

## THE RIO CONFERENCE OF THE 1980's

FROM PETER HAAS IN THE RADIO BROADCAST REFLECTOR; COURTESY OF BARRY MISHKIND

Does anyone know the rules for International Nighttime protections for countries other than Mexico or Canada? Probably the "Rio" treaty documents. Added were foreign Class A stations on former U.S./Canada/Mexico/Bahama Class I-A and Class I-B clear channels, these Class As being in South America, etcetera. Also the adoption of Classes A, B, C and D, replacing Classes I, II, III and IV, the merging of Classes II and III into Class B, among other changes.

Does one have to protect non class A international stations pursuant to domestic interference rules? If not, what if any protections apply to international non class A at night? Canadian and Mexican stations are protected under the criteria set forth in the bilateral agreements between the US and each country. There are separate agreements for the "traditional" band and the expanded band. Stations in other countries are protected under the terms of the Region II broadcasting agreements - again there is a separate agreement covering the "traditional" and expanded bands. Copies of all of these agreements are available on line. The Canadian and Mexican agreements at: <http://www.fcc.gov/ib/sand/agree/>

The Region II agreement at: <http://www.itu.int/itudoc/itu-r/publica/acts/acts81rj.html>  
<http://www.itu.int/itudoc/itu-r/publica/acts/acts88rj.html>

The current allocation scheme for North American Class As is: 1) for Class A stations which are currently operating with more than 100 kW days and more than 50 kW nights, then the present operating powers shall not be increased, 2) for other Class A stations, the maximum powers shall be 100 kW days and 50 kW nights, 3) for Class A stations which are presently operating with less than 100 kW days and less than 50 kW nights, these stations may increase powers to 100 kW days and 50 kW nights.

So much for international treaties. National rules also apply. All U.S. Class As are required (not permitted) by Part 73 to operate with 50 kW days and 50 kW nights, unless grandfathered. 1560 in Bakersfield, CA has increased power to 25 kW days, 10 kW nights, DA-N (was 10 kW, DA-N).

The few foreign ex-Class I-As which had been operating with less than 50 kW have have installed directional antennas and have increased powers to 50 kW days and 50 kW nights. 1540 in The Bahamas has done so (50 kW days and 50 kW nights, DA-1; was 10 kW, ND). 1580 in Chicoutimi, Quebec has done so (50 kW days and 50 kW nights, DA-1; was 10 kW, ND). The Canadian ex-Class I-B which had been operating with less than 50 kW continues to do so. 1550 in Windsor, Ontario remains as before (still 10 kW, DA-1). The few Mexican ex-Class I-Bs which had been operating with less than 50 kW have increased power to 100 kW days, but remain at

10 kW nights, unless a directional antenna was installed, which obviously is not the norm for Mexico. 850 in Orizaba, Vera Cruz has done so (100 kW days, 50 kW nights, DA-N; was 50 kW, DA-N). This station is perhaps the last Class I-B to be authorized in North America (ca. 1955) [ \* ] 1000 in Mexico, DF, has done so (50 kW days, 10 kW nights, ND; was 10 kW, ND or perhaps 20 kW, ND). 1190 in Guadalajara, Jalisco has done so (50 kW days, 10 kW nights, ND; was 10 kW, ND). 1550 in Jalapa, Vera Cruz remains as before (still 10 kW, ND).

[ \* ] Note that the U.S. co-channel Class I-B, an ex-de-facto Class I-A, operates with about 35 kW into a super-tall radiator, with about 15 kW being dissipated into a resistor, but the licensed operating power is indeed 50 kW, ND.

Anyway, back here in the USA, I don't think there should be any restriction on the power level of Class A stations. If you can fit a 750,000-watt signal into the current allocation scheme, meeting all application protection ratios both nationally and internationally, then by all means, go for it! However, in many cases, the "NIMBY" factor alone would be enough to effectively prevent stations from upgrading far beyond their current 50 kW. Maybe 100 or 150 kW would be feasible (as it is in Mexico and many other countries), but once you start planning 500 kW or more, I doubt local residents would be happy when their fluorescent lights stay on all the time and they start hearing Rush Limbaugh talking to them from their toaster oven.

100 kW days and 50 kW nights is possible immediately, under "Rio". Only 47 CFR Part 73 places a limit (and also a minimum) at 50 kW. "Rio" prevents any increase above 100 kW, unless already above 100 kW, in which case the power may be decreased, but not increased. 1580 in Chicoutimi, Quebec has done so (50 kW days and 50 kW nights, DA-1; was 10 kW, ND). Now reduced to 0 kW, ND (and NT - no tower!) They moved to FM a few years back, and the channel has not been reused as yet in Canada. CHUC 1450 Cobourg ON (right across the lake from me) had been approved to go to 1580 with, IIRC, 10 kW DA-1, but never built that facility and instead recently applied for and was granted a kilowatt or so at 107.9 FM. CHUC is duly notified as a Class A on 1580, 10 kW, DA-1; up from a Class B (on a Class C channel), 1450, 8 kW-D, 1 kW-N, DA-2. CHUC might not be operating, but it is indeed notified, and Canada has never abandoned a notified Class A AM allocation, and probably no Class Bs, either. (WLIB is protecting a co-channel Canadian Class B which has not operated in decades, and which ceased such operations well before WLIB was granted its change from Class D to Class B).

Theoretically, any Class A may operate 100/50, if such operation is granted by the appropriate National authority. XETRA's Tx is operating at 77 kW days and 50 kW nights. This is legal under "Rio" as ex-Class I-Bs were changed to allow 100/50 operation (where as ex-Class I-As were grandfathered at their previous power, if operated above 100/50). Previously, Class I-Bs were limited to 50/50, except for the four which operated 10/10.

All active treaties (U.S.-Canadian; U.S.-Mexican; and ITU Region 2, AKA "Rio") codify what is termed "Effective Monopole Radiated Power" (EMRP).

A < 90 degree radiator is taken to be 0 "dB (kW)" EMRP.

A 90 degree radiator is taken to be about 0.25 "dB (kW)" EMRP.

A 180 degree radiator is taken to be about 2.1 "db (kW)" EMRP.

A 225 degree radiator is taken to be about 3.3 "dB (kW)" EMRP.

See any of the treaties for the precise graphs ... usually entitled: "Fig. 1a - Effective Monopole Radiated Power (EMRP) and Field Strength at a Distance of 1 km ...".

In the U.S., Canada and Mexico, a better measure is kW with reference to 362.10 mV/m/kW at 1 km (Class A stations), 281.63 mV/m/kW at 1 km (Class B and D stations), or 241.40 mV/m/kW at 1 km (Class C stations). A few Class As, some Class Bs, and many Class Cs have highly faked efficiencies, based upon the measures mentioned in the immediately preceding paragraph.

XETRA's 77 kW (days; nights is still 50 kW) is on account of the new array requiring 77 kW input in order to provide the same RF field in Los Angeles which the old array would produce with 50 kW input. XETRA is a Class I-B, and Mexico allows its Class I-Bs to operate with 100 kW, days, even if the station's power was "grandfathered" at a lower power by international treaty.

I believe there are Mexican Class I-B (Class A) stations which are grandfathered at 10 kW, yet operate at 100 kW days. A Mexican Class II-B (Class B) cannot do this now, although one did some years back. A Mexican Class I-A station can run "at least 50 kW", and all except XERF do so. Most often 150 kW.

No Class I-B, of ANY country, may operate with more than 50 kW nights, and none does. However, if a Mexican Class A has been grandfathered at 10 kW, and two of these have been, then these WILL operate at 10 kW nights. More, days, although that may be a sticky issue in any "border zone" situation. Fortunately, neither 1190 nor 1550 are "border zone" stations.

Mexico has at least two Class As which were "grandfathered" at 10 kW days and nights under "NARBA", yet which now operate at 100 kW days, and 10 kW nights. The 100 kW limit for Class As applies to every Class A in "Rio" signatory countries, but the U.S. and Canada have never allowed an increase beyond 50 kW.

**"Rio" superseded the 1939 "NARBA" agreement in the late 1980s.** In theory, every U.S. Class A could immediately increase its day power to 100 kW. All U.S. Class As, except for one, already operate with 50 kW days and nights, and 50 kW nights would required to be retained. That one Class A presently operates with 25 kW days and 10 kW nights, but an increase beyond 25 kW days is unlikely on account of a co-channel 1 kW daytimer which, strangely, the FCC authorized within the same geographic area several years ago.

Ex-Class I-As must operate with a minimum power of 50 kW. The maximum power is 50 kW for U.S., Canada and the Bahamas, but the maximum for other signatories is whatever power was "notified" at the time the treaties were signed. 150 kW to 500 kW in the case of Mexico, depending upon the specific station. Stations operating under the Mexican exception may not increase power, but if currently operating at less than 100 kW days and 50 kW nights, these may increase power to no more than 100 kW days and 50 kW nights. Normal Class A antenna efficiency applies. Ex-Class I-Bs must operate with a minimum power of 10 kW and a maximum power of 50 kW. U.S. Class I-Bs must operate with 50 kW, unless grandfathered (see above). Normal Class A antenna efficiency applies.

Ex-Class I-Ns, a class unique to the U.S. non-contiguous states and territories, must operate with a minimum power of 10 kW and a maximum power of 50 kW. Normal Class A antenna efficiency does not apply. Ex-Class II-As, a class unique to the U.S. contiguous 48 states and territories, and which are considered to be stations of the Class I-N type, must operate with a minimum power of 10 kW nights and a maximum power of 50 kW nights, and with a minimum power of 0.25 kW days and a maximum power of 50 kW days. Normal Class A antenna efficiency does not apply.

All U.S. Class As, except for one, already operate with 50 kW days and nights, and 50 kW nights would required to be retained. And perhaps you can tell us why it is in a class by itself. Of course I can. Because, under the terms of NARBA, continued under the terms of "Rio", it is "grandfathered" at 10 kW. This also applies to one Canadian (1550, ex-Class I-B); formerly applied to another Canadian (1580, ex-Class I-A, later brought in full compliance, with 50 kW DA-1, but now taken dark, and moved, or in the process of being moved to another Canadian province); currently to at least three Mexicans (1000, 1190 and 1550, all ex-Class I-Bs); and formerly to one Bahamian (1540, ex-Class I-A, now in full compliance with 50 kW DA-1). Both U.S. ex-Class I-Bs on 1560, Bakersfield and New York, were initially grandfathered at 10 kW. Now, only Bakersfield is grandfathered. New York now operates in full compliance with 50 kW DA-2.

Before the rules changes in the 80s, power could only be: Class A: 50 kW, unless grandfathered

at 10 kW, Class B: 0.25, 0.5, 1, 5, 10, 25 or 50 kW (2.5 kW was added in the late 60s as Canada and Mexico had been using this power for years; 0.5 kW min and 5 kW max for regionals, until "Rio"), Class C: 0.25, 0.5 or 1 kW (0.1 kW was formerly allowed, and some are still grandfathered at 0.1 kW, but on a regional channel), and Class D: Same as Class B. After all this, any power which met the minimum, but did not exceed the maximum was permissible, and this often permitted upgrades which were economically impossible under the old rules. Example: ex-KRLA, Pasadena, now runs 20 kW nights into what is essentially its 1940's array design, since relocated to Irwindale from Whittier Narrows. But as there were only 10 and 25 kW as options then, 10 kW had to be selected, as there was no allowable power between 10 and 25. With dial-a-power any value which maintained protection of the Class A was acceptable, and 20 kW did the job. Which means that 20 kW could have been possible from 1947 (or whenever this station became a Class II-B) until the 80s when the newly moved array was built.

It is quite understandable that Canada would never abandon one of its original Class I allocations (there were several Class A allocations added by "Rio", BTW, but see below). These "legacy" allocations, by 1939's NARBA, will never be deleted, just as the U.S.'s twenty-five ex-Class I-As will never be deleted, although these have been moved, or changed from de-facto Class I-A to Class I-B in-fact.

What is not understandable is that Canada would maintain notification of a Class B (ex-Class II or ex-Class III) or Class C (ex-Class IV) station which has not operated for twenty years. If you want to get an idea of which Class A stations are which, do an FCC search by "state" (yes, Canada has states, for this purpose). Set the station class to Class A. If a Class A station is other than 540 (Regina, now Watrous, SK), 690 (Montreal), 740 (Toronto), 860 (Toronto), 940 (Montreal), 990 (Winnipeg), 1010 (Calgary), 1130 (Vancouver), 1550 (Windsor) or 1580 (Chicoutimi, QC, now Cobourg, ON), then it was added as a Class A by "Rio". There are actually quite a few such "Class A" stations, in name only. Some are on Canadian Clear channels, but many are on former regional channels. Several are on Mexican Clear channels (730 in Montreal, for example). I cannot think of one such added Class A which is on a U.S. Clear channel.

As an aside, Cuba, which for the better part of one-half a century had NO Class A allocations at all ... after it abandoned 1560, and 1560 was effectively taken by the U.S. for New York, NY and Bakersfield, CA ... now has almost as many Class A allocations, all by "Rio", as the U.S. has Class I-A allocations. Most are on foreign clear channels, including about one-half of these on U.S. Class I-A clear channels, but some are on former regional channels.

I've always believed that the USA should allow the 100 kW power level for a bunch of reasons. Well, it's in "Rio" ... the U.S. just chooses not to implement it. Valid for Class As, only, as the treaty was written, and the night power must stay the same, which actually only affects Bakersfield, but I think even that could be gotten around. Although perhaps now not, as the Commish has recently allowed a Class B in the Puget Sound area, a "first service" situation, and which night pattern will "kiss" Bakersfield's 10 kW night pattern.

With that newly upgraded station in place, Bakersfield could be in a WLAC-like and KIRO-like situation, where a station of lesser class has to be protected, nights (ex-WMEX in WLAC's case, ex-KMPC in KIRO's case). 100/50 kW would have been so much better a solution to KNX's problem with serving the expanding "Inland Empire", days, than its star-crossed experiment with using its auxiliary stick (since removed) in a DA-D. For, the tall tower was on the interior of the pattern, and only served to increase local fading, towards the late afternoon. The station returned to ND operation at LSS.

The other Class I-A which was not in compliance with "Rio" became compliant. That was 1580 in Chicoutimi, PQ, Canada, which reportedly is now dark. All new U.S. 1220s (including the two in L.A. county) are protecting Mexico City's co-channel Class I-A to the new "Rio" limit. The NARBA-established 1220 in Cleveland (ex-WGAR) is protecting the entire Mexican border, which is consistent with the old (1941) NARBA limit.

The "minimum of 50 kW" rule was written into the North America and US-Mexican agreements to allow for Mexico to retain its > 50 kW flamethrowers. AFAIK, the Canadian and the US rules specified 50 kW as the only power allowable for their I-As, and at least 10 kW but no more than 50 kW for their I-Bs.

Yet, for decades, Canada operated a I-A at only 10 kW, and The Bahamas operated a I-A at only 5 kW, but both were upgraded to 50 kW DA-1 after "Rio". But, those I-Bs which were "notified" at 10 kW, including several in Mexico and one each in Canada and the US, remained "grandfathered" at 10 kW, nights, even though several were later upgraded to 25 kW or more, days.

A Class A cannot cause interference to a Class B, although there is one very specific case where such "interference" was deemed to be caused by Class As (plural), and which a particularly fascinating remedy was found. There are no Class As anywhere in Florida, only Class Bs, Cs and Ds. Cuba, which for the better part of the last half century of the last millennium had no Class As at all ... it had abrogated NARBA, hence it thereby lost its sole Class I allocation ... received nearly as many Class A allocations as the entire U.S. had Class I-A allocations under NARBA, during the "Rio" treaty negotiations. Cuba went from zero to twenty-one Class As in one fell

swoop. (The U.S. had 25 Class I-A allocations under NARBA, but we elected to break about one-half of these down, as may be well aware).

The Cuban Class As, many of which are on former Regional channels, but some of which are on former Canadian, U.S. or Mexican clear channels, include some which are notified at 300 kW, but many are notified at 30 kW. All are ND-U. Cuban Class As on former Regional channels include 550, 570, 580, 590, 600, 620, 630, 790 and 910. So, Tampa's 570 can interfere with Cuba's new Class A on 570 (30 kW ND-U), but not vice versa, St. Pete's 620 can interfere with Cuba's new Class A on 620 (30 kW, ND-U), but not vice versa, Miami's 790 can interfere with Cuba's new Class A on 790 (50 kW, ND-U), but not vice versa, and so forth.

I doubt if the mitigation given to those U.S. regionals, above, was necessarily approved by Cuba, but we do request such approval from Canada and Mexico, in the so-called "border zones". As far as I know, Canada and Mexico reciprocate, in the "border zones".

All of Mexico's Class I-As have, or had, the ability to operate with 150 kW or more. XERF doesn't, and hasn't for almost a half century. Reportedly, it is again operating with 50 kW, after many years at 10 kW.

No, what I was specifically referring to were those Class I-Bs (not Class I-As) which Mexico has, and which are grandfathered at less than 50 kW nights, as the international treaties stated that Class Is must operate with 50 kW, if a Class I-B, or, "... a minimum power of 50 kW ...", if a Class I-A. "Rio" allowed all such Class I-B stations to increase power to a maximum of 100 kW days, and that power which they had before "Rio" nights without antenna systems changes, or to a maximum of 50 kW nights with appropriate antenna systems changes. So, we have, or have the possibility of 1000, 1190 and 1550 with 10 kW nights, but 100 kW days. However, as 1000 in DF was grandfathered at 20 kW, it may maintain that night power, or increase to a maximum of 50 kW nights if it installs a DA, and 100 kW days.

1190 and 1550 may increase to a maximum of 50 kW nights, if these install DAs. Mexican Class I-As are on 540, 730, 800, 900, 1050, 1220 and 1570. Mexican Class I-Bs are on 690, 850, 940, 1000, 1090, 1140, 1190 and 1550, and possibly others which I have forgotten. Canada had a Class I-A which was grandfathered at 10 kW, but it was upgraded to 50 kW DA-1 after "Rio". It has since been downgraded to 10 kW, and moved twice. The Bahamas also had a Class I-A grandfathered at 10 kW, and it was also upgraded to 50 kW DA-1 after "Rio", and it is still operating with 50 kW.

Please explain how this would be consistent with Part 73, "... and on 890 kc, one full-time station shall be allocated ...", and the allocation of a 50,000 watt station to the Northeast, an already well-served area, whereas the Southwest, a notoriously underserved area, save for Texas (to the extent that it considers itself to be in the Southwest), received no such consideration. If 890 was going to be so broken-down, San Diego or Phoenix is the most logical place for 890 to go, not to Providence.

The allocation of a 5 kW full-time station to a region far, far removed from a de-facto U.S. Class I-A clear, and the breaking-down of that clear has been demonstrated on 680, 710 and 850. But, not to a region adjacent to that clear. And, yes, those 5 kW stations later became 50,000 watt stations, but only after years of operations at the lower power, for these stations were allocated as regional stations on clear channels, not as clear stations. Rather, I believe the rumor, again cited, above, is in error on account of 890 in pre-1941 terms is actually 920 in post-1941 terms, and Providence does, indeed, have a 920, and it is none other than ... ta, da ... WHJJ.

It would be another half-century before the rules were amended to allow operation above 5,000 watts on regional channels, on other than an STA basis, and this change was effected by merging Class II-B stations with Class III-A and Class III-B stations [ \* ] into a unified class, Class B, which spanned channels (clear and regional). Incidentally, KQV is a good example of a "legacy" Class III-A station which had to go directional to increase from 1,000 watts to 5,000 watts nights, and, additionally, it had to go directional to increase from 1,000 watts to 5,000 watts days. Now, getting back to WHJJ, 890/920 was always a regional channel, and, again, it would be another half-century before 50,000 watts was permitted on those channels.

[ \* ] In this process, Class III-A stations lost a significant advantage they had over Class II-B and Class III-B stations, namely significantly greater protection from interference of their primary service areas. Class III-A stations received almost as much protection as Class I stations received, whereas Class II-B stations received only as much protection as Class III-B stations received. Which is why we had -A and -B stations in the first place, Whether Class I-, Class II- or Class III-.

What actually would have made a lot of sense was a clear channel station (even a 1B) in Portland, ME. There is still vast white areas within that state. I have no problem with a Class I-B in Portland. However, the facts remain that: 890 was a regional channel before 1941, and WHJJ was a regional station which, by NARBA, was obligated to move to 920, its "by table"

reallocation frequency. WHJJ \_did not have\_ the option of retaining 890. Not a chance in Hell. WHJJ was forced to move to 920, and the only way it could become a Class I was to buy and take dark another Class I. Or to make a deal like CBS did, but at what expense? It is quite easy to misunderstand the situation if one ignores the fact that WHJJ had no option to retain 890, and then one assumed that it could keep 890 and then increase power to the maximum which 890 was allowed under the new table of allocations, which was 50 kW.

For, it is only under the selective view, through those "rose colored glasses", which view the pre-1941 table of allocations out of the left eye, and the post-1941 table of allocations out of the right eye, that WHJJ could have had 890 and 50 kW. Let me reassert these realities: Before 1941: 870 is a U.S. Class I-A clear channel. 50 kW is the maximum permissible power on 870. WLS is licensed to 870. 890 is a regional channel. 5 kW is the maximum permissible power on 890. WHJJ is licensed to 890. NARBA, signed in 1939, but actually implemented in early 1941, forces all stations on 870 to move to 890, AND TO RETAIN THEIR CLASS, POWER AND PATTERN, and forces all stations on 890 to move to 920, AND TO RETAIN THEIR CLASS, POWER AND PATTERN. No choice in the matter, as this was negotiated with the Department of State, and State trumps the Department of Commerce, and hence the FCC, in international allocation matters.

After 1941: 890 is a U.S. Class I-A clear channel. 50 kW is the maximum permissible power on 890. WLS is (re)licensed to 890. 920 is a regional channel. 5 kW is the maximum permissible power on 920. WHJJ is (re)licensed to 920. It would be another half-century before the rules were amended to allow operation above 5,000 watts on regional channels, on other than an STA basis, and this change was effected by merging Class II-B stations with Class III-A and Class III-B stations [ \* ] into a unified class, Class B, which spanned channels (clear and regional).

There are no more Class I, II, III, or IV AMs. I think the change dates back to the Rio Treaty, which I believe, took effect sometime in the 1980s, but I am by no means sure of the year. Classes IA and IB have been combined into Class A; Classes II and III (excluding Classes II-D and III-D) have been combined into Class B; Classes II-D and III-D have been combined into Class D; and Class IV has become Class C.

Other, more subtle changes were made at the same time. For example, Class IB stations could run as little as 10 kW. Now, as Class As, they are supposed to run 50 kW (in the US and Canada); in other Western Hemisphere countries, Class As can run 100 kW by day but are still supposedly limited to 50 kW at night. One US ex-IB, KNZR Bakersfield CA on 1560 is grandfathered with lesser facilities: 25 kW-D/10 kW-N DA-2. One Canadian ex-IA, CBE Windsor ON, is grandfathered with 10 kW DA-1 on 1550.

For the most part, your statement about AM classes being determined by the frequency on which the station operated, used to be correct, but even 50 years ago, there were a few Class IVs on Class III channels. Two were in NJ on 1310 (in Asbury Park and Camden) resulting from the breakup of a three-way time-share. One was in WI on 570 (Marinette-Menominee, I believe). There may have been others.

And Canada had some 10 kW AMs with complex arrays on one or more of the Class IV channels in the 1400s. (I'm not sure of the locations of these stations, but they were in eastern Canada.) There was also an ex-Class IV in Yarmouth NS, CJLS (on 1340, I think), that ran 5 kW (days, at least) until a couple of years ago. GREAT signal in coastal Maine!

It's far easier to protect the abbreviated primary service area of a Class B than it is to protect the extended primary service area AND the secondary service area of a Class A. Dallas' 1190 needed five towers, in-line, to protect WOWO, with only 1 kW nights. For 5 kW nights, Dallas needed twelve towers, and then it also had to protect Portland, Guadalajara and Tolleson, in addition to WOWO. Since WOWO's downgrade to Class B, all 1190s are reevaluating their night patterns, and some, including the other North American Class As, have already effected changes. As a matter of fact, the Mexican Class A is, under the "Rio" rules, allowed 100 kW days, although it remains grandfathered at 10 kW nights, although Guadalajara is presently operating 50 kW days and 10 kW nights. In addition, "Rio" allocated three additional Class As on 1190 in Central and South America. Those also have to be protected.

"Rio" allows any Class A to go to 100 kW days (subject to National rules, in which cases the U.S. and Canada do not allow more than 50 kW in any case), with the night power as the maximum of whatever it was pre-"Rio" with no antenna system changes, or a maximum of 50 kW, with appropriate antenna system changes. The three Mexican Class As which were grandfathered at less than 50 kW (20 kW for 1000, 10 kW for 1190 and 1550) may increase to a maximum of 50 kW nights with changes, and 100 kW days, presumably with no changes. The one Canadian Class A which is 10 kW DA-1 may increase to 50 kW days and nights, with antenna system changes. The Canadian Class A (a former Class I-A) which, under "Rio", went from 10 kW ND-U to 50 kW DA-1, may stay at 50 kW DA-1, but it moved twice, and in each case it was 10 kW DA-1. The U.S. Class A which is 25 kW ND-D and is grandfathered at 10 kW DA-N may increase to 50 kW DA-2. For whatever reason, the Commish allowed a low-powered co-channel daytimer to go on-air, presumably as a "first service", several counties to the north of this Class A, thereby limiting this Class A's daytime upgrade opportunities.

The Bahamian Class A (also a former Class I-A) which went from 10 kW ND-U to 50 kW DA-1 under "Rio" may go to 100 kW if it wants, but 50 kW is probably more than that Nation needs and 10 kW ND-U is probably more reasonable.

>> You are talking about ZNS 1540? Right? Wrong...it's blocked by a first-adjacent, assuming WRHC is operating on 1550 (instead of 1560, where it was camped out for years until WQEW got it moved back where it belongs...) Although ZNS-1 is a Class I-A by NARBA, it was operating at 10 kW ND-U until "Rio" forced all Class I-As to operate with 50 kW, or whatever higher power they were notified at. This forced ZNS-1 and CBU to go to 50 kW DA-1. ZNS-1 protects Albany and Waterloo at night. Coincidentally with WCKY moving from its failed 3-tower array to its present 4-tower array, protection to first-adjacent on 1520 and 1540 became necessary. Waterloo was apparently designed to protect not only ZNS-1 (Waterloo is a Class I-B, so it is inferior in class to ZNS-1) but a planned-for Class I-B in the Southwest, which was never built. Probably intended for Phoenix (which state has no Class Is at all) or Los Angeles.

Los Angeles installed a Class II-B on 1540 with 50/10 DA-2, but did not provide protection for first-adjacent KFBK, possibly in anticipation of being elevated to Class I-B. When Rose Hills recently redesigned the array for higher night power, the array was redesigned to provide first-adjacent protection to Sacto. Also to a second-adjacent which wasn't being adequately protected in the first place. Incidentally, "Rio" also affected one Class II-B in a strange way. One in Mexico was notified as 100/50 kW ND-U for the better part of a half-century, but Class Bs are not allowed more than 50 kW at any time, so this station is now 50 kW ND-U on a foreign Class I-A clear. It's the only instance I know of where "Rio" forced a station to reduce its day power.

1020 (KDKA's frequency) was the first to be broken-down, in 1965, and 890 (WLS' frequency) was the last. On May 7, 2008, at 8:52 PM, Michaels, Randy wrote: WOAI was second last, WLW was the last. Neither 700 nor 1200 were on any Class II-A List. The original Class II-A list contained: 670, 720, 780, 880, 890, 1020, 1030, 1100, 1120, 1180 and 1210. After Hubbard Broadcasting lost its decades-long battle in the Supreme Court, 770 was added to the Class II-A List, but it was not on the original Class II-A List. There is a Class I-N on 700, but not one on 1200.

What were the dates of the Rio Treaty and setting of power levels? Roughly 1989. 50 kW maximum for U.S. and Canada Class As, which must operate at that power level or be grandfathered at a lower power (applies to only one station in the U.S.). The greater of 50 kW or whatever was before "Rio" for non-U.S., non-Canadian Class As, even if 500 kW. Class As which formerly operated with less than 50 kW, and Mexico had three or four of those, may operate with up to 100 kW days, but must reduce power to that which was before "Rio", or install a DA which protects foreign Class As, and there are a great many more of those now,

which did not exist before "Rio". Cuba alone got about a dozen Class As by "Rio". It had no Class Is at all before "Rio". 50 kW full-time for Class Bs, and which now includes all Class II-As, Class II-Bs, Class III-As and Class III-Bs. 50 kW daytime for Class Ds. Class Cs remain as Class IVs in the 48 contiguous states, but these frequencies may be assigned Class B stations elsewhere, including Alaska, Hawaii, and any territory. There are no 500 kW stations in Mexico, but two may have been notified at that power level. 900 operates with 250 kW. 150 kW is pretty much the standard power for a Mexican Class I-A, but not all can do that as their equipment becomes more failure-prone. Some of the former "border blasters" operate with greatly reduced power (but no less than the Class A minimum, which is 10 kW) daytime, and then throttle up to 50 kW and possibly more during night-time.

Basically, Mexican high-powers are used for stations in the interior, not any longer for "border blasters". XETRA now operates 77/50 kW, but its pattern now favors service to Baja. 77 kW provides about the same service towards L.A. as its former day pattern and 50 kW did. There are many new Class As which exceed 100 kW in other parts of this ITU region. Some exceed 300 kW, or are notified for same.

As a consequence of "Rio", the heretofore unique (to the U.S.) Class I-Ns were redesignated Class As, and the heretofore unique (to the U.S.) Class II-As were redesignated Class Bs. For many years thereafter, DOC documents still asserted that Class II-A stations were "stations of the Class A type". (Obviously in deference to KOB/KKOB, which had to be resolved by the SCOTUS, by giving New Mexico another Clear, except this one being a II-A on 770, and not the I-B on 770, or, better yet, the I-A on 770 which Hubbard was seeking).

WTIC is ... apparently ... one of the very few special cases of Class I-Bs which have a co-channel Class I-B far to the west of them, and for which they (the far eastern Class I-B) are permitted to operate their ND antenna system from LSR of the western station to LSS of the western station, whereas all other eastern Class I-Bs operate their ND antenna system from their own LSR to their own LSS. This gives "drop-in" class II-Bs (now Class Bs) a much more difficult time, and also causes some grief to the western I-B. The reverse is true in the case of 1110, but that is understandable as KFAB acquired a Class I-B priority simultaneously with WBT being degraded from a Class I-A to a Class I-B, but WBT did not install its required DA until after the War (CBS sold WBT immediately after WBT was broken down, and it left the implementation of the DA to the station's new owner, presumably Jefferson Pilot). That DA wasn't installed for some time, and in the mean time WBT operated with 10 kW ND nights, but that gave KFAB significant grief, so KFAB received a stepped-up priority on 1110, which allowed it to operate with 50 kW ND whenever WBT should have been operating with 50 kW DA-N, but was actually operating with 10 kW ND.