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# Changes Afoot in the AM Band by Bruce Portzer

Back in the 1970's an international agreement was reached to expand the AM broadcast band to 1700 kHz in the western hemisphere. Since then, further international negotiations have taken place to work out the details of the agreement. During that time, the AM band has been losing audience share to FM with the listening public perceiving AM as inferior to FM.

The decline of AM has been a big concern at the FCC and in industry circles and various moves have been made by the FCC and the broadcast industry to shore up the AM broadcast band. At the same time, the FCC has been faced with the problem of how to fairly allocate the additional 100 kHz of radio spectrum to AM broadcasters.

The need for improvement and expansion of the band brought about a Notice of Proposed Rulemaking by the FCC in 1990 to revitalize and expand the AM broadcast service. This process covered technical and regulatory changes to the existing AM band as well as the new portion of the band with a goal toward improving the quality of service.

After a long period of public comment and review, the FCC finally came out with its final decision last fall. I recently obtained a copy of the FCC's Report and Order on this process from the local FCC office. The report is dated October 25, 1991 and documents the FCC's findings and the resulting changes to the FCC Rules. It is a couple of hundred pages long and, as government reports go, makes fascinating reading.

I quickly discovered that the Rules changes are much broader than merely expanding the band. Many other changes were made which will have interesting effects on our hobby in the years to come.

## EXISTING STATIONS

For decades the FCC has had four classes of stations, with several subclasses. These included Classes I and II (clear channels) with subclasses such as II-A, II-B, etc., to denote levels of power and interference protection, Class III (regional channels) and Class IV (local channels). In the future there will be four somewhat different classes of stations:

Class A, the current Class I stations: these are the major clear channel stations like KFI and WCCO.

Class B, the current Class II and III stations: these include the fulltime secondary stations on the clear channels, plus the fulltime regional channel stations.

Class C, the current local channel ("graveyard") stations.

Class D, including daytime-only and certain other Class II and III stations with limited interference protection.

At first glance this change looks like mere administrative bookkeeping. However, such is not the case, because the rules change also allows up to 50 kW for all Class A and B stations. In other words, the 5000 watt (or less) regional channel stations can potentially boost power to 50 kW! This may not be as bad as it sounds, however, because all stations are still required to maintain current levels of interference protection to other co-channel stations and first adjacent-channel stations, plus more stringent protection to second adjacent-channel stations (i.e. those 20 kHz away). The rules change also requires stations to demonstrate a 10 percent interference reduction when any modifications are made to existing AM facilities. In other words, they'll be allowed to boost power if it results in less overall interference to other stations!

Given the large number of stations operating on regional channels, many with complicated directional arrays, I'm not convinced we'll see large numbers of stations boosting power, although some could take advantage of it in coastal locations. One area in particular would be the southeastern US, where AM stations are plagued by QRM from stations in Cuba and other Latin countries. I wouldn't be surprised to see most of the stations in Miami running 50kW in a few years. In other parts of the country some stations may boost power but blast most of the signal towards Europe, Africa, Australia or Japan. As an example, KXRO-1320 in Aberdeen, WA could probably get away with it by building a new 50 kW transmitter site SE of town, with deep nulls to protect CHQM-1320 Vancouver, KMPS-1300 Seattle, KUPL-1330 Portland, KHNN-1320 Eugene and several other stations, and blast away at Aberdeen and Siberia. On the other hand, KMEN-1290 in San Bernardino, CA probably couldn't boost power because they have co-channel and adjacent-channel stations in all directions.

In addition, the FCC revised the method by which nighttime interference levels are calculated. The revised method is said to more accurately account for real-world conditions. I'm not sure what impact this will have, if any, on DX listening.

## EXPANDED AM BAND

Many years ago, an international agreement allowed for the expansion of the AM broadcast band to 1700 kHz in the Western hemisphere. The FCC has finally adopted rules for operating in this expanded portion of the band, and has established a procedure for filling this frequency range. This process will basically be as follows:

As a general rule, stations on the ten channels between 1610 and 1700 will be allowed to operate with 10kW days and 1kW at night. In a few cases higher night power may be considered. They will be allowed only non-directional or simple directional patterns.

Stations will be spaced every 400-800 Km. It is anticipated that this will allow a maximum of 25-30 stations per channel. This is roughly equivalent to the number of full-time stations on most regional channels.

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At some undetermined time in the future the FCC will begin taking applications for operation in the expanded band. There will be a time window when stations will be allowed to file a petition to allow them to operate in the new part of the band. The stations which file will be prioritized through a rather complex process based on interference-reduction, area served, and willingness to use AM Stereo. Existing full-time stations will receive priority over daytime-only stations.

The FCC will then indicate which of these stations will be allowed to apply for an authorization to move to the new band. Frequencies will be selected by the FCC (not the applicants) based on the optimal "mix" which minimizes co-channel and adjacent-channel interference. Eventually, after many months, construction permits will be issued, and the successful applicants will be able to start operation on their new frequencies. Stations which move to the new part of the band will be able to simulcast on their old and new frequencies for up to five years.

I'm not sure how long this process will take, but I won't be surprised if it takes until at least the end of the current millennium for the new band to fill up. In any case, the moves will take place one station at a time. I envision a period of at least a couple of years when we will be in a get-it-while-you-can mode: we'll have clear shots at stations hundreds or thousands of miles away, which will eventually get covered up when much closer stations come on the air. Those of us on the West Coast could conceivably have a limited window of opportunity to hear rare states like Maine and Delaware, while DXers in the East might have similar brief opportunities to log Idaho or Montana.

After that, the channels will start to get more crowded: however, sunrise and sunset DXing could still be interesting with stations switching from 10kW to 1 kW (or vice versa). Bear in mind that radio signals propagate better above 1600 kHz than in the current band. Five hundred watt Aussies were heard recently on 1620 and 1629 in the eastern US and Canada, and hams have long enjoyed worldwide communications on 160 meters, 1800-1900 kHz, with less than 1 kW. I'm chomping at the bit, hi!

It should also be noted that 530 kHz was authorized for broadcast use in the Western hemisphere. However, the FCC decided not to open this frequency for broadcast use. It will continue to be used by TIS stations plus broadcasters in Canada and other countries.

TRAVELLER'S INFORMATION STATIONS

TIS stations are currently allowed to operate on 1610 kHz and 530 kHz with ten watts or less. With the expansion of the band to 1700 kHz, TIS stations will be allowed to operate on any standard (10 kHz) frequency from 530 to 1700 kHz that doesn't result in interference to and from broadcasters. This will probably make them more difficult to hear, since their ten-watt transmitters will have to compete with multi-kilowatt broadcast stations, except on 530 kHz.

CONSOLIDATION

The FCC will also allow owners to surrender AM station licenses for cancellation. In return, the station owners will receive tax certificates enabling them to defer. As a result, owners will be able to receive tax breaks by closing down marginally profitable stations. The FCC's goal here is to provide an incentive for interference reduction. It will be interesting to see how many stations take advantage of this rule.

Some ownership rules have also been relaxed to allow common ownership of stations with overlapping 5 mV/m contours. These stations may operate with parallel programming. We may soon start seeing more mini-networks of stations in the same geographical area. Here in western WA we already have something called the "Country Gold" network, consisting of KJUN-1450, KWYZ-1230, KTOL-1280, KENU-1330 and KBLV-1540. These four suburban stations each have power and/or antenna pattern limitations which greatly limit their individual coverage, however, together they cover a large area. The advantage here is that operating costs can be consolidated for several stations and coverage can be expanded over that of a single AM station. I believe in this case the network owners are leasing 100% of the air time from the station owners, but the same principle would apply if the stations were all owned by the same individual.

CONCLUSIONS

At this point I'm not sure when all these rules changes will take effect. However, I expect it will be soon. The expansion of the band will be exciting during the transition period. Beyond that, it's not clear what impact these changes will have on our hobby. A few stations will probably leave the air for good, but these will not exactly be the most powerful stations in their markets. A couple of hundred stations will move to the upper end of the dial, eventually vacating their present channels. This will make DXing a little easier on individual channels for individual DXers. However, the change will only affect less than 5% of the existing stations, most of which presently have facilities which the owners feel provide less than acceptable coverage.

The FCC's Report and Order on Docket 87-267 "Review of the Technical Assignment Criteria for the AM Broadcast Service" has a lengthy discussion and analysis of the above changes, including technical criteria and Rules changes covered by its decision. I was able to obtain a copy from the FCC's Seattle office for no-charge. You can also find the same information in slightly abbreviated form in the December 12, 1991 Federal Register.