

Behind the Clear-Channel Matter (Radio World, June 7, 2000)

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This is the first in a series of 6 articles about the history of clear-channel AM radio stations.

The year was 1980. The FCC was about to dramatically alter the face of U.S. broadcasting by issuing two rule makings. Docket 80-90 would soon transform the FM band, but the issue with the longest history and heaviest baggage was the AM clear-channel proceeding.

This series of articles will describe how early radio regulations stimulated the development of high-power AM broadcasting, by protecting the signals of certain stations from interference across the United States. This protection was designed to allow these high-power stations to deliver radio to under-served rural areas. The mixed success of the plan and the opposition it generated from the “have-not” broadcasters stimulated a 50-year regulatory brouhaha that was finally settled by a 1980 Report and Order that would change the AM dial forever.

The break up of the United States 1-A clear channels makes interesting reading. The “clear channels” were the bedrock of what was called the “Standard Broadcast Band.” The stations given clear-channel protection were incentivized by this protection to provide full-service programming across their service areas, and they invested in the resources to carry out that obligation. So it’s not surprising that they were very concerned about protecting and growing their investment. A look behind the curtain, where the lobbying and maneuvering was going on, demonstrates the determination and resolve of the players involved.

And what a conflict! On one side were the clear-channel broadcasters, fighting to protect their wide service areas from encroachment by other signals. To better serve those regions some were also pushing for AM “super power”, in the order of a half-million watts. On the other side of the table were the rest of the broadcasters, the “have-nots” and others who felt such a powerful concentration of media influence was not in the public interest. What makes this story so remarkable is that many of the pivotal issues in the battle would be irrelevant in today’s radio world.

The dilemma

As far back as the late 1920s, industry regulators were concerned with providing reliable nighttime radio to the under-served “white areas” of the country. While a number of channels were set aside for wide-area coverage from a single site, it turned out the stations on these “clear” channels could not provide solid coverage of the vast under-served areas, even with 50,000 watts.

Given the physics of the situation, there seemed to be only two ways to solve the problem: add additional stations on the clears, or grant massive power increases to the existing solo operators. These alternatives would define the clear channel issue for more than a half-century.

In researching this matter, we looked at thousands of pages of pleadings and arguments, in public records and private libraries. We owe a debt of gratitude to WCCO Radio for providing a review of its technical files, and we thank WSM in Nashville for making available its own records and those of the Clear-Channel Broadcasting Service (CCBS). CCBS would play a key role in promoting the welfare of the clear channels and advocating AM “super power.”

In this regard we also want to recognize Ward Quall, one of radio’s great statesmen. He was a key force behind CCBS, and his input into this report was invaluable. We also owe a “thank you” to Thomas White for his excellent work on the formation of the broadcast band. Learn more at www.olderadio.com/archives.

What is a ‘Clear’?

Section 73.231 of current FCC Rules defines a “clear channel” as “one on which stations are assigned to serve wide areas.” There was a time when that was an understatement. Until the early 1960s, “clear channel” meant just that: there was only one domestic assignment on each of a couple of dozen AM frequencies from 640 to 1210 kHz. These solo signals were not only protected within the United States but, because of the way international radio agreements were written, neighboring countries had to limit co-channel interference contours to no closer than several hundred miles from their borders with the United States.

The current rules also specify that the “clear channels” will provide wide-area service *through a combination of daytime ground wave and nighttime sky-wave energy*. As we know, nighttime sky wave can extend the service area of some AM stations far beyond the reach of tall-tower FMs. Sky-wave coverage was one reason for the early success of full-service clear channel stations, but it was this same sky wave that would become a major factor in the ultimate reconfiguration of the AM broadcast band.

Early days

To better understand the fate of the clear channels, it's useful to review how the initial "clear" assignments were made. In 1922 Secretary of Commerce Herbert Hoover convened the first of four "Radio Conferences" dealing with broadcasting in the United States. Out of that conference came the first standard classifications of stations, by power and type of service. (Of interest to our report was the so-called "Class B Radiotelephony Broadcasting Station," the grandfather of the high-power clear-channel operations.)

Because so many early stations were clustered around three general frequencies — "wavelengths" in the parlance of the day — it wasn't long before there weren't enough "wavelengths" to handle the demand. So in 1923, Hoover convened the Second Radio Conference, to deal with rising interference issues, as more and more stations came on the air with little regard for precise wavelength tolerance.

To satisfy the demand for licenses, the 1923 conference expanded the AM broadcast band from 550 to 1350 "kilocycles" ("kc"), setting aside channels from 550 kc to 1000 kc for "territorial" coverage, in 10 kc steps. (It would be more than a quarter-century before "kilocycles" (kc) would become "kilohertz.")

The 1923 conference also began to label operating channels by *frequency* rather than *wavelength*. Forty of these frequencies (550-800 kc and 870-1000 kc) were reserved for high-power wide-area "Class B" operation. (Shortly thereafter, four more channels were added and the "B" group extended to 1040 kc.) The country was divided into five radio zones, with the "B" assignments spread more or less evenly across the five zones. The conference thereby set the table for extensive protection of stations providing high-power, wide-area service.

Déjà vu too

In 1924, the Third Conference extended the upper limit of the band to 1500 kc, grouped the high-power Class B stations from 550 to 1070 kc and recognized Canada's right to six of the channels. In the notes of the 1924 conference are concerns about the efficacy of expanding the band to 1500, "since few radios would tune that high." (This same concern would surface 60 years later, during the Expanded-Band proceedings.)

As the spectrum filled, regulators searched for new ways to provide more capacity. One group suggested narrowing the spacing to 8 kc. Fortunately this idea was put to sleep. But this same sort of silliness would resurface in the late 1970s when the NTIA, wishing to provide more channels "in the name of opportunity and diversity," tried to convert the Western Hemisphere to 9 khz.

Broadcast bedlam

While the broadcast industry was growing, radio receivers were undergoing design improvements that made them far more sensitive. Better receivers pulled in distant stations, which clashed with local signals. Listeners now heard interference “whistles” of varying beat notes generated by frequency drift in the equipment. (In broadcasting’s infancy, the technical performance of frequency-control equipment left a lot to be desired, and the beat would change pitch, as tubes warmed up or as stations played with transmitter tuning).

In spite of the Radio Conferences, by the mid-1920s it was clear that radio’s expansion was outstripping the government’s ability to regulate the industry. Existing rules weren’t adequate to govern operation on the crowded band. New technical guidelines were being announced, but there was little enforcement. It wasn’t unusual for stations to change operating wavelengths and power levels arbitrarily, to find the “clearest dial spot.” (In the earliest days, station frequency was set by aligning a knob pointer with a pencil mark on the transmitter’s “wavelength” control dial — a pencil mark left behind by the last Radio Inspector.)

During what became known as the “Chaos of 1926,” the Commerce Department’s authority was gutted by a federal district court, on a ruling overriding Hoover’s denial of a license to an unqualified applicant. Hoover and Commerce threw up their collective hands and began to authorize everyone who applied. Immediately some 200 new stations took to the air with abandon and with little regard for the rules, and the result almost destroyed U.S. radio. It quickly became obvious that, unless RF anarchy was to be the norm, a “sheriff of the airwaves” was needed. A massive groundswell of interference complaints finally stimulated Congress to enact the Radio Act of 1927, and to create the Federal Radio Commission to administer this new act.

The FRC’s charter was two-fold: first, to establish “avenues through the sky,” radio channels freed of interference to the extent they could provide reliable service over great distances; second, to “preclude obscenities into the home”, by enforcing rules of decorum on the licensees. Through a set of “General Orders,” the FRC confirmed 550 kc to 1500 kc as the U.S. “Standard Broadcast Band.” To provide “avenues through the sky,” they reaffirmed the set-aside of frequencies for wide-area coverage and proposed that *only one station be allowed to operate at night on each of these 40 channels.*

The “clear” channels and their occupants, as of October 1928, are listed below. Many of these assignments would change over the next dozen years, and only WSM, KFI and WMAQ would remain where they started with their original call letters. Of interest to our story is that the Federal Radio Commission suggested the maximum authorized power on these 40 channels might be “*several hundred kilowatts.*” This may have been the first official suggestion that “super power” stations in excess of 50,000 watts might one day be authorized.

Certainly the signals being sent by the FRC gave hope to early investors that their commitment to the growth of radio might be rewarded.

The 40 clear-channel assignments as of October 1928

<u>Frequency (kHz)</u>	<u>Dominant Station</u>
640	KFI
650	WSM
660	WEAF
670	WMAQ
680	KPO
700	WLW
710	WOR
720	WGN/WLIB
740	WSB
750	WJR
760	WJZ
770	WBBM/KFAB
790	KGO
800	WFAA/WBAP
810	WCCO
820	WHAS
830	KOA
850	WWL
860	WABC(WCBS)
870	WLS/WENR
970	KJR/WOC
980	KDKA
990	WBZ
1000	KQW
1020	KYW (Chicago)
1040	KRLD/WFAA
1050	KNX/WHO/WOI
1060	WBAL
1070	WTAM/WEAR
1080	WBT
1090	KMOX
1100	WLWL/WPG
1110	WRVA
1130	KSL/KFKB
1140	WAPI
1150	WHAM
1160	WOWO
1170	WCAU
1180	KEX/KOB
1190	WOAI

Source: *The October 1928 "Radio Index" Tuning Book*

When next we connect, we'll meet the "FCC" and watch as broadcasters built toward 50,000 watts and beyond.

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Minneapolis, Minnesota

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Superpowers Crank It Up

We discussed last time how early regulatory agencies tried, more or less unsuccessfully, to respond to the explosive demand for AM broadcast frequencies, and how the Chaos of 1926 led to the formation of the Federal Radio Commission. The FRC's first major proclamation came in 1928 as General Order 40. By its structure, this order finally demonstrated some regulatory consistency, and it would send a signal to broadcasters that they could commit to improving their facilities.

Road to high power

In 1930 the FRC authorized 50-kilowatt operation on 20 of the 40 channels previously reserved for wide-area coverage. Two years later, it officially recognized the term "clear channel," and in 1933 authorized full power on all 40 of the wide-area frequencies.

Broadcasters immediately began to improve their facilities. By the mid-1930s many stations were cranking out 50 kW and building solid transmitter plants, many of which are still in operation. But even with 50 kW, the coverage of medium-wave stations had its limit, and the need for solid nighttime service to the "white areas" remained a front-burner industry issue. Proposed solutions included more stations and/or higher power.

The idea of massive transmitter plants certainly had sex appeal. Power levels "several dB above 50 kW" were the usual suggestions. And *Radio News* combined high power with the use of the Long-Wave band. In a well-researched proposal in its April 1931 issue, the publication suggested that seven geographically dispersed, one megawatt stations, operating at low frequency (200 kHz), that would cover the entire country with fade-free reception. These stations would be connected by landline. They called it "Direct National Coverage". The devil, of course, would be in the details.

The Federal Radio Commission was not interested in licensing LW operation, or in solving the coverage problem by other means, until it had optimized the use of the existing MW spectrum.

The 'clear-channel case'

In the next few years, two events occurred that would affect the battle to define nighttime MW service. First, through a series of court actions and rule makings, 10 of the 40 protected channels were duplicated. (Some channels were actually constricted with the consent of the Licensees, not always for valid technical reasons but sometimes as a quid pro quo for regulatory relief). These "I-B" duplications would set a precedent for future shared use of the clear channels.

The second development occurred on May 2, 1934, when WLW in Cincinnati began what was to be a five-year experiment, broadcasting under Special Temporary Authority at a "super-power" of 500,000 watts on 700 kcs. WLW went super-power at the same time serious opposition to the broadcast giants was beginning to materialize. One of the reasons the opposition to clear-channel operation was so intense was that WLW's 500 kilowatts raised the specter of "domination by the few".

FDR years

In the Franklin D. Roosevelt years, Congress, in response to pressure for new radio regulation, enacted the Communications Act of 1934, creating a Federal Communications Commission. One of the early tasks facing the new FCC was the resolution of the legal and political attacks on the clear-channel stations by competitors and "have-nots." As large targets, the clears were challenged from all sides, from Petitions To Deny to cross-filing on license renewals. In two such cases, John Shephard III applied in 1934 for full-time operation on 640 and 830 kHz, and forced the operators on those channels through long and expensive hearings until his challenges finally were denied in 1936.

But the FCC had more to do than think about clear channels, and its reputation as a "body deliberate and informed" often was in question. As an act of protection, in 1934 a number of large stations united behind Edwin Craig of WSM to form the Clear Channel Group, later known as the Clear Channel Broadcasting Service. CCBS operated as a cooperative, typically including about 16 of the largest stations, and was the primary advocate for the protection of the clear channels. The CCBS was careful to limit membership to those operators who demonstrated a clear commitment to the preservation of clear-channel service. Because of concerns that some of the networks had "dealt away" some of their 1-A protection in deals with the FCC, the by-laws initially denied membership to "network owned-and-operated" stations.

White areas remain

By the end of the 1930s, all of the clear-channel stations were operating at 50 kW. While the stations on some duplicated I-B channels had to directionalize, the others operated full-time, non-directional, as the only domestic nighttime assignment on their frequency. Their combined sky-wave service covered a good part of the United States, but there remained a large under-served nighttime white area, primarily in the West.

The FCC wanted to solve the white-area problem, but it had other matters before it in the mid-1930s. It was preparing the U.S. position for the upcoming North American Regional Broadcasting Agreement. That NARBA would bring about a major frequency reshuffle in 1941, to accommodate the needs of neighboring countries. In developing its proposed station-inventory list in the 1930's, the FCC engineering staff evaluated the overall health of the AM broadcast band and asked for proposals to better utilize the spectrum.

In a 1937 report, FCC Engineers Ted Craven and Andy Ring outlined a comprehensive proposal to make better use of the MW band. They proposed across-the-board power increases and suggested six channel classes, to be defined by service area, from 100 watt "locals," to wide-area "A" channels of 50 kW-plus. While they recommended continued protection of 25 A channels for single-station operation, they also suggested that co-channel duplication on those clears might be a better use of spectrum, but *only* if the stations were separated by at least 2,500 miles.

These 1937 suggestions by the FCC engineers are of interest to us. They would be cited by both sides in the coming battle to dispose of the clears.

First try for super-power gold

Ring and Craven stopped short of recommending super-power, but in positioning for the upcoming NARBA, the FCC said publicly it *might* authorize power in excess of 50 kW on the 25 U.S. I-A channels. In response to this notice, several stations immediately applied for increased power. The accompanying box lists those applications, on their original, (pre-NARBA) frequencies (many of these stations would be assigned a new dial position in 1941). Two radio stations applied for 500 kW on 540, but had their requests turned down, probably because the United States was negotiating with Mexico to reserve 540 as a Mexican clear.

These super-power applications were tendered while WLW had its STA for 500 kW. Other stations may have been doing high-power experimenting as well. According to Radio News of April 1932, "Anticipating the continuing and increasing rapid growth of broadcasting service, KDKA has built a new 400,000-watt transmitter at Saxonburg, Pa. The new station has been operating experimentally between 1 a.m. and 6 a.m."

All of these super-power applications subsequently were withdrawn or dismissed. The applicants would file again, but that's getting ahead of our story.

Was WLW successful?

WLW's operation demonstrated the real-world impact of expanded power levels on adjacent-channel interference and on the economics of advertising sales. It also caught the attention of Congress. In 1938 the Senate passed a resolution "against powers in excess of 50 kilowatts." The FCC politely declined to be ordered about by such resolutions. But super-power had a lot of broadcasters concerned, and politicians have always been responsive to the broadcasters in their home states.

WLW's Special Test Authority lasted five years, kept afloat by repeated requests for additional time. The reasons the FCC finally stopped the operation are no longer clear. It's probable that interference was a major issue. (Early on, WLW had to directionalize at night, to protect a Canadian adjacent-channel station some 350 miles away.) It's also likely the FCC staff would have weighed in at some point with an "energy-consumption" edict. Radio veterans recall a World War II mandate to drop power by two or three dB, to conserve energy (that power restriction was lifted for daytime operation on Sept. 1, 1945, and fully lifted in October of that year).

One might speculate that the tangible returns to WLW didn't justify the cost of high-power operation, but the record does show that WLW tried to keep its super-power authorization. On June 19, 1941, it applied for 500 kW, directional night. It then modified that request to 500 kW day, 50 kW night. WLW finally withdrew its application on April 7, 1943 (for the "war effort"?).

But that wouldn't be the last of the super-power action, as we'll see.

What Might Have Been: Super-Power Applications (Pre-NARBA)

1935

Oct. 21: KNX applies for 500 kW on 1050 kHz

1936

April 11: WJZ (now WABC) applies for 500 kW on 760

April 27: WHAS applies for 500 kW, then for 750 kW, on 820

June 1: WJR applies for 500 kW on 750

June 5: KDKA applies for 500 kW on 980

June 15: KFI applies for 500 kW directional on 640

June 24: WSM applies for 500 kW on 650

July 2: WOAI applies for 500 kW on 1190

July 2: WOR applies for 500 kW on 710

Sept. 24: WGY applies for 500 kW on 790

Oct. 1: KSL applies for 500 kW on 1130

1937

Jan. 25: WBZ applies for 500 kW on 990

1938

July 1: WHO applies for test authority at 500 kW on 1000

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Minneapolis Minnesota

This is the third in a series of articles about the history of clear-channel radio stations in the United States. The previous part appeared July 5 in Radio World, a newspaper for radio managers and engineers.

When last we met, we reviewed early attempts on the part of full-service broadcasters to secure “super-power” authorization, and we looked at WLW’s 500,000-watt Special Temporary Authority on 700 kc/s. The requests for super-power were actually stimulated by the FCC’s public comments, as they positioned for the North American Regional Broadcasting Agreement of 1941.

The goal of NARBA 1941 was “radio standardization throughout the Western Hemisphere.” The planning for the conference began in the mid-1930s. The super-power positioning took place against the noisy backdrop of powerful “border blasters” operating out of Mexico and interfering with some U.S. broadcast signals. The U.S. delegation wanted to reserve the ability to fight the border blasters with its own super-power arsenal if need be. They also had to balance the interests of powerful clear-channel broadcasters against Congress and the “have-nots” who saw super-power in the hands of the few as further undue media concentration.

NARBA changes

The U.S. delegation went into the conference with a list of 25 frequencies they wanted protected for single-station use (including possible super-power), and they listed 21 additional 50-kilowatt channels that could be duplicated. For the first time, the labels 1-A and 1-B were officially applied to U.S. authorizations. 1-A stations were to continue operating non-directional, with solo nighttime assignments. The 1-B channels were to be occupied by two or more stations at 50 kW maximum, usually employing directional antennas to protect each other. Interference from other countries would be accepted on the 1-Bs, even within U.S. borders. Interference protection for the 1-As was to be much more extensive, as we’ll see.

Intriguing language

In the interests of their own super-power stations, some member nations of NARBA pushed a curious turn of phrase into the final Agreement. That verbiage would be cited in the ensuing clear-channel discussions in this country. The NARBA language essentially stated that while 1-B stations were given a *maximum* authorized power of 50 kW, the 1-As would be authorized a *minimum* power of 50 kW. In this respect, the *minimum* vocabulary the U.S. endorsed as a signatory to NARBA would differ from the FCC’s own 50-kW *maximum* language.

In exchange for this subtlety, the United States gained a major concession from its neighbors. 1-A co-channel stations in adjoining countries could be located no closer than 650 miles from that country's common boundary with the United States. By geographical happenstance this language prohibited, with few exceptions, *any* co-channel operation on U.S. 1-A channels *anywhere* in North America.

When the delegates returned home, the United States had continued protection on 25 1-A channels. To answer the demand for more frequencies, the United States agreed to an expansion of the band to 1600 kc/s. What was not resolved at the 1941 NARBA was the U.S. position on super-power on the 1-A channels.

The great dial switch

To implement the NARBA changes, the United States participated in a major frequency re-shuffle. On March 29, 1941, many of this country's AM stations moved to a new dial location, where they've been since. Most stations moved up the band, from 10 to 30 kc/s, but few did much to their plants, other than retuning and changing crystals. As a result, there exists today a number of stations whose towers are slightly longer than optimum for their present frequency!

With the 1941 NARBA behind them, FCC staffers could turn to the issue of providing reliable nighttime service to the country's "white areas." Attempts to build a record on the white area issue surfaced as early as an October 1936 FCC hearing, but it was on Feb. 20, 1945, that the FCC officially opened Docket 6741, looking into the future of clear channel broadcasting. Thus began a struggle that was to last 35 years and that would put a lot of consultants' and attorneys' kids through college.

Engineering and economic advice

As it opened the clear-channel proceeding, the FCC requested industry input on the coverage issues. Industry-Advisory engineering committees met at length and reported out several ideas. First, they suggested there was a need for at least four national night-time services. But the committees also agreed it was impractical to deliver four solid nighttime services across the country with only four stations on four channels, and they suggested that some form of duplication would be needed. What was left to be resolved was how to get to that goal.

The advisors also ventured into economic matters, arguing that super-power operation, while seemingly successful in other countries where it was usually subsidized, might not do well under the economic model of U.S. broadcasting. It was suggested that the cost to cover wide areas of low population density might not be covered by the advertising dollars available in those areas. The report compared wide-area night-time sky-wave service to Rural Free Delivery, in which mail costs are borne primarily by the urban centers, and the costs of serving remote constituents are essentially subsidized.

The committees concluded that primary operating support for super-power stations would have to come from “urban centers” where the stations would presumably have to be located. Looking at a U.S. map and applying some logic, one could conclude there might not be enough large “urban centers” in the sparsely-populated white areas to support super-power operation. Therefore, if cost-support was to be a driver, re-locating super-power stations, away from urban centers, would not be the best approach.

That economic argument alone might have doomed the chances for super-power. For this reason and others, the FCC stayed focused on duplicating the 1-A clear channels. The commission was very clear in stating that the ultimate solution for white-area coverage had to meet one primary criterion: maximum population gain. (In fact, when later it began to authorize such duplicate assignments, it declined to name specific cities for the new signals but instead identified only the *states* in which such operations might be located.)

What next?

In the late 1940s and early 1950s, proposals on how to deal with the clears appeared with regularity. It is interesting to watch the disparate interests at play during this proceeding. There were those who honestly saw a strong need for new service to white areas. Others were interested only in bringing about the dissolution of the 1-As. Both groups had sympathetic ears at the FCC.

Some of the commission’s public statements during this period make fascinating reading, as you watch the FCC slowly move toward the politically comfortable position that “more stations are better for you.” Our story will be served by notes from the record, as the clear-channel docket was being assembled:

> In 1946 the FCC decided to allow “Daytimers” to operate on the 1-As, but *only* inside a 750-mile radius of the 1-A stations (the approximate 50/50 skywave contour). They reasoned that assignments outside that contour could preclude possible high-power operation or duplication on the channel. In granting Daytimers authorization to operate on the clear channels, the FCC enabled a breed of political fighters who got a taste of the action and who would exert a sometimes ill-advised influence on the coming battles.

> In 1948, CBS proposed that FM stations be taken into account in defining white-area service. CBS reminded the FCC that its own staff had reported that “new FM assignments will provide service to 500 new communities, in every state except Montana.” The FCC wouldn’t buy CBS’s argument. They said, “Clear channels would always be needed for wide-area service, under any foreseeable developments affecting the wider utilization of FM radio.” It would be many years before the FCC would include FM in calculating radio coverage.

During this period, the FCC poked its toes into the water with a series of tentative “proposals.” In 1958 the Commission suggested adding new (Western-states) Class I stations on 660, 770, 880, 1100 and 1180. They also wanted new Class II assignments on 670, 720, 780, 890, 1020, 1120 and 1210 in areas “where they were needed.”

The FCC made this proposal while at the same time suggesting that it would leave the other 1-As protected for higher-power operation. It’s small wonder that industry-watchers were becoming confused.

Behind the Clear-Channel Matter, part 4

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Once past the 1941 North American Regional Broadcasting Agreement, or NARBA, the FCC began to focus on ways to provide better nighttime radio coverage of under served “white areas.” The choice seemed simple but dramatic: Add duplicate stations on the AM clear channels, or authorize existing 1-A stations to operate with power in excess of 50 kW, in an attempt to provide solid service over wider areas. (The FCC still refused to include FM in its coverage calculations.)

Imagine the hullabaloo in Washington! In one ring, communications engineers and lobbyists asserting that additional stations on the clears would create interference that would “destroy a national asset”. On the other side: folks who wanted an end to what they called the “monopoly” and “unfair advantage” held by clear-channel broadcasters. In the middle were beleaguered commissioners who, in the view of many staffers, weren’t tuned into the issues but were noted for being responsive to political pressure.

Absent the hard data needed to make a defensible decision, the FCC continued its “trial balloon” approach to resolving the clear-channel matter. In 1958 the FCC proposed new Class II stations on 23 of the clear channels (660 and 770 were already considered duplicated). At this same time, the FCC asked the 1-A stations to make their case for super-power in excess of 50 kW “if it were authorized.” Among those responding was WCCO, which filed comments and a complete engineering exhibit in support of 750 kW. They planned to directionalize west from Minneapolis on 830, and said this would provide significant white-area coverage gain not available through the FCC’s other proposed solutions. (WCCO believed so strongly in the value and logic of its engineering data that it purchased land for a four-tower array to include a true Franklin antenna and began negotiating for the necessary usage permits).

1961 Report and Order

The matter came to a head in 1961, with the publication of a “Report and Order: In the Matter of Clear-Channel Broadcasting in the Standard Broadcast Band.” It was a landmark edict. Until then, with two exceptions, only one station operated at night in the contiguous 48 states on each of 24 1-A channels (the 1961 rule making would add 1030 as the 25th 1-A channel).

That Report and Order authorized duplication on 13 of the 1-A frequencies, assigning one new Class II station to each channel, to operate with a minimum of 10 and a maximum of 50 kW at night. (Interestingly, in some cases, Class II stations operated with *lower power during the day*, to protect existing adjacent-channel daytime services.)

These new Class II stations would be allocated to western states, to serve the white areas. The initial duplication table is shown in Fig 1. The 1961 Report and Order contains some interesting language. In an intriguing way of hinting at the inevitable, instead of explaining how they chose which channels to duplicate, the commissioners chose to describe instead why they had *spared* the remaining 12. Here, in the FCC's words, which are italicized, are their reasons for protecting those 12 1-A channels as potential super-power candidates:

640: "*Serves the west; Super-power could cover a lot of white area.*" KFI might operate 750 kW as a DA-1, oriented 22 degrees. But since 1944, 640 had been duplicated in Iowa by WOI, under STAs permitting nighttime operation.

650: "*Super-power could cover a lot of under-served area in the southeast.*" The commission said WSM might operate 750 kW, DA-N at 135 degrees.

660: Because 660 was duplicated in Fairbanks, it was "*protected for now against further duplication.*" While 660 might be available for super-power, such a station would not be authorized in New York, because it would need to protect 650 and 670, requiring directionalizing north and southeast into areas already well-served.

700: "*Super-power could cover a lot of under-served area in the southeast.*" WLW could operate 750 kW DA-1 at 180 degrees. Interestingly, the FCC also said 700 might be available for BOTH super-power in Cincinnati and duplication in Utah.

750: This had been assigned to Alaska for duplication, to allow Anchorage to surrender 730 to the Mexicans. WSB, citing the distance to Alaska, asked the FCC to protect 750 as a U.S. super-power channel. This request was denied at first, but in response to a later Petition for Reconsideration, in 1965 the commission granted the protection, making it clear that this did not imply higher power would in fact be authorized.

820: "*Serves the west; super-power could cover a lot of white area.*" The FCC said WBAP could operate 750 kW DA-N at 270 degrees.

830: "*Super-power could expand service in the Midwest.*" But this channel too was already partly duplicated. WNYC had been on the air in New York City since 1943, under limited nighttime authority. The 1961 Report and Order made the New York authorization "permanent." This meant that in super-power operation, WCCO would have to limit its nighttime power to the East.

840: "*Super-power could cover a lot of under-served areas in the southeast.*" WHAS could operate 750 kW DA-N at 135 degrees.

870: "*Super-power could cover a lot of under-served area in the southeast.*" The FCC said WWL could operate 750 kW DA-1 at 0 degrees.

1040: "*Super-power could expand service in the Midwest.*" WHO could operate 750 kW DA-1 at 270 degrees. But if 1040 was good for the Midwest, why not 1120? Because KMOX at super-power on 1120 would cause unacceptable interference to adjacent-channel 1110 and 1130 stations.

1160: "*Serves the west; super-power could cover a lot of white area.*" The FCC suggested KSL could operate 750 kW, non-directional.

1200: "*Serves the west; super-power could cover a lot of white area.*" WOAI could operate 750 kW DA-N at 337 degrees.

Had these stations been granted super-power, directionalized on the bearings suggested, imagine how different the AM band would have sounded!

The Clear Channel Broadcasting Service had been doing yeoman's work in assessing the technical proposals before the FCC...and ensuring that its own position was understood. Led by WSM's Jack DeWitt, the small but enterprising CCBS technical group filed Comments proposing a "gang of 20" channels for 750 kW operation. These included 640-650, 680, 700, 720, 750, 810-850, 870, 890, 1020-1040, 1160, 1180, 1200 and 1210. In being specific by frequency in its comments, the FCC may have been responding to the CCBS proposal.

The FCC's 1961 Report and Order provided other information of interest:

- To protect itself on 760, WJR had suggested to the commission that 760 be duplicated only in Hawaii. The commission didn't buy that one. 760 had been assigned for use in San Diego, to allow KFMB to vacate 540 for use by Mexico. In this instance, the FCC displayed its pragmatic side by granting itself some waivers; most notably reducing the protection criteria for KBIG/740 Avalon, for the interference that would result from a San Diego operation on 760.
- The commissioners also reviewed an ill-timed proposal by KBIG that 830 be duplicated in Southern California. The idea was that if KFMB were given 830 instead of 760, this would resolve the KFMB/KBIG interference problem (while also solving WJR's concerns about a domestic co-channel operation on 760).

Alternatively, KBIG said, "if KFMB were to be assigned 760, why not move KBIG from 740 to 830?" That too would resolve the 760/740 interference problem. The commission said "no dice," and stuck to its earlier ruling that 760 would come alive in San Diego. 830 would continue to operate from Minneapolis (with a the secondary operation in New York City), and 830 would suffer no further duplication *at this time*. The FCC also carried over without resolution the long-standing "WCCO-WNYC" battle.

- 1030, which had been a 1-B channel reserved for duplication in New Mexico, would now become a duplicated 1-A channel and opened to operation in Wyoming, pending resolution of the famous “KOB Case.” (That story, the “WCCO-WNYC 830 fight” and other related stories will be the subject of follow-up reports.)
- The commissioners also cut through a myriad of pleadings and population statistics to reaffirm that super-power on the Chicago 1-A stations “was not needed to provide new national night-time service.” They said “additional stations in the West on the 4 Chicago frequencies (670, 720, 780 and 890) would better serve Western listeners.”

Ironically, in the ultimate resolution of the clear-channel matter, the Chicago stations, by virtue of their central location, probably ended up with more protected land coverage area than many of the 1-A stations located near either coast. That 1961 Report and Order was a major milestone and a significant victory for the opponents of clear-channel authority. But the clear-channel operators weren’t about to capitulate.

FIGURE 1

THE 1961 1-A DUPLICATIONS

<u>Frequency</u>	<u>New Status</u>	<u>New (Existing) Assignment</u>
640	Protected, but:	(Duplication in Iowa)
650	Protected	
660	Protected, but:	(Alaska existing)
670	Duplicated	Idaho NEW
700	Protected	
720	Duplicated	Nevada NEW
750	Protected, but:	(Alaska existing)
760	Duplicated	San Diego for KFMB move
770	Duplicated	(“The KOB Case”)
780	Duplicated	Nevada NEW
820	Protected	
830	Protected, but:	(Duplication in New York)
840	Protected	
870	Protected	
880	Duplicated	Nebraska NEW
890	Duplicated	Utah NEW
1020	Duplicated	New Mexico NEW
1030	Duplicated	Wyoming move of KTWB (“KOB case”)
1040	Protected	
1100	Duplicated	Colorado NEW
1120	Duplicated	California or Oregon NEW
1160	Protected	
1180	Duplicated	Montana NEW
1200	Protected	
1210	Duplicated	Oklahoma NEW

Behind the Clear-Channel Matter, part 5

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Minneapolis, Minnesota

This is the fifth in a series of six articles about the history of clear-channel AM radio stations.

Last time, we discussed the FCC's landmark 1961 Report and Order that duplicated 13 of the 25 1-A clear channels. It wasn't long before Class II stations began turning up in the Western states. Nighttime radio reception would be changed forever. In that Report and Order, the FCC noted the remaining 12 unduplicated 1-A channels would be protected for only three more years while it considered potential "super-power." It temporarily froze all applications that might conflict with super-power operation on those 12 channels. The 1961 FCC vote was not unanimous. Commissioner Robert E. Lee's voice was heard in strong dissent; he continued to advocate super-power as the correct approach to nighttime "white-area" coverage. In spite of Lee's eloquence, momentum was building toward the breakdown of the remaining 12 clears.

The 1961 order was a significant victory for opponents of the clear-channel broadcasters, but the order triggered an avalanche of reaction. Attorneys and lobbyists stalking the halls of Congress are expected as a matter of daily political life. Groundswell opinion from the masses is another matter and there may be no advocacy tool more effective than a 50-kW powerhouse exhorting its listeners to "contact your congressman so your radio service doesn't go away." The Clear Channel Broadcasting Service launched a massive publicity campaign and political crusade. Bills were introduced in Congress to stop the 1-A duplication and to authorize super-power. In the end, they didn't pass. The other side had a larger voice.

Another super try

Meanwhile Congress stirred the pot via HR 714, suggesting that the FCC grant a one-year stay of the 1961 order, "to allow all Class 1-A clear channel stations to file for higher power." Some clear-channel broadcasters responded immediately. The record shows the following activity:

Oct. 17, 1962: WLW(AM) applied for 750 kW on 700

Oct. 18, 1962: WJR(AM) applied for 750 kW on 760 (KFMB agreed not to protest)

Oct. 20, 1962: WSM(AM) applied for 750 kW on 650

Nov. 12, 1962: WGN(AM) applied for 750 kW on 720

Nov. 16, 1962: WHO(AM) applied for 750 kW on 1040

These applications were all denied a few weeks later, the commission saying that super-power could only be authorized through the process of rule making. In response, the CCBS immediately sought such a rule making, "to permit power in excess of 50 kW by all Class 1-A stations." The CCBS request and others before the FCC would be disregarded for more than a dozen years. HR 714 accomplished nothing.

The 1-A stations tried other approaches. In 1963, WLW and KSL filed applications for experimental authorization, at powers of 750 and 500 KW respectively. In that same year at least two stations, WGN and WJR, went before a court of appeals to challenge the FCC order denying their super-power applications. The courts turned them down. In a separate request, dated June 19, 1964, WCCO, citing its "critical Civil Defense obligations," filed a petition for rule making asking for 750 kW "developmental/test authority" on 830. The FCC returned the WCCO application on July 2, 1967.

All of these filings for super-power were attended by exceptional publicity generated by the applicants. The CCBS pulled out all the stops, suggesting national defense communications would be imperiled and noting that super-power authorizations would put the United States in a better bargaining positioning with the Mexicans, with respect to that country's "Border Blasters."

In 1962 the FCC reaffirmed its 1961 order duplicating 13 of the clears. They reiterated the goal of providing "at least four dependable night-time signals to the entire country". They saw the problem as follows: "Is white-area night-time service best achieved by adding duplicate stations on the 1-A channels, or by permitting high power on a few "national stations"? -Of course there was another solution available, but the FCC still wouldn't consider FM as a radio service and it ignored NBC's proposal that the commission authorize FM stations in the white areas, in lieu of duplicating service on the AM clears.

Again, Commissioner Robert E. Lee dissented strongly. He continued to promote super-power and suggested the majority of the commissioners were "sparring with windmills" in their rush to a duplication of the clears. The lobbying and maneuvering would go on for another 18 years! Most of the members of the Clear Channel Broadcasting Service urged their listeners to turn up the heat on their congressmen, "so you don't lose your Full Service Radio." Clear-channel stations broadcast promos around the clock and published "educational" literature supporting "the protection of full-service radio."

Super-power at last?

While the broadcasters worked to stir up public reaction, the FCC seemed to be doing its part to nourish the angst. In 1966 the commission staff suggested publicly that 650, 830, 870, 1040, 1160 and 1200 "best met staff criteria for use of super-power." That sent a signal to the industry that the issue was still alive. And one day in late 1975, the FCC issued yet another trial balloon. The headline in the Washington Star read "FCC Ready to OK Super-Power Radio on 10-12 Channels." The story quoted FCC sources and made it clear that super-power authority was indeed a possibility.

Two weeks later the commission announced Docket 20642, re-opening the clear-channel inquiry that had been terminated with the Report and Order of 1961. The commissioners planned to deal with the super-power requests from CCBS, WSM, WCCO, WWL and others that had been on file for more than a decade. Their intent was to finally bring the entire clear-channel matter to a conclusion, but it would be five years more before the FCC completed the destruction of night time clear-channel service. The 1975 notice asked for extensive and qualitative data to support the coming judgment. To evaluate actual listening conditions, the Clear Channel Broadcasting Service commissioned nighttime listening tests of all 1-A stations. Station engineers recorded each other at night and prepared the tapes for submission to the FCC.

In re-opening the matter, the FCC also asked for comments on the potential social and economic impact of operation in excess of 50 kW. Among the issues was the FCC's concern that super-power would place an undue concentration of influence in the hands of a few; that this could impact the national advertising picture and hinder the ability of smaller stations to secure network affiliations. Music to the ears of the opposition!

The 1975 notice also asked the 1-A licensees to declare whether, and at what level, they would apply for super-power, if that were the recommended solution. On the flip side of that coin, the FCC asked for comments on whether it should simply eliminate sky-wave protection altogether on the 1-A channels. This unfortunate proposal was stimulated by certain congressmen goaded into action without the benefit of engineering realities by the Daytime Broadcasters' Association.

Clearing the air

The 1975 docket was the beginning of the end of the clear-channel proposals and the final trauma in a matter nearly half a century old. With the stakes involved, the paper record was incredible. In response to the 1975 proceeding, many early ideas on how to serve white areas were dusted off, refined and resubmitted. Among them was a proposal to use the band 150 to 185 kHz for extended ground-wave coverage. The Corporation for Public Broadcasting, looking for frequencies, suggested a reduction in channel spacing to 9 kHz or even 8 kHz and suggested expanding the band above 1600 and below 540 kHz. The NAB even suggested using FM translators to extend AM coverage! And for the first time, the FCC suggested in its 1975 notice that FM might be included in calculating nighttime service areas.

And the Daytime Broadcasters Association was back. This time they proposed an extension of Pre-Sunrise and Post-Sunset Authority. Later, they would propose breaking up the clears to provide additional Class IV local stations, even suggesting that 1-A operators *should not be protected beyond their "home market."*

In answer to general questions about interference, respondents suggested the best way to combat rising interference would be across-the-board power increases "*on all channels except the 1-As and 1-Bs.*" AT&T weighed in on the question of interference that might be caused by super-power, suggesting that super-power would cause "unacceptable interference to telephone equipment."

Emotions and unfortunate proposals aside, the official record would morph into some thoughtful technical analysis. The issues under consideration for a possible super-power environment included blanketing, self-interference and adjacent-channel interference. Also discussed were the potential effects of non-ionizing radiation and a sky-wave cross-modulation effect variously labeled the "Amsterdam" or "Luxembourg Effect." (It had been demonstrated that high-power RF actually changed the levels of ionization in the atmosphere and even caused plasma wave generation.) High-power advocates countered NIR concerns by commissioning a study by Fritz Leydorf, a P.E. who took part in the original WLW high-power work. Leydorf went into great detail about how "folks lived and worked near the high RF fields and apparently felt no ill effects."

In our final installment we'll see how all the brouhaha turned out.

Behind the Clear-Channel Matter, part 6

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Minneapolis, Minnesota

This is the last in a six-part series of articles about the history of clear-channel radio stations in the United States. The previous part appeared Sept. 27.

When we left our clear-channel story, it seemed obvious the proponents of AM super-power were going to be left out in the cold, and the remaining 1-A channels were going to be duplicated. But the game wasn't over just yet.- The FCC was determined to provide nighttime radio service to under-served "white areas". Because the so-called "monopoly enjoyed by the AM giants" was a political target, the unduplicated 1-A clear channels were the obvious hunting ground for new spectrum. As they went on the defensive in the 1970's, the clear-channel broadcasters pulled out all the stops in an "educational" campaign. The message was that duplicating signals on the clears was a nasty business, because it such duplication "would destroy badly-needed radio service."

WSM launched its famous "Save the Grand Ole Opry" campaign early in 1979 and organized "Friends of the Grand Ole Opry." It encouraged listeners to write to their representatives and to the FCC, to protest what the group called "the gravest threat to the Grand Ole Opry in its history." Some stations even tried an end-run of sorts, writing to their ally Robert E. Lee, who at this point was chairman of the U.S. delegation to Rio, asking that he protect their 1-A frequencies for U.S. super-power operation in the upcoming World Administrative Radio Conference inventory.

In the 1975 docket, the FCC asked whether 1-A stations would apply for increased power if available. Most respondents told the FCC they would apply for extended power, ranging from 100 kW to 500 kW, and many said they would use directional antennas. The Clear Channel Broadcasting Service also proposed that, if granted higher power levels, their members would control adjacent-channel interference by employing 5 kHz low-pass audio filters. Now where have we heard that recently?

Once again the gentlemen from the Hill got involved. Reps. Findley and Van Deerlin proposed that priority should henceforth be given to local service, and that "no U.S. AM operation should be authorized more than 50 kW." Findley, advised by the Daytime Broadcasters Association, actually said on the floor of the House that "virtually no one listens to the night-time sky-wave signals of clear-channel stations," and therefore "Daytimers should not have to sign off at sundown to protect them."

As the record grew, the FCC issued a Further Notice of Proposed Rule Making at the end of 1978. Judging by the progressive language and the public comments of the commissioners, it was obvious they were headed toward a final breakup of the clears.

The last word

In what would be the coup de grace to a 50-year fight, the FCC issued the 1980 Report and Order that assigned a second high-power station on each of the 12 remaining unduplicated 1-A channels. It also affirmed the protected service contour for the primary station to be the 50/50, 0.5 mV/m sky-wave contour (in the real world, about a 750-mile radius). More than 100 new secondary stations would be authorized on those 12 1-A clear channels. The original power limit of 50 kW for the 1-A primary stations was cast in stone, thus ending super-power hopes and leaving WLW as the only station in the country ever to operate formally with more than 50 kW.

Summarizing the inquiries it published in the late 1970s, the FCC noted it had asked whether any 1-A stations would apply for super-power, and reported that WHO, WBAP, WJR, WWL, WCCO, WSM and KSL had proposed various power levels from 200 kW to 500 kW. WCCO had proposed 450 kW, and associated this with a proposal that *all* 1-A stations be permitted to go up in power “to a level nine times their present power ceilings.” (sic)

The commissioners dismissed these applications, announcing that they were inaccurate in representing gains in listenership, and they said the applicants didn't provide a plan for the resolution of expected interference problems.

So that was that. Nighttime radio would never be the same.

Right move?

In many cases, the new Class II stations, at least at first, did serve the public interest in fulfilling some of the white-area coverage expectations of the Report and Order. That would not have been the case if the commissioners had listened to the Daytime Broadcasters. The FCC charitably dismissed as “impractical” a poorly-advised proposal by the DBA to double-up certain 1-A stations onto other Class 1-A channels, thus freeing up a number of clears and adding as many as 2,000 new stations to the channels thus vacated. Imagine what *that* would have sounded like!

In closing this decades-long proceeding, the commission reiterated its 1927 criteria for allocations (which hadn't been updated to acknowledge FM service).

The famous “Three-Legged Stool” criteria:

- At least one service to everyone;
- Service to as many persons from as many diversified sources as possible;
- Outlets for local self-expression addressed to each community's needs and interests.

The 1980 Order reflects to some degree the changes in the broadcast industry but, at the same time, the FCC was still welded to the concept that AM was the only effective night-time radio service. Curiously, this “AM-only” reasoning was written by the same FCC staff that was concurrently drafting FM Docket 80-90. This leads one to speculate on the real reasons for the final orders. As with many other allocation decisions by the FCC, the breakdown of the clears was done in large part “in the name of diversity.” The FCC was soon to define “minority-owned” operations, and they suggested the clear-channel breakup and “future expansion dockets” would solve the dilemma of minority access to broadcast outlets.

In explaining the duplication of the remaining clears, the FCC said the “rising demand for services” *could* be met by “other proposed changes”, but also argued that “they just didn't have time to wait.” The “other proposed changes” would include not only 80-90 waiting in the wings, but also the Expanded Band proceeding and an NTIA initiative to put the Western Hemisphere on 9 khz spacing. And in a matter of months, the FCC would consider expanding the hours of the Daytimers.

Are we better off?

In reviewing the disposition of the “Clear-Channel Matter” we might pose some questions: Did the FCC solution actually provide better nighttime radio service, or did existing and planned FM coverage make the issue irrelevant, even as the Final Report and Order was being written? Or should the FCC have adopted the original super-power plan to deliver “at least four dependable sky-wave services available to everyone?” It's tempting to speculate, and hindsight is wonderful, especially in view of the impact of satellite-delivered “national radio services.”

Clearly, under the FCC's “Three-Legged Stool” criteria, the concept of super-power on a few stations never had ‘legs.’ But did the FCC's actions promote diversity? Given the state of radio ownership today and the programming on most of these secondary radio stations, we would suggest that there would be those who might re-think what they did to the AM band.

What next?

So what was it all about? The “Clear-Channel Matter” may have been a story of a few “haves” vs. a greater number of “have-nots.” If that was the case, it would be tempting to view those AM giants as victims. But the argument might be made that even as the disenfranchising process moved forward, some 1-A stations abdicated their need for wide-area protection, pulling back their former multi-state services and concentrating instead on their ratings-defined “metro areas”.

I would suggest that while some stations might plead guilty to that strategy, others continue to this day to be attuned to the needs of their extended service areas. And that’s what makes this next question so interesting: What will happen when the AMs adopt a digital system that’s “designed to match the ground-wave coverage and to throw away the sky wave”? That seems to be the present thinking behind the roll-out of AM digital service. At that point, should 1-A stations be given identical day and night protection, matching their demonstrated ground-wave coverage?

What an interesting business. Stay tuned for further developments!