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WSHB Sold from One NASB Member to Another

The Christian Science Church based in Boston, Massachusetts announced on June 9, 2004 the sale of its shortwave station WSHB in Cypress Creek, South Carolina to NASB member LeSEA Broadcasting, based in South Bend, Indiana.

Herald Broadcasting -- the radio and TV arm of the Christian Science Church -- had also been an NASB member when it was operating WSHB.

The sale will officially take place after approved by the FCC. The sale price is \$2 million, according to Herald Broadcasting.

"We're especially delighted that LeSEA has agreed to keep most of WSHB's excellent staff onboard," said Catherine Aitken-Smith, Broadcast Director of Broadcast and Multimedia Services for the Church. "LeSEA has acquired not only a top-notch broadcast facility, but the kind of first-rate professionals who really know how to run it."

WSHB is considered by many to be one of the premier shortwave facilities in the world. Its signal covers South America, Central America, the Caribbean, North America, Europe, the Middle East, most of Africa, and Australasia.

Earlier this year, the Church announced plans to cease its broadcasts from WSHB, while The

Christian Science Publishing Society -- the Church's wholly-owned subsidiary -- planned alternative ways to distribute its broadcast materials, including local radio broadcasts and Internet webcasts. "It's become clear to us that we don't need to actually own broadcast facilities in order to distribute programs," Aitken-Smith said at the time. WSHB had been broadcasting Christian Science radio programs since 1989.

WSHB's two 500-kilowatt transmitters (which will be operated at 250-kilowatts) have joined the five existing shortwave transmitters operated by LeSEA under the name "World Harvest Radio." Each transmitter is referred to as an "angel." "Angel One," covering Central and South America; and "Angel Two," covering Europe and Western Russia, were together known as WHRI and located in Noblesville, Indiana. "WHRI is presently off the air and all programming is now on WSHB," according to LeSEA's Director of Engineering, Larry Vehorn. "Both transmitters are on 21 hours per day Monday through Friday, and 24 hours per day on weekends." Angels 3 and 4, located at station KWHR in Hawaii, cover Asia and the Pacific. Angel 5 at WHRA in Greenbush, Maine, covers Africa. Peter Sumrall, President of LeSEA Broadcasting, stated, "With the addition of WSHB we are moving from great coverage from our Angel system to spectacular coverage. World Harvest Radio will have a higher quality of transmitter resulting in a clearer signal in locations we currently reach, and will include the addition of remote areas which were not reachable by us before."

For more information about World Harvest Radio and WSHB go to (www.lesea.com) or (www.whr.org).

Upcoming HFCC Conferences

At the NASB Annual Meeting, the members voted to appoint KTWR-Guam as our official coordination rep for the next two HFCC conferences. The next conference is in Helsinki, Finland August 23-27. If your station will not have its own representative there, please be sure to e-mail Jeff LeCureux a copy of your B04 frequency requirements at: jeff@twrguam.com (as well as of course sending them to Tom Polzin or Tom Lucey at the FCC). Jeff and George Ross will both be there from KTWR, and they will make sure your requirements are correctly recorded and will inform you of any major potential collisions involving your station. NASB Board member Dennis Dempsey of WEWN is also planning to attend the Helsinki conference.

You may remember that the NASB and a series of co-sponsors had offered to host the February 2005 HFCC Conference in Miami. Due to some possible visa complications for delegates from certain countries, we changed the venue from Miami to Mexico City. In the end, the HFCC/ASBU Steering Board tentatively selected an invitation from Egypt for the February 2005 conference, and it indicated that it may accept one of our NASB proposals for the August 2005 conference. We hope to have a definite decision from the Steering Board in the near future.

Correction

In Jeff White's opening remarks to the USA DRM Group published in the May NASB Newsletter, Michel Penneroux was identified as the Chairman of the DRM Technical Committee. He is, in fact, Chairman of the DRM *Commercial* Committee, as noted elsewhere in the Newsletter. Don Messer of IBB is Chairman of the DRM *Technical* committee.

Reports From the 2004 NASB Annual Meeting

These articles are summary reports of presentations at the NASB 2004 Annual Meeting. Summary reports for other sessions from the 2004 Annual Meeting will appear in future issues of the NASB Newsletter

FCC Updates, Questions and Answers

Tom Lucey
FCC

The FCC would like to have our tentative Winter schedules by June 1. The FCC database has been upgraded to include all the HFCC elements. They would very much appreciate getting our submissions in the HFCC format because the FCC database can now directly input files that are in the HFCC format. Tom made copies of the HFCC format available. The next HFCC meeting will be held in Helsinki, Finland August 23-27. The FCC's deadline for sending in requirements is July 11.

The FCC has a Notice of Proposed Rulemaking---OET Docket 04137---to amend the rules and implement decisions in the WRC-03 for HF Spectrum. This docket deals to a large degree with single sideband and DRM matters. It sets minimum powers for SSB and DRM transmissions.

The FCC is working on implementing electronic filing of HF applications. Tom Polzin is the one to talk to in regard to questions about electronic filing.

The question came from the floor as to getting temporary broadcast authority to operate shortwave and medium wave transmitters in the USA in the DRM mode for test purposes. Tom responded that they would have to talk to the branch in OET that does experimental licensing.

Implications of BPL for Shortwave Broadcasters

Paul Rinaldo
ARRL

Amateur radio operators and shortwave broadcasters share a concern about Broadband over Power line because off-air radio reception is vital to the functioning of both services. These radio receivers usually operate in fairly close proximity to power lines. Both services often work with low level signals and fairly low signal-to-noise ratios. Such reception is very susceptible to an increase in ambient noise levels. Tests indicate that when there is a BPL service in a community, the base noise level gets raised 20-25 db over what it was with no BPL.

The FCC seems very favorable to implementation of BPL. The approach they're promoting in their relevant Notice of Proposed Rulemaking seems to focus on mitigation of interference rather than prevention of interference. BPL service providers would lower power or change frequencies if other spectrum users experience interference from BPL transmissions. BPL service providers are to maintain a public database, listing by area (probably by Zip Code) the appropriate contacts for reporting instances of interference from BPL transmissions.

The NTIA recently released a report regarding BPL interference. They are mostly concerned about interference to Federal receivers by BPL transmissions, not users under the jurisdiction of the FCC. The NTIA tests indicate that significant BPL interference could occur to low-to-moderate signals up to 75 meters away for land mobile units, and up to 460 meters away for fixed stations. In a second phase of research, the NTIA will be conducting studies as to the possibility of BPL interference via ionospheric propagation.

The ARRL analyzes power lines as a line source radiator, not a point source radiator (as suggested by some power companies, and to a degree by the FCC). These views impact significantly on the predictions of interference signal attenuation as a function of distance from the radiating source, the strength of radiation dropping off much more rapidly for a given distance in the case of a point source radiator. ARRL tests indicate that, if the base noise level rises above 1 microvolt per meter, it will impact the operations of the amateur radio service. Ten meters is about the usual distance from power lines to receiving equipment, so the ARRL feels it is a good number to use for making measurements of BPL radiation. The ARRL website carries some useful information, such as how to recognize BPL interference (www.ARRL.org/bpl).

The first level of seeking mitigation from BPL interference is with the local BPL service provider. If that fails, then go to the FCC.

IBB Update

Del Carson---Leasing

Del notes these recent trends with the IBB: lots of change (increasingly so as time goes on); use of longer time blocks for coverage to strategic targets; more use of TV, FM, and satellite, less use of shortwave; less use of leased facilities.

Recent IBB leasing info: 46,500 leased shortwave hours annually, which is 11% of their total shortwave operation; last year's leasing budget was \$12,000,000; this year it's about \$9,000,000.

For IBB, total annual medium wave hours: 81,473; total annual FM hours: 52,560; total annual shortwave hours: 435,875.

IBB still is a major shortwave broadcaster, and will continue to be so into the foreseeable future.

Bill Whitacre---Monitoring

There are 64 locations worldwide with Remote Monitoring Systems. With a network of trained, experienced human monitors and the RMS inputs, they have good feedback on the performance of most of their transmissions.

Dan Ferguson---Frequency Management

Normally, he sends the new schedule to the transmission sites about a month before a season starts. And usually about 20 start-of-season memos follow the initial schedule in regard to changes made before the season starts. This season there were so many changes (internal and external) that it took about 100 follow-up memos to arrive at the final working schedule.

Marion Hales---Engineering

A lot more FM and TV (both low-power and regional) are being used these days. Early on, they primarily used shortwave.

The Solid State Modulator program began around 1995/96 and has been very successful. All transmitters in the network that can accommodate a SSM have been fitted with one.

They have been conducting vacuum capacitor research (especially water-cooled units), seeking ways to improve capacitor life (because they are a significant operating cost item). They typically get 10,000-15,000 hours capacitor life---up to 20,000 in some instances. Cooling of vacuum capacitors has been a major area of this research---with some surprising results: For example, more is not necessarily better. Optimum cooling calls for a certain range of water flow---above or below that range, the results are not as good. A too high velocity water flow can deteriorate the bellows, and actually reduce capacitor life. Blowing cooling air on capacitors may solve some cooling issues, but brings its own problems as well. With high power transmitters, they've found it important for capacitor life that the pre-sets be set as close as possible. Because there are so many stray inductances and capacitances in a high power tuning network (causing parasitic loops), modes harmful to the tuning components can be energized if tuning is not very close to correct when the high voltage is applied. Capacitors operated in parallel must be balanced closely in capacitance for best life, else unequal sharing of current will substantially reduce the life of one of the parallel units. During this research, they've maintained contact with component manufacturers and transmitter manufacturers. They are not ready to publish their findings yet, but are actively testing their conclusions at several of their transmitter sites before full-out implementation.

They are very actively involved in DRM. They purchased a DRM exciter about a year ago. They've achieved good results using linear type transmitters, but have found it problematic using Class-C operation transmitters. Working closely with the transmitter manufacturers, they are researching what will be necessary to install DRM exciters on all their transmitters. They have a large number and many types of transmitters, so it's quite a project.

The Latest on DRM

Mike Adams
FEBC

Mike has represented the NASB at a number of DRM meetings in several countries.

Radio Free Asia hosted the DRM USA group's first meeting on May 6, 2004. Twenty-five broadcasters, transmission equipment manufacturers, and transmission providers gathered there to spearhead efforts to promote and facilitate the implementation of DRM in the USA. For DRM to succeed will require cooperative efforts at all levels---transmitter manufacturers, receiver manufacturers, and broadcasters.

Questions were addressed such as: What does it take for a broadcaster to get on the air in DRM mode? How can transmitter manufacturers work with the broadcasters? Who else can provide air time for hire in the DRM mode?

Adil Mina of DRS-Continental offered the use of a website "USADRM" as a place for the USA group to communicate their own specific needs and interests. The group reached the conclusion that there should be better promotion and publicity regarding DRM here in the USA---more DRM representation, demonstrations, and tutorials at broadcasting-related events that take place in the USA. The group also determined to work more closely with the FCC regarding DRM issues.

An e-mail list will be started for the USADRM group. Contact Jeff White, Chairman of the USADRM group, to join this list.

A DRM Broadcasters' User Manual has been prepared that answers many questions that broadcasters have regarding DRM. So much of the DRM technology is new and different---interested parties will find this manual very useful as they learn about and consider the various options offered by DRM. The manual can be picked up electronically from the DRM website.

China has shown a major interest in DRM in the last year or two. Chinese receiver manufacturers and receiver IC manufacturers are looking very closely at DRM developments and potential. Indications are that China is committed to introducing standard DRM digital broadcasting, both domestic and international, because of its huge advantages. China has converted around 60 transmitters to DRM capability, and has been running tests. They haven't gotten very far along yet on receiver production, but it is expected that they will eventually be strongly involved in that.

It was pointed out that BPL interference is potentially as harmful to DRM transmissions as it is to analog broadcasts.

Eventually, feedback from receivers (“quality of service monitoring”) in target areas will make possible automatic adjustments in the DRM characteristics of the transmission to optimize it for the prevailing propagation conditions. (There is a trade-off between robustness and audio quality in the transmission parameter choices.)

Recent Audience Research Findings

Kim Elliott
IBB

Broadcasters interested in listener surveys in a given target region could contact Intermedia Surveys, a non-profit group. (Website is intermedia.org)

English worldwide service is in a reduction mode at VoA in recent times. This move is based on audience research showing that the English speaking audience is scattered widely for the most part, with few large concentrations in a given target area. Burma has a big shortwave audience (their internal broadcasting system is a government-controlled monopoly). Surveys in China indicate that around 30% of households there have radio. This percentage is expected to grow in the future. Over 90% of households in China have TV. Because of limited funds, citizens there tend to opt to invest in TV rather than radio. External internet access in China is blocked. Satellite reception is strictly regulated and controlled. So despite the low percentage of radio receivers in China, shortwave remains a very good way to bring in information from outside the country. Medium wave does well for the VoA in Cambodia and Laos because of their medium wave relay in Thailand. TV and FM are very popular in Indonesia, but with still a significant audience for shortwave. Satellite and cable systems have recently become important for international access in India. FM stations there are not allowed to rebroadcast international broadcast stations. Shortwave and medium wave remain important as a way for outside broadcasters to reach India. VoA does have some FM relays in Bangladesh. VoA uses medium wave and TV significantly in reaching the Middle East. VoA recently dropped a lot of its European language services. The VoA finds that their largest audiences in surveying European target areas there are to their TV broadcasts, with FM showing some growth. A surviving audience for shortwave does exist throughout Europe. The VoA has a large shortwave audience in Africa because of deficiencies in domestic broadcasting there, and because of widespread use there of shortwave for domestic broadcasting. VoA broadcasts to the Americas are presently under evaluation.

Programming preferences of different audiences will be a focus of future VoA audience research. They’re keeping an eye on the media access that is being sold to consumers in various countries. For example, cheap receivers sold in Africa commonly worked only on AM. Now some are FM only. If shortwave is available only on more expensive receivers, that limits your shortwave audience significantly.

Because of its extensive network of domestic stations and considerable freedom regarding content, shortwave broadcasting has a relatively small audience in Mexico.

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