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2016 NAB Show Brings 103,102 to Las Vegas

BTS IEEE

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President's Message

Bill Hayes, BTS President

Greetings BTS Members! I'm writing this column after attending the National Association of Broadcasters (NAB) conference in Las Vegas in April and the Advanced Television Systems Committee (ATSC) annual conference in Washington, D.C. in May.

A significant topic at NAB Show and the ATSC meetings was a joint petition (*http://apps.fcc.gov/ecfs/document/view?id=60001569503*) filed with the United States Federal Communications Commission (FCC) to authorize the voluntary use of the ATSC 3.0 standard by U.S. television broadcasters. The joint filing was made by the America's Public Television Stations (APTS), the Advanced Warning and Response Network (AWARN) Alliance, the Consumer Technology Association (CTA) and the NAB. The joint petition was filed on April 13, 2016, timed to be at the top of the minds of broadcasters from all over the United States and the world, as they converged on Las Vegas for the NAB Show. There was certainly no lack of ATSC 3.0 demonstrations throughout the Las Vegas Convention Center. The most notable of these was the NAB Futures Park which provided attendees with a look at the prototype equipment creating terrestrial ATSC transmissions within the convention center. There was also the ATSC 3.0 Consumer Experience area where consumer products demonstrated their prowess for receiving and taking advantage of many of the new capabilities made possible in ATSC 3.0.

Among the more impressive elements that I observed at the Consumer Experience pavilion were working models of consumer products such as television sets and home gateways incorporating ATSC 3.0 technology already available in silicon chips. I believe this is due in no small part to South Korea's commitment to begin a terrestrial UHD distribution service in 2017, with a lot of consideration being given to the ATSC 3.0 standard. As South Korea is also home to a number of the largest consumer product manufacturers and there's a mandate for UHD service, there's great impetus to get products to market.

The NAB Show product demonstrations and the joint petition filing not only had an impact on the broadcasters attending the show, but it also brought action from the FCC. In a speech on April 20 at the NAB Show, FCC Chairman Tom Wheeler promised fast action from the FCC. True to his word, the FCC released a Public Notice (*http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0426/DA-16-451A1.pdf*) seeking comments on the joint petition with a comment date deadline of May 26, 2016 and replay comments due on June 27, 2016.

Now while this may seem to be a somewhat North American-focused event, it's not difficult to imagine some potential global implications. The concept in the joint petition of voluntary transition from the existing digital standard to the non-backwardly compatible new standard creates a very different environment for broadcasters. While our colleagues in South Korea have mandated channels assigned for their new UHD service, it will not be that way in North America; specifically in the United States. The spectrum auction has begun, and the initial 126 MHz clearing target for UHF spectrum has been announced. If this target holds, the U.S. UHF TV broadcast spectrum will shrink from 228 MHz to 102 MHz, or from a total of 37 UHF channels to 16. While there is still some uncertainty as to whether this initial clearing target will be met or not, there simply won't be the companion channels available for this next transition as was the case during the transition from analog to digital broadcasting. It puts competitive television stations operating in the same market in the position of having to make transitional agreements for sharing channels with each other to allow for simultaneous operations in both ATSC 1.0 and 3.0. It will be interesting to

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From the Editor

The FCC Again—Great Promise and Great Disappointment

By James E. O'Neal, Editor-in-Chief

Seems there's been lots of news emanating from the Portals II building in Washington recently, with some of it good and some of it questionable.

Moving Ahead With ATSC 3.0

On the positive side the FCC has issued a joint industry petition proposing voluntary adoption of the ATSC 3.0 DTV standard. Chairman Wheeler promised action on this during an April 20 address at the NAB Show and made good on that promise just six days later. (The petition had been filed a week prior to the Chairman's Las Vegas appearance by the NAB, the Consumer Technology Association (formerly the CES), the APTS (America's Public Television Stations), and the Advanced Warning and Response Network (AWARN) Alliance.)

In a nutshell, the petition requests FCC approval of the ATSC 3.0 core transmission technology for broadcasters and receiver manufacturers and seeks some FCC rule changes to permit simulcasting of both existing ATSC 1.0 signals and the new standard so as to allow a transition to "next-gen" TV in a minimally disruptive fashion. As laid out in the petition, a "host" station would be selected in individual markets to carry ATSC 1.0 signals, including with their own, from area broadcasters who elected to move to 3.0. In turn, one of those other stations would transmit the program stream from that "host" station in 3.0. Such an arrangement would continue until a full transition to ATSC 3.0 could be effected. While not perfect (we don't live in a perfect world), this scenario would seem to have the least amount of impact on viewers who watch over-the-air television, especially as there is no mention of a government-subsidized program to provide DTV set owners with set-top conversion boxes, as was the case in the original U.S. analog-to-digital broadcasting transition.

Thumbs up to the FCC and Chairman Wheeler for this rapid response to a necessary first step in moving into the new world of television that ATSC 3.0 can provide.

Wasted Effort

On the other hand, the Commission is still buzzing about a so-called AM "revitalization" plan (NPRM) that was run up the mast last year. I've been holding off on commenting about this initiative for a while now, but after speaking with others who have a lot more knowledge of the AM broadcast band's woes than I do, I've decided that I can't keep biting my tongue.

In general, the 2015 NPRM examines the following items:

- Opening of an exclusive window for AM entities desiring to add FM translators
- Modification of daytime community coverage standards for existing AMs
- Elimination of the so-called "ratchet rule"
- Modification of AM nighttime community coverage standards
- Increased use of modulation-dependent carrier control (MDCL)
- Modification of AM antenna efficiency standards

While well-intentioned, the notion that addressing these items is going to save U.S medium wave broadcasting is rather ludicrous. Application of even large amounts of legislative snake oil in these areas won't accomplish anything meaningful.

As I see it, perhaps the majority of the AM band's woes are directly traceable to past FCC actions (or inactions) during the past 40 year or so.

Undoubtedly, the single biggest problem with the AM band is that, over the years, way too many stations were approved and licensed. I didn't take the time to go through the FCC data base and do a head count, but did find a website (*www.radiosurvivor.com*) administered by people who do have the time to keep track of such large numbers. According to the latest "Radio Survivor" information, as of last September there were nearly 4,700 U.S. AM radio stations. When you average it out that amounts to nearly 100 stations for each of the 48 contiguous states. (Alaska and Hawaii skew this a little, but not much.) Talk about crowded airwaves and towers of Babel! It's really a marvel of RF engineering that any of them is able to even minimally serve the "*interest, convenience, and necessity*" of the public.

Such overcrowding is nothing new. More than 90 years ago things were equally bad, with just about anyone having the resources to put a station on the air doing so. The government then was wise to do a reality check and this led to the establishment in 1927 of the FCC's precursor, the Federal Radio Commission. With the problem squarely identified it took action and ultimately silenced nearly a quarter of the 700 stations on the air then.

The words of one of those first FRC members, Henry A. Bellows, in a 1927 address to the League of Women Voters, clearly indicate that Commission understood the need for decisive action before the AM broadcast band became a totally non-functional wasteland.

> *"A broadcasting station is in many ways akin to a newspaper, but with this fundamental difference: there is no arbitrary limit to the number of different newspapers which may be published, whereas there is a definite limit, and a very low one, to the number of broadcasting stations which can operate simultaneously within the entire length and breadth of our country.*
>
> *"This limit has not only been reached; it has been far overpassed; the demand from every section of the country is to*