Linn reported discussions held at the end of the Board meeting in London (at the ILA 28th Convention and Technical Symposium), relating to Operations Center modernization and positioning for future growth. A committee was formed, but no recommendation was forthcoming.

He introduced his letter, saying that LOCUS is in a position to take over the Operations Center Center and thereby save ILA a large amount of money. The upside is that the plan saves money. The downside is that LOCUS is not an "operations center company." LOCUS would operate the Center for one or two years only. Linn recognized that his plan does not consider longer-term effects.

He continued that the letter he wrote to John Beukers as the incoming President of ILA outlines duties of the Operations Center as he sees them, in more detail than we have done before. It should be useful. But, he added, whether or not it is a good strategy to have LOCUS take over for a year or a maximum of two years, is another issue.

The incoming Board was asked to consider the letter and the offer. His summary was that this plan can save money, but there's a down side. It is a short term plan only. He considers it useful to review these issues to decide what we do in the future, if changes are to be made.

In response, President-elect John Beukers asked the Board to review this and prepare for an efficient discussion in the 135th BOD, to be held on Wednesday, November 15, 2000 at 3:30 PM.

Dale Johnson *moved* to table this matter until the 135th Board of Directors meeting. John Beukers *seconded* the motion, which was then *carried* by voice vote.

## **[Awards Committee Report - Addendum]**

*[The awards committee report was not presented at the meeting, but was submitted on paper. A copy is available in the Secretary's files.]*

## **X. Other Issues**

No other issues were introduced.

## **XI. Adjournment**

The meeting was adjourned at 6:03 PM.