

Commentary: Omega Transmissions Stop

John M. Beukers, October 3, 1997

Mr. Beukers was unable to attend the meeting; however, he submitted these observations on the termination of the Omega Navigation System. ILA members are invited to consider this action as evidence that the threat of termination of Loran-C is indeed a real one.

After more than a quarter of a century of service to air, sea and land users worldwide, the international Omega radionavigation system went off the air on September 30, 1997. (This was the date announced in the 1994 Federal Radionavigation Plan, a change from the 1992 Plan, which called for operations until 2005.) Operators at the eight stations located around the world simultaneously turned off the transmitters in what is described by some observers as “premature”, “tragic” and an “irreversible mistake.” While some users have already converted to the replacement technology, GPS, others have yet to do so and some cannot for technical limitations of GPS. (Omega signals could be received under water and in other places invisible to satellites.) Hardest hit are the weather predictors and modelers who relied upon Omega, particularly in the southern hemisphere, to obtain meteorological data from 300,000 balloon borne radiosondes launched annually.

In a communication from one of the two major radiosonde manufactures, Vaisala of Finland, the last Omega launch is described:

“This morning we assembled for a final radiosonde launch using Omega at Vaisala plant. Some 40+ persons were present at the launch 05:30 AM local time. Good data until the end of transmissions.

Veijo Antikainen had checked the archives and identified our first one: 14th September 1971 at 15:52 local time.

Transition to GPS and Loran-C based systems has gone perhaps a bit better than expected a year ago, although few users have developed the real observation routine yet. A lot of work is still ahead, and the final impact of this change remains to be seen.”

Omega was the brainchild of the late Jack Pierce who had received wide acclaim for his work on low frequency aids to navigation. The Omega system became operational in the northern hemisphere in the early 1970's and fully operational in the southern hemisphere after the completion of the Australian station in 1982. The system cost the United States \$5 million annually.

Comment: The 1994 Federal Radionavigation Plan and the 1996 issue, yet to be distributed in hard copy, provide dates for the termination of *all* terrestrial radionavigation systems. Omega is the first to go and suggests that DOT is serious in carrying out the published termination plans. Total reliance upon any radionavigation system is unwise and unsafe particularly when this is a vulnerable space system whose weak signals are susceptible to interference and jamming.

DOT needs to revisit this GPS sole-means policy and determine a suitable mix of systems for the 21st century *with a transition policy based upon time-proven performance of new technologies rather than fixed arbitrary dates*. We need this change to be published in the 1998 FRP.

For reasons of economy, the weather observers are converting to Loran-C where there is coverage because the GPS radiosonde is more expensive and cannot be afforded by many of the world's meteorological services.