

*Inside the Incentive Auction NPRM*



## The Forward Auction

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**D**an Kirkpatrick’s companion piece on the Reverse Auction explained how the FCC proposes to clear TV broadcasters out of large chunks of the 600 MHz band, thus leaving that spectrum available for wireless broadband purposes. If that process was not complicated enough (and it is), the FCC proposes to complicate it further by having hopeful wireless licensees bid on the vacated spectrum sight unseen *at the same time* that the spectrum is being cleared. Because the availability of wireless licenses is dependent upon the results of the reverse auction in different geographic areas, wireless bidders would not know exactly which spectrum band they’re bidding on or even whether any band will actually be available when the reverse auction is over. This double helix of descending bids on spectrum simultaneously coupled in sequential stages with parallel ascending bids on that same spectrum is bold and audacious. And it is theoretically an efficient and quick way of re-assigning a precious resource.

Complexity in the computer age is not necessarily a deal breaker, but human (and computer) fallibility gives us some pause about this plan. At this point the Commission is still looking for input on its plan, so we can expect experts from the world of Academia to chime in knowledgeably on the concept. In the meantime, we lay out here the Commission’s preliminary thoughts. The three basic auction design elements are: bid collection procedures, assignment procedures, and pricing.

**Bid Collection Procedures.** The Commission proposes a “dynamic auction design format” and describes the typical “simultaneous multiple round ascending (SMR) auction” and, in this instance, the more favored “ascending clock auction.”

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*Inside the Incentive Auction NPRM*

## The Overall Incentive Auction Design

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**T**he Incentive Auctions are coming. No doubt about it. TV and Class A licensees will be given the opportunity to cash in in return for making some or all of their spectrum available for repurposing (the beneficiaries of the repurposing being wireless broadband operators). The innovative concept floated out two years ago in the National Broadband Plan is now targeted for implementation in 2014 . . . if about a million different moving parts all happen to align just right.

Recently, Commission officials (including Commissioner Rosenworcel and Incentive Auction Task Force co-leader Gary Epstein) have emphasized the importance of making the auction process understandable and easy to participate in. As Rosenworcel put it, “[s]implicity is key . . . [A]t every structural juncture [of the auction design], a bias toward simplicity is crucial”.

Perhaps. But that brings us to the Commission’s Notice of Proposed Rulemaking (*NPRM*) in which it lays out – over 140 pages of single-spaced text plus 26 pages of proposed rules plus 22 pages of additional appendices plus 15 pages of separate statements by the Commissioners plus a 20-page “Incentive Auction Rules Option and Discussion” – the agency’s thoughts on the Incentive Auctions’ design.

“Ease” and “simplicity” do not spring to mind as the reader slogs through the dense, highly technical *NPRM*.

Of course, the design phase of the Incentive Auctions is necessarily complex because of the extraordinary complexity of the ultimate goal. That goal includes encouraging as many TV and Class A licensees as possible to surrender

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*How much spectrum is too much?*

## FCC Asks: Should Wireless Spectrum Holdings Be Limited? If so, How?

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Many observers of the communications landscape in this country have come to believe that the intense concentration of spectrum in the hands of a handful of carriers has reached alarming proportions. Unfortunately, to date the folks wringing their hands about this have generally not been the federal regulators. Verizon and AT&T, and to a lesser extent Sprint and T-Mobile, have increasingly gobbled up huge chunks of spectrum both through auctions and in secondary market transactions, leaving only the crumbs for smaller carriers to squabble over. Often the FCC auctions the spectrum in huge REAG or MEA sized territories that span as many as nine states – a vast area too big for a small or medium sized carrier to handle and usually more than even the largest carriers can hope to build out in a reasonable time-frame. So a considerable amount of spectrum lies moldering in the larders of the largest carriers while smaller carriers cannot fulfill their customers' basic needs.

Now the FCC has decided to take a fresh look at its policy on mobile spectrum holdings. In a Notice of Proposed Rule-making released on September 28, the FCC opened a far ranging and much needed inquiry into all aspects of the spectrum accumulation issue. As telecom veterans know, the FCC has often tried to impose hard and fast or "bright line" limits on the amount of spectrum that can be held by wireless carriers and also broadcasters either nationally or in a given market. In ancient times, for example, mobile communications was divided between wireline cellular carriers with one block of spectrum on one side of an impenetrable wall and non-wirelines with another block on the other side. And never the twain could meet. These kind of efforts to artificially restrain spectrum agglomerations have always ultimately fallen by the wayside as the pressures to allow economies of scale to be enjoyed and to permit the market to operate as it wishes (smaller carriers can't resist the temptation to sell out to bigger carriers offering large amounts of money) have overborne the agency's misgivings about spectrum concentration.

The most recent iteration of the FCC's attempt to control, or at least impede, wireless spectrum concentration is the so-called "spectrum screen." Under the screen, the FCC establishes a threshold of spectrum concentration by a single company (now set at a third of the total mobile terrestrial spectrum available for licensing) and then raises its eyebrows if a carrier proposes to exceed the "limit." The limit is not really a limit – it only calls for heightened scrutiny by the agency – but it was intended to serve as a sort of soft and spongy line that could normally only be crossed for good cause. The quantum of spectrum included in the screen process has had to be adjusted over the years as new spectrum resources (AWS, BRS, 700 MHz) have been added into the mobile mix. So while the screen offers some guidance, it leaves potential spectrum acquirers in the quandary of not knowing what the applicable limit really is. Can I buy this spectrum or can't I? And as we are taught in Economics 101, markets hate uncertainty. The uncertainty is especially troubling in the auction context because an auction winner who crosses the invisible line by successfully bidding on too much spectrum would theoretically be subject to post-auction penalties by being disqualified from acquiring the licenses on the block. This can only discourage auction participation by the big money players most likely to be affected.

So the FCC is considering whether it should return to the imposition of a "bright line" spectrum limit so everyone would know up front what level of spectrum concentration is or is not acceptable. There's certainly something to be said for that, but the hard part is actually drawing the lines. Once the FCC decides it wants to move to a "bright line" process (which is not a foregone conclusion but the FCC seems to be leaning in that direction), it must decide the following:

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*An affront to the public interest?*



## FCC Cancels Hundreds of FiberTower Licenses

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**T**he FCC has dealt a blow to FiberTower Corporation, and possibly to area-wide fixed service in general, by rejecting FiberTower's request for additional time to build out its systems and canceling hundreds of FiberTower's 24 and 39 GHz licenses.

FiberTower is not alone in its difficulties. Nearly all of the area-wide licensees in the four auctioned bands used to communicate between fixed points – at 24, 28, 31, and 39 GHz – have had difficulty in meeting their renewal obligations. In part the problems trace to a shortage of suitable equipment, and in part to markets that did not develop as expected. FiberTower, ironically, is one of the more commercially successful licensees, so the FCC action against it seems particularly harsh.

The usual duration for microwave licenses of all kinds is ten years. When an area-wide licensee applies for renewal after that period, it must show it is providing "substantial service." The FCC rules define this, unhelpfully, as "a service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal during its past license term." (Paradoxically, in other words, the level of service required for renewal is substantially above the level of service required for renewal.)

A licensee can establish having met this goal through a "safe harbor" showing of its having constructed four links per million population in its service area.

The vast majority of licenses in these bands have been unable to make their "substantial service" showings, via the safe harbor or otherwise, by their expiration dates. Most have requested extensions of time. The FCC has routinely granted such extensions, typically for up to four years, and then has cancelled the licenses of systems that remain unbuilt. FiberTower had received extensions on various of its licenses. As those were running out, FiberTower entered bankruptcy proceedings. In early November, the FCC canceled 94 of FiberTower's 24 GHz licenses, and 595 of its 39 GHz licenses.

FiberTower had built a business of providing "backhaul" service, *i.e.*, carrying communications between a cus-

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*Hell Freezes Over!*

## Commission Ends 16 Years of WCS/SDARS Conflict

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**O**ne gets accustomed to vicious and intractable conflicts in the world: Wile E. Coyote vs. Roadrunner, Harvard vs. Yale, Christians vs. lions, and WCS licensees vs. SDARS licensees. Now we can finally cross that last one off the list. Last month the FCC acted to bless the peace between the two long-warring factions by releasing an Order that resolved all controversies to the relative satisfaction of all concerned.

The FCC had inadvertently created the conflict 16 years ago by creating the SDARS (Satellite Digital Audio Radio Service) and WCS (Wireless Communications Service) services in immediate proximity to each other with no guard bands. What were they thinking? Squabbles inevitably broke out as SDARS licensees (later consolidated into just Sirius XM) busily established terrestrial stations to supplement their satellite delivered programming, stations that would potentially interfere with WCS operations – *if* WCS operations ever occurred. Despite being owned by some of the largest telecom companies in America, WCS operations had never really gotten off the ground – in part because of the ongoing dispute with Sirius XM but also because the Service had not found an identity. The two services sniped at each other for a decade while the Commission urged the parties to come to a negotiated resolution among themselves.

In May of 2010, the Commission finally said enough is enough and issued an order that resolved many of the points in dispute (permissible power levels, permissible out of band emissions, spectral density – almost every technical component of their operations was disputed as creating potential interference). Unfortunately, that order left no one happy, especially the WCS licensees since it effectively precluded use of the spectrum for LTE purposes, despite making it more generally useful over most of the band. Petitions for Reconsideration flew in from all quarters and another two years of bickering ensued.

Finally, this year AT&T, which was already one of the largest holders of WCS spectrum, sat down with Sirius XM and worked out a compromise that essentially gave up the mobile use of the two smaller WCS spectrum blocks while leaving the larger and more important blocks relatively free

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Michael Marcus, P.I.

## FOIA Request Turns Up Info on Non-FCC-Compliant Transmitters

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In our recent blog post on our CommLawBlog site about an AT&T wireless Internet service causing interference to an airport weather radar in Puerto Rico, we asked whether the FCC had charged AT&T with the wrong offense. Because the transmitter operated outside its FCC-certified frequency range (among other problems), the FCC determined it did not qualify for unlicensed operation, and so fined AT&T for not having a license – even though AT&T could not have obtained a license for that service.

Our friend Michael Marcus, a spectrum-savvy engineer (and former FCC official), asked a different question: how did the transmitter get to be operating on a non-certified frequency? Where most of us would be content to mull this over in our idle hours (if it occurred to us at all), Marcus is made of different stuff. He not only took the question to the highest reaches of the FCC, but managed to get some answers.

Modern radio transmitters, like most other modern devices, are controlled by software. The FCC recognizes a category of transmitters called “software defined radios,” or SDRs, which can be legally updated or modified by software changes, including those downloaded over the air. But most transmitters do not qualify as SDRs. Once certified by the FCC, their properties have to be locked in. The software is supposed to be secure against changes, particularly those that would take the transmitter out of compliance and lead to, say, interference to airport radar.

AT&T’s Puerto Rico transmitter was certified for operation over 5735-5840 MHz, but it was being operated at a frequency outside that range. Moreover, the transmitter lacked the required capability to listen for weather radar signals, and if it found them, to avoid the frequencies on which they occur – a feature called “dynamic frequency selection,” or DFS.

The transmitter was manufactured by Motorola, which knows how to comply with FCC technical rules. But the transmitter was non-compliant when FCC inspectors found it in operation – on a non-certified frequency and lacking DFS – in AT&T’s Puerto Rico system. Moreover, the FCC has identified other non-compliant transmitters operating in the same band. In every case we know of, the transmitter was made by Motorola, and all came from the same “Canopy” product line.

What went wrong?

One clue comes from a “consent decree” between Motorola and the FCC released in April 2010. Motorola paid \$9,000 to settle charges that it violated FCC rules relating to DFS requirements in the frequency bands relevant here. The document contains no specifics. But it does mention that the FCC’s Enforcement Bureau asked Motorola for certain information related to the suspected offense on April 20, 2009. And that Motorola responded on May 20, 2009.

That was all the opening Marcus needed. In August 2011, he filed a request under the Freedom of Information Act (FOIA) seeking a copy of Motorola’s May 20, 2009, response letter.

Motorola had requested and received confidential treatment of that letter, under a FOIA provision that protects trade secrets and confidential commercial information. The FCC notified Motorola of Marcus’s document request (as the FCC’s FOIA protocol requires). Motorola provided the FCC with a version of the letter from which it redacted the parts it said would harm its competitive position, and also sent a copy of the redacted version directly to Marcus. The Enforcement Bureau issued an order (not publicly released) agreeing with Motorola that the FCC need not disclose the redacted material.

Marcus appealed that decision to the full Commission, asking for access to specific redacted information. He argued, in part, that release of the information is in the public interest because it may shed light on the root causes of interference from the Canopy transmitters into airport radars, and thus promote air safety.

The FCC’s decision gave Marcus a partial victory. One question in the FCC inquiry asked about a particular transmitter used in Puerto Rico – although not the same one that got AT&T in trouble. The one mentioned in the inquiry lacked an FCC ID number, which is required evidence of required FCC certification. The FCC asked if the transmitter was certified, and if so, under what FCC ID number, and why the number was not marked on the device. The FCC also asked when and where various Canopy transmitters were marketed in prior years, and under what FCC ID

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Yesterday – GPS, tomorrow – weather satellites!

## LightSquared's Plan B, Out for Comment

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The FCC has requested comment on a Petition for Rulemaking filed by LightSquared Subsidiary LLC seeking a new co-primary allocation permitting non-Federal terrestrial mobile use of the 1675-1680 MHz band.

You remember LightSquared – the company that wanted to deploy a tower-based wireless broadband network in the 1545-1555 MHz satellite downlink portion of the L Band, close to GPS frequencies. GPS users objected, and the National Telecommunications and Information Administration (NTIA) which administers federal spectrum, decided GPS interference concerns could not be overcome, whereupon the FCC pulled LightSquared's tentative authorization.

With its recent Petition for Rulemaking (and other documents filed in late September), LightSquared seeks a work-around to its GPS headache (and possibly a Hail Mary to resurrect the company, which is now in bankruptcy).

LightSquared's idea is to pair its existing and as-yet-uncontroversial authorizations for two 10 MHz uplink bands, at 1627.5-1637.5 MHz and 1646.7-1656.7, with a downlink (and terrestrial) channel at 1670-1680 MHz. This band is farther removed from GPS frequencies than LightSquared's old request. The lower half of the band, at 1670-1675 MHz, is allocated for non-Federal fixed and mobile uses, and has been auctioned; LightSquared, through a subsidiary, has made arrangements to lease this segment. No problem there.

But the upper half of LightSquared's proposed band, at 1675-1680 MHz, is not, at first glance, a good home for a high-powered cellular-type network. The primary allocation is for both Federal and non-Federal meteorological

use, including downlinks for weather satellites. Remember those satellite videos showing the approach of Hurricane Sandy? Chances are they came through this band. Satellite downlink earth stations, which must receive extremely weak signals from satellites orbiting hundreds or thousands of miles away, are notoriously susceptible to interference. The 1675-1680 MHz segment is among the ultra-sensitive bands from which the FCC bars nearly all unlicensed devices.

LightSquared is careful to state it would coordinate its operations with Federal users. But it does not say how. We suspect NTIA would not want a LightSquared tower within many miles of a Federal earth station receiving on the same frequencies. Yet the *sine qua non* of a mobile broadband network, such as LightSquared hopes to build, is ubiquity: customers want service anywhere they go. It remains to be seen how LightSquared can resolve these competing concerns. And missing from LightSquared's petition is any offer to protect non-Federal users in the band. Actually, we're not sure there are any; but if there are, the FCC is likely to conclude that they too are entitled to protection from LightSquared.

LightSquared also filed a companion request to modify its license in accordance with the relief requested in its rule-making petition.

Comments on the rulemaking petition were due on **December 10, 2012**, and reply comments on Boxing Day, **December 26**. Comments or petitions to deny the license modification are due **December 17**. If the FCC decides to proceed, it will solicit further comments by way of a Notice of Proposed Rulemaking. But we have a hunch NTIA may not let the matter get that far.



(FOIA Request - Continued from page 4)

numbers. The answers to these questions would not harm Motorola's competitive position, the FCC ruled, so Marcus was entitled to obtain them.

Marcus has now posted Motorola's response on his blog. Motorola's explanation: it thinks it sold the unit outside the United States (for which no certification or FCC ID is required), after which the unit was "somehow imported" back into the U.S. If true, that would put the responsibility squarely on whoever imported the unit and sold it domesti-

cally, and also on the people who installed and operated it despite the missing FCC ID.

The mystery continues, as does occasional interference to airport radars. Users of the Canopy transmitters have no easy way to check the operating frequency or the presence of DFS capability. But those within the U.S. can – and should – look for an FCC ID number on the unit. If the number is missing, the user is on notice that the device is not only unlawful, but also a potential threat to air safety. For the sake of all air travelers, please turn it off.



## FCC Attempts to Clarify USF Contribution Requirements for Wholesale Carrier-Providers and Their Carrier Customers

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Recently, the FCC released an Order designed to clarify the issue of contributions to the federal universal service fund (USF) by wholesale carrier-providers and their carrier customers. Generally, carriers make contributions to the USF based on the revenues they generate from telecommunications services. Under current Commission requirements, however, wholesale carriers generally do *not* contribute on revenues earned from sales to customers who themselves contribute to the Fund when they resell the wholesale service. This prevents double payment of contributions for the same service. However, carriers *are* required to contribute on revenues earned from sales to customers that *do not* contribute to the Fund for the services that incorporate the wholesale service. In recent years, there have been disputes over how to comply with this general rule, arising in situations when contributors submit revenue information to the USF administrator -- the Universal Service Administrative Company (USAC).

The FCC's Order did the following. First, the FCC affirmed for USF contributions purposes that a "reseller" is defined as an entity that (1) incorporates purchased telecommunications into its own service offerings; *and* (2) can reasonably be expected to contribute to the Fund based on revenues from those offerings. In order to classify revenues from wholesale services as being carrier's carrier revenues (and thus exempt from contributions), the wholesale provider must either have "affirmative knowledge" or a "reasonable expectation" that its customer is itself contributing to the Fund on revenues derived from those purchased wholesale services. Second, the FCC provided guidance to USAC on how to proceed when a wholesale provider demonstrates a reasonable expectation that its customer is contributing to the Fund on revenues derived from its services that incorporate the wholesale input, but its customer did *not* in fact do so. In this situation, the Order held that the wholesale provider is not responsible for any outstanding contribution obligations. The FCC also provided guidance to USAC on how to proceed when a

wholesale provider cannot demonstrate a reasonable expectation, but its customer *did* in fact contribute to the Fund based on the services that incorporate the wholesale input. In such instances, USAC should not attempt to recover additional contributions from the wholesale provider.

The Order also clarified how a wholesale provider may demonstrate a reasonable expectation that its carrier-customer is contributing to USF:

- The relevant time period for the "reasonable expectation" analysis is the period during which a wholesale provider collects and submits the revenue data at issue to USAC.

*USAC is to consider all evidence that filers submit as potential "other reliable proof."*

- A wholesale provider can meet the reasonable expectation standard by (1) complying with the guidance provided in the FCC Form 499-A instructions or (2) demonstrating that it has "other reliable proof." Specifically:

- The guidance provided in the instructions to the FCC Form 499-A constitutes a "safe harbor"; *i.e.*, wholesale providers that comply with all of these procedures will be deemed to have satisfied the reasonable expectation requirement. The Wireline Bureau will issue a public notice within thirty days seeking comment on any revisions that should be made to the 2013 FCC Forms 499 and instructions, which will be used to report 2012 revenues.
- If filers choose not to take advantage of the safe harbor provided in the FCC Form 499-A instructions, USAC is to consider all evidence that filers submit as potential "other reliable proof." For example, filers may submit reseller certificates that differ in wording from the language in the FCC Form 499-A instructions regarding the form of reseller certificates. While USAC is supposed to *consider* all such evidence submitted, USAC is not required to deem such certificates, or any other evidence, as dispositive. Instead, under the "other

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*(USF Contributions - Continued from page 6)*  
 reliable proof’ standard, USAC is to review all evidence submitted on a case-by-case basis to determine if a filer has presented clear and convincing evidence that it had a reasonable expectation that its customer is itself contributing to the Fund on revenues derived from the wholesale services purchased from the filer.

The table on the next page presents a summary of the wholesaler-reseller standard and the role of various types of reseller certificates within that standard.

Looking forward, the Order directed the Wireline Bureau to modify the instructions to FCC Form 499-A to revise the existing sample certificate language, which the Commission believed do not clearly reflect the

longstanding requirement that in order to classify revenues as carrier’s carrier revenues, wholesalers must have a reasonable expectation that their customers are “resellers.” Nonetheless, the issue under the Commission’s rules is whether the wholesale providers had a reasonable expectation that their customers were resellers, and the FCC conclude that the wholesale providers’ reliance on certificates in accordance with the sample language and other instructions in the Form 499-A worksheets was sufficient to justify a reasonable expectation. The Order recognizes that many providers have adopted the sample certificate language into their business practices and that it would be unfair to penalize these providers for reasonably doing so. The FCC therefore directed USAC not to reclassify any revenues

in situations where the wholesale provider relied on a certificate consistent with the applicable Form 499-A instructions (and otherwise complied with those instructions). In addition, wholesalers and customers may have established operating, reporting and financial procedures that relied on the sample certification language and the suggestion to check the Commission’s website to determine whether an entity is a contributor contained in last year’s Form 499-A instructions. The Commission recognized that both wholesale providers and their customers may need time to make changes to their internal policies and procedures, as well as to

their existing contracts, to ensure compliance with the Commission’s reseller requirements as clarified in this Order. Thus, the FCC will consider it sufficient for providers to demonstrate a reasonable expectation that particular customers were resellers by

relying on certificates that are consistent with the sample language in the 2012 instructions through December 31, 2013. Likewise, they will consider it sufficient for customers to provide certificates to wholesalers that are consistent with the sample language in the 2012 instructions for the same time period.

It’s not clear to us whether this Order will successfully eliminate ambiguities regarding current USF payment obligations. But even if it does, that clarity may be short-lived, as the Commission is separately undertaking comprehensive reform of the USF contribution system. Unfortunately, we anticipate that the new reforms will generate new ambiguities.

STANDARD		RELEVANCE OF CERTIFICATES
<b>Did wholesale provider demonstrate ...</b>		
→ affirmative knowledge; or		
→ reasonable expectation through		
→ following 499-A instructions (“safe harbor”) or		After 2007, instructions specify <i>annual</i> certificates
→ other reliable proof		Where appropriate, USAC may take into account “outdated” certificates ( <i>i.e.</i> certificates signed <i>prior</i> to the calendar year in which revenues were collected) as part of a totality-of-the-circumstances analysis
<b>... that its customer would contribute to the Fund on the revenues derived from offerings that incorporate the purchased service?</b>		
<b>Yes</b>	Wholesale provider <b>not responsible</b> for additional contributions	
<b>No</b>	<b>Did wholesale provider’s customer actually contribute?</b> → Yes: wholesale provider <b>not responsible</b> for additional contributions → No: wholesale provider <b>responsible</b> for additional contributions	USAC may take into account “confirmatory” certificates (certificates stating that wholesaler’s customer <i>actually</i> contributed to the Fund)



*Would somebody please take this \$185 million?*

## FCC Considers New Plans to Induce Carriers to Take CAF Phase I Money

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About a year ago, the FCC adopted a self-proclaimed “Transformation Order” which completely re-structured the Universal Service program. A key feature of the plan was that the FCC would distribute \$300 million from the Universal Service Fund (now renamed the “Connect America Fund” or CAF) to price cap carriers. The money was to be used to build out broadband facilities to areas that still lack them. Like any free lunch, however, this one came with lots of strings attached (notably including the limitation of \$775 per customer location), and many carriers therefore politely declined the “free” money.

In November, the FCC released a Notice of Proposed Rulemaking to decide what should be done with the \$185 million of 2012 CAF Phase I money that was left over. In this NPRM the FCC posited two alternative approaches to advancing broadband objectives in price cap territories using the remaining 2012 Phase I funding. Under the first alternative, it proposed to add the \$185 million into any future rounds of Phase I funding, revise the Phase I rules to expand the definition of eligible areas, adopt a process to update to the National Broadband Map, and alter the metric used to measure build-out. Under the second proposal, the \$185 million would simply be added to the budget for Phase II, though the FCC did not seem particularly interested in this option and provided no details on it. (Phase II is where funding is provided from the CAF to support broadband operations in high cost areas.) To provide time to implement this, the Commission also waived the existing December 15, 2012 deadline for the Wireline Competition Bureau (Bureau) to announce Phase I funding allocations for 2013. The NPRM also proposed measures “to strengthen oversight and transparency of Phase I incremental support.”

*Like any free lunch, however, this one came with lots of strings attached.*

### Proposals for a New Round of CAF Phase I Funding

*Definition of Unserved.* The FCC first considered new ways to get recipients to take the money. One way to make the funds more attractive would be to expand the definition of “unserved areas” to include any census block lacking access to broadband with speeds of 4 Mbps downstream and 1 Mbps upstream (vs. the prior metric of areas that lack access to fixed terrestrial broadband with a minimum speed of 768 kbps downstream and 200 kbps upstream).

*Validity of the Nat’l BBand Map.* Given on-going questions regarding the accuracy of the National Broadband Map, the FCC also proposed to permit parties to challenge the served/unserved status of a particular census block before carriers could receive additional funding.

The Bureau is publishing a list of eligible census blocks shown on the current version of the National Broadband Map as unserved by fixed terrestrial broadband with an advertised speed of 3 Mbps downstream and 768 kbps upstream. The Bureau will solicit public input on updates, revisions, and other potential corrections to the National Broadband Map data, regarding whether particular blocks are in fact served or unserved. The FCC is looking for hard data here. The Bureau will then publish a revised list of the census blocks.

*Alternatives for Distribution of Remaining Phase I Funding.* The NPRM seeks comment on several proposals to distribute the next round of Phase I funding, including tying funding to the construction of second-mile fiber, tying funding to the estimated costs of deployment in an area, and maintaining or modifying the \$775 per location metric.

The first proposal would require carriers accepting Phase I incremental support to meet their build-out obli-

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*(CAF Phase I Money - Continued from page 8)*

gations by building a certain number of miles of fiber for a specified amount of support. To establish a specific metric to implement that approach, the NPRM pointed to a pending Windstream waiver request which suggests that the cost to deploy fiber in high cost rural areas is \$35,784 per mile. The Commission is considering whether a uniform cost metric should be adopted for all recipients of the additional Phase I support, and, if so, the appropriate figure. The FCC also proposed to require that a minimum average number (10?) of unserved locations per route mile of fiber be served, averaged over the entirety of the fiber the carrier seeks credit for under Connect America Phase I. Alternatively the FCC asked if it should require carriers to certify that they (i) have ranked potential fiber deployments by the number of unserved locations that would be served by each route deployment and (ii) have selected the fiber routes with the highest number of unserved locations per mile.

Comments were also sought on how to prevent subsidizing fiber in areas served by unsubsidized competitors. The NPRM recognized that if the FCC prohibits support to any fiber construction that could theoretically benefit a geographic area with an unsubsidized competitor, such a restriction could have the effect of preventing many unserved consumers from obtaining broadband, to the extent the fiber to connect those customers would need to traverse a geographic area that is served. Comments were also sought on fiber deployment milestones, and how specific carriers would have to be about their proposed deployments at the time of accepting the funds.

Another proposal would tie funding to the estimated costs of deployment in an area. Under this proposal, the previous \$775-per-location-metric would be adjusted based on the estimated cost to serve a location in a particular wire center. Comments were sought on the costs that would be used to anchor the upward or downward adjustments in support per location. Should they scale the per-location support

amounts for wire centers proportionately (so that an area expected to cost twice as much as the baseline would receive twice the support) or dollar for dollar (so that an area expected to cost \$100 more per year than the baseline would receive \$875 per location)? Should they establish minimum and maximum support amounts per location in order to adequately incentivize deployment in an efficient manner?

A third proposal would allow carriers to accept support based on the current metric of one unserved location per \$775 accepted. It's not clear, though, how this would encourage carriers to take funds that they have already rejected, unless the proposed changes to the definition of unserved, and to the Broadband Map, make the \$775 figure more attractive.

*Should a uniform cost metric be adopted for all recipients of the additional Phase I support?*

### **Proposals for Oversight of Phase I Support**

The NPRM also sought comment on measures to monitor compliance with existing obligations for support that has already been accepted, whether certain reporting requirements should be modified for recipients of second round incremental support, and whether certain Phase I data should be afforded confidential treatment. Specifically, they proposed that each carrier, with its two- and three-year milestone certifications, must provide geocoded latitude and longitude location information, along with census block and wire center information, for each location the carrier intends to count toward its deployment requirement. This would assist the Commission in comparing actual deployed locations against the National Broadband Map. The FCC also proposed to clarify that in the event a carrier intends to deploy to areas other than those identified in the carrier's initial acceptance, it is permitted (but not required) to make a supplemental filing providing updated deployment plans at any time. Lastly, the NPRM sought comments as to whether to grant or deny the requests for confidentiality that carriers previously made regarding location data in their Phase I incremental support elections, and whether carriers should be permitted to request confidential treatment of future Phase I funding elections.



*(The Forward Auction - Continued from page 1)*

The SMR design allows a series of rounds whereby the last provisional winning bid becomes final when the next round does not receive additional bids. The ascending clock format provides for announced prices for “generic licenses in each category in each geographic area, and bidders would submit quantity bids for the number of licenses they seek.” Different categories and geographic areas may yield different prices but the sales price will remain the same within each category of a specific geographic area. Prices would be raised for each round until there is no longer demand. The hope is that bidding for generic blocks would actually speed up the process.

In addition to the above, the Commission seeks comment on the possibility of package bidding, whereby a bidder could indicate an “all-or-nothing” bid for a group of licenses. The upside being the avoidance of going home with a handful of licenses that are insufficient to meet your business case, but rather by using package bidding a participant could acquire the totality of necessary licenses.

**Assignment Procedures.** Through the assignment procedures the winners are matched to the particular licenses. If package bidding is allowed, the Commission will need to take these bids into consideration. If the Commission goes forward with the generic blocks approach, “the assignment procedures would assign contiguous blocks to bidders that bid for multiple blocks in the same geographic area and could take into account the need to coordinate frequencies across adjacent areas.”

**Procedures to Determine License Prices.** Naturally enough, the final prices will be the highest amounts bid in either of the possible formats, SMR or clock auction. Should the Commission conduct a further auction for specific frequencies, they will need to construct additional procedures and therefore seek comment.

## RECONFIGURING THE UHF BAND

### The Proposed Plan

The unique challenge of the forward auction is the number of unknowns. Prior to the reverse auction questions will remain regarding the amount of spectrum made available, which frequencies are represented, and the geographic locations of such frequencies. Therefore,

the proposed band plan will be more of a “framework” based on expected cleared frequencies. In admirable bureaucratese the NPRM suggests: “a band plan that balances flexibility with certainty.”

The certainty includes proposing a fixed amount of downlink spectrum nationwide with the uplink spectrum possibly varying in different geographic areas. The idea is to best utilize what are expected to be varying amounts of cleared spectrum in different geographic areas. The consistent downlink spectrum would facilitate a more interoperable universe at the device level where each mobile device can use the same receive filters while the carriers’ base stations can be modified to allow for multiple uplink spectrum signals. By allowing a level of interoperability at the device level and through economies of scale, the expectation is for lower device costs.

*Consistent downlink spectrum would facilitate a more interoperable universe at the device level.*

Continuing with the bureaucratese, the Commission “focus[es] on five key policy goals: utility, certainty, interchangeability, quantity, and interoperability.”

**Utility:** 5 megahertz “building blocks” created from the broadcast spectrum previously divided in 6 MHz increments. To the extent possible, the Commission will seek to pair the blocks as this is the prevailing practice in many existing mobile networks.

**Certainty:** The Commission proposes methods to minimize interference between broadcasters and wireless, as well as harmonizing the band plan with international treaty obligations to Canada and Mexico.

**Interchangeability:** The use of effective guard bands will enhance the ability to exchange spectrum “building blocks” and provide options for auction design.

**Quantity:** By providing varying amounts of uplink spectrum in different geographic regions, the Commission maximizes availability of spectrum. Also, the Commission maximizes new unlicensed spectrum both by allowing such use in the guard bands between TV and wireless and by supplementing the guard bands with “remainder” spectrum from the conversion of 6 MHz blocks to 5 MHz.

**Interoperability:** The Commission’s “proposed band plan would allow for wide band radio operations using

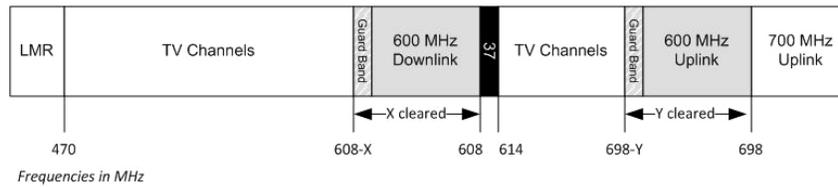
*(Continued on page 11)*



*(The Forward Auction - Continued from page 10)*  
 common radio components and improvements as technology evolves over time.”

**600 MHz Band Plan (see Figure A)**

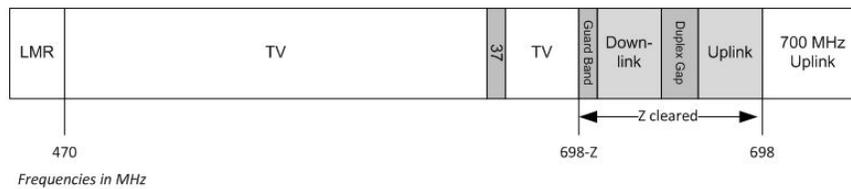
The proposed uplink band begins at channel 51 and extends downward toward channel 37. Exactly how much spectrum will be determined by how much the broadcasters make available through the reverse auction.



**Figure A: 600 MHz Band Plan (Primary Proposal)**

On the far side of channel 37, the downlink band begins at channel 36 and as with the uplink band extends downward according to however much spectrum was made available.

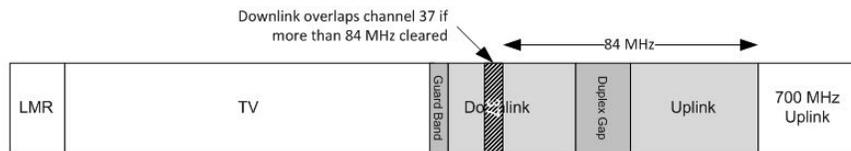
The uplink and downlink spectrum bands were placed with an eye towards limiting interference thereby minimizing the need for guard bands. The new uplink band is adjacent to the 700 MHz uplink band; these bands are harmonized so there is no anticipated need for a guard band. The downlink band beginning at channel 36 utilizes channel 37 to serve effectively as a guard band – the current services in channel 37 (radio astronomy and wireless medical telemetry) have been operating next to broadcast television bands without interference.



**Figure B: 600 MHz Band Plan - Alternative Approach, Down from 51**

Channel 37, which is currently used for radio-astronomy and wireless medical telemetry systems, effectively serves as a guard band in the

NPRM proposal. But note the Commission could consider relocation of the current sacrosanct channel 37 services.



**Figure C: Impact of Fixed 37 on Down from 51 Alternative Approach**

**Building blocks**

The Commission seeks comment on the proposed spectrum block size. The suggested size is 5MHz, but the Commission would consider maintaining the 6MHz block structure and possibly seeking larger units, e.g., 10 MHz blocks. The Commission is interested in a structure allowing the aggregation of 5 MHz blocks, including through the secondary market and channel aggregation. The Commission proposes to auction and license paired blocks of spectrum. Where

there is spectrum that cannot be paired the Commission proposes to make such unpaired spectrum available for downlink purposes.

**Alternative Band Plan Approaches**

While the proposal discussed above is the FCC’s “lead proposal” the Commission did lay out a few alternative visions for the band plan.

*Down from Channel 51 (see Figure B):* The Commission could attempt to clear broadcast channels from channel 51 downward and not use the

natural separation of the channel 37 services. A downside would be the need to create a duplex gap between the uplink and downlink bands. The wider the duplex gap the better mobile performance, but in a smaller licensed band.

One concern with this alternative is that if more than 84 MHz are cleared, channel 37 would be located in the

downlink band. The question then becomes what to do with the radioastronomy and medical telemetry services at channel 37.

If radioastronomy and wireless medical telemetry were

*(Continued on page 12)*



*(The Forward Auction - Continued from page 11)*

moved from channel 37, the Commission might seek to place the downlink band at channel 32 rather than channel 36 thereby creating symmetry between the total uplink and downlink spectrum.

*In from Channels 51 and 21 (see*

Figure D): Another idea is to maintain the 51 down approach for the uplink band and have the downlink band emanate up from channel 21. This avoids moving channel 37 services. There would be no need for a duplex gap, as that is where the TV broadcasters would operate. However, guard bands would have to be created – one each side of the downlink band and the lower edge of the uplink band (as in the lead proposal). There is also the question of whether the pass band size would require multiple band plans.

**Prioritizing Paired Spectrum.** The Commission may consider a plan based around the pairing of spectrum nationwide instead of on a market to market basis. Rather than a series of asymmetrical markets where the uplink varies, the spectrum would be equally divided between paired downlink and uplink spectrum. Where there is residual spectrum it would be used for one block of unpaired downlink spectrum. The obvious downside is that it would be limited to the “lowest common denominator” market availability of spectrum.

The Commission might seek to create two families of paired spectrum, one nationwide and another in smaller markets. This would seek to balance the desire to offer as much paired spectrum as possible with the need to maximize the total amount of spectrum reallocated.

**Different Amounts of Spectrum in Different Markets.** By allowing the conversion of different amounts of broadcast spectrum in different geographic areas, the Commission seeks to maximize the total amount of

broadband spectrum available. However, multiple band plans offer technical complications in that different filters and/or duplexers then are needed in mobile devices. The Commission is trying to strike a compromise position by constructing “families” and

“extended families” of related band plans. (See Figure E.) This way, mobile devices can be manufactured with common receive filter components to fit the common nationwide downlink spectrum. The base stations must address the need for different receive filters.

A further complicating factor would be if broadcasters relinquish a large amount of spectrum such that technical requirements necessitate two downlink band plans as an initial matter. The Commission seeks comment on these issues, as well as interoperability concerns.

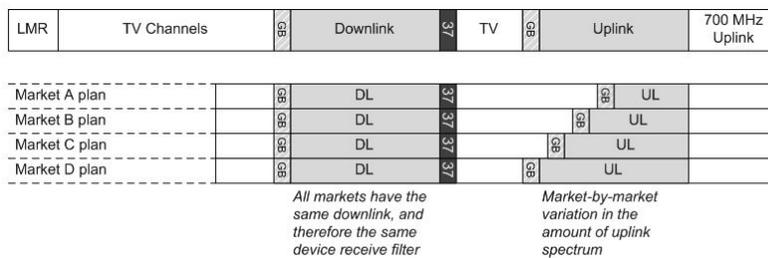
**Geographic Area Licensing:** The Commission intends to utilize a geographic area licensing approach. A nationwide, or broad regional, approach would be held hostage to the amount of spectrum available in the market with the least amount of spectrum relinquished. A more granular Metropolitan Statistical Areas/Rural Statistical Areas (MSAs/RSAs) approach would risk complications in auction design and implementation, as well as in the service roll-out. The Commission therefore is looking to the mid-sized, Goldilocks zone of Economic Areas (“EAs”) licensing. The Commission seeks comment on this approach, as well as what additional concerns to consider with respect to areas outside the lower 48 states: Alaska, Hawaii, U.S. territories, Gulf of Mexico.

The Commission also seeks comment on possible early and voluntary resolution of issues related to broadcast protections affecting lower 700MHz A Block licensees. The Commission would seek to facilitate channel relocation requests.

*(Continued on page 13)*



**Figure D: 600 MHz Band Plan - Alternative Approach, In from channels 51 and 21**



**Figure E: Fixed downlink with uplink varying by market**



*(The Forward Auction - Continued from page 12)*

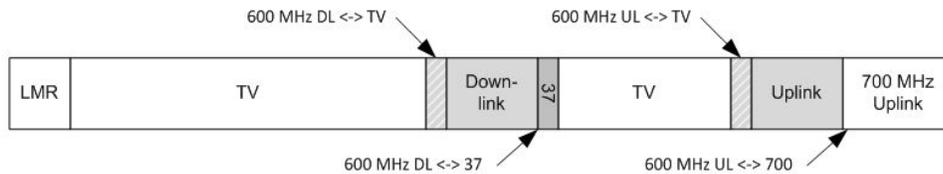
**Unlicensed use**

The NPRM identifies three types of spectrum for unlicensed use: guard bands, TV white spaces, and channel 37.

*Guard bands:* The Spectrum Act authorized guard bands “no larger than [are] technically reasonable to prevent harmful interference between licensed services outside the guard bands.” The Commission is proposing 6 MHz guard bands between mobile broadband use and broadcast use, which are to be supplemented with the left over bits from the relinquished broadcast spectrum – 1 to 4 MHz segments which are too small to be licensed as 5 MHz blocks. These guard bands will be available for unlicensed use. An interesting question will be what is “technically reasonable?” Is a 6 MHz guard band enough to provide the necessary interference protections? Also, are the “remainders” from converting 6 MHz television channels into 5 MHz broadband channels properly added to this band?

*White Spaces:* The Commission also seeks to maintain a

“substantial amount” of TV white spaces in the repacking, which would be available for unlicensed operations. While the Commission seems to think there will be plenty of white space left after the re-packing, there will inevitably be some constraint in white space availability since a good bit of it will be allocated to wireless, and broadcast channels will be packed even more tightly than they are now.



**Figure F: Guard band locations in the proposed band plan**

*Channel 37:* The Commission proposes unlicensed use in channel 37 “whether or not we relocate the WMTS and the Radio Astron-

omy Service.” By establishing protection areas around the limited number of medical telemetry and radio astronomy sites, the Commission seeks to maximize the use of this slice of spectrum. They seek comment on the best protection criteria for medical telemetry and radio astronomy.

In addition to these critical issues, the Commission is seeking comment on Pass Band Size, allowing TDD service in the band, and technical rules applicable to spectrum use.

Comments are due no later than **January 25, 2013**, with replies due on **March 12, 2013**.



*(Spectrum Ownership Inquiry - Continued from page 2)*

- ✓ What spectrum bands should be included in the analysis? The regular cellular, PCS and AWS bands are easy, but what about mobile satellite spectrum? What about BRS which is not generally available everywhere? What about EBS, which is supposed to be primarily educational but is widely used for commercial broadband? What about WCS, which will probably be used for broadband but has never been put into commercial operation? The larger the amount of spectrum that is put into the denominator of the spectrum fraction, the greater the numerator holding of any individual carrier can be without exceeding the permissible limit. So the universe of included spectrum is important.
- ✓ What geographic market should be used to measure the holdings? Should spectrum concentration be considered on a national basis or a local one? And if local, should the relevant market be Cellular Market Areas (usually a few contiguous counties) or larger areas like MEAs or EAs that embrace large areas?

- ✓ What quantum of spectrum should be deemed OK? The Commission has heretofore considered that the holding of more than a third of the available spectrum in a given market raises competitive concerns. Is that the right percentage? Some observers feel that one fourth or even one-fifth of the available spectrum would better preserve the ability of multiple carriers to compete.
- ✓ Are all spectrum bands created equal? Many objectors to recent high profile mergers or acquisitions have argued that spectrum below 2 GHz or 1 GHz is inherently more useful for mobile applications due to its propagation characteristics. If that’s the case, shouldn’t the Commission “weight” those holdings more heavily in assessing how much spectrum is too much?
- ✓ Should leased spectrum be treated differently from owned spectrum?

It should be noted that the FCC does not propose to revisit spectrum acquisitions that have already occurred, so current spectrum holders can breathe easy.



*(WCS-SDARS - Continued from page 3)*

to offer LTE service. The parties smoked a peace pipe and jointly submitted their compromise proposal to the FCC. At the same time, AT&T bought up most of the other WCS licensees (there were originally a baker's dozen) and also settled long pending challenges to their WCS license renewals. The FCC heaved a sigh of relief at not having to resolve yet again these issues that had stymied service in a major broadband spectrum band. In a few months it quickly drafted and adopted an order that, in large measure, accepted all of the compromise positions of the parties on the technical issues.

The technical specifics can be found in the Order, but these are the highlights:

- The two 5 MHz blocks (C and D) were relegated to fixed operations, thus reducing interference concerns to Sirius XM. Use of that block for airborne operations was also made possible, an element which pleased Gogo, Inc., a company that had proposed that particular use of this spectrum
- WCS licensees must eliminate interference to SDARS reception in proximity to roadways using agreed metrics
- FDD operations are allowed in all of the WCS bands, subject to the power and OOB limits the Commission imposed
- Fixed WCS base stations may operate at customer locations subject to the base station rather than CPE limits
- Both SDARS and WCS licensees must notify each other of planned installations (other than minor mods) and must coordinate with each other (including sharing station inventories)
- Low power fixed WCS CPE can employ outdoor an-

tennas as long as they are at least 20 meters from a roadway, or the equivalent and meet prescribed power limits

In addition to the technical compromises, the FCC agreed to give WCS licensees 48 and 78 months, respectively, to build out 40% and 75% of their service areas, a six month extension of both timetables. More importantly, the FCC reset the clock on the build-out schedules from the date of publication of the Order. Effectively, WCS licensees will now have been given almost *20 years* to build out their systems to the first construction benchmark. Christmas came early this year for that service.

On the other hand, the FCC took a curiously stern position on the consequences of *not* completing the construction under the new timetable. In many services, such as the 700 MHz services, the FCC has a “use it or lose it” policy – if you have not built out to the required level by the prescribed date, you lose that part of your licensed territory that has not been built out. Here, perhaps because of the already lengthy build out period, the FCC decided to impose the “death penalty” on laggard WCS licensees. If you haven't completed the requisite level of construction in time, you lose your entire license.

The peaceful resolution of the long festering dispute in this space would be a model for industry stakeholders and the FCC alike – if only it had not taken more than a decade to achieve. Even amateur radio interests got most of their concerns addressed, as did the aeronautical mobile telemetry people and the Gulf of Mexico WCS licensee. Maybe there is something to be said for working together toward a practical solution after all.



*(FiberTower Cancellations - Continued from page 3)*

tomers' network facilities and its cell (or other) towers. FiberTower customers that spoke up for the company at the FCC included AT&T, T-Mobile, Sprint Nextel, and a local jurisdiction for which FiberTower backhauled 911 calls.

We see some policy problems in the FCC's action against FiberTower. True, the FCC cannot tolerate wholesale flouting of its rules. But when rote enforcement runs counter to the public interest, which we think is the case here, the FCC should look for ways to be lenient.

One purpose of the auction mechanism (apart from raising funds for the Treasury) is to give licensees skin in the game. Having put up money to buy their spectrum, the theory goes, licensees will have financial incentive to put that spectrum to use in developing a stream of revenue. But some-

times the incentives don't work as planned. The low demand at 24 GHz may result in part from the availability of “free” point-to-point spectrum in the nearby 23 GHz band. In any event, canceling FiberTower's licenses now will likely have the unwanted effect of driving down bids for this category of spectrum at any future auctions.

The “four links per million” safe harbor may also operate perversely, in requiring a licensee seeking renewal to construct links that have no market to support them. A licensee is understandably reluctant to build expensive “links to nowhere.” These are likely to be in the wrong locations when business does develop, and the licensee will have to abandon them if it loses the license. Moreover, FiberTower's pleadings explained that the necessary costs *before* the construction of links dwarf those of construction itself, yet the licensee receives no credit in the renewal evaluation

*(Continued on page 15)*

*PSAPs don't want to be bothered by robocalls either*

## Congress, FCC Bar Robocalls to Public Safety Points

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Unwanted marketing telephone calls are pesky at best, but if they go to a number in a 911 service center, known as a Public Service Answering Point, or “PSAP,” they can block capacity needed for an emergency call and can be disastrous. When you dial “911,” your call is directed to a conventional 10-digit number at a PSAP. Joe Public may not know those PSAP numbers, but automatic equipment that initiates marketing calls by dialing random or sequential numbers is likely to hit some PSAP numbers sooner or later.

We hope that most, if not all, of you are familiar with the “Do Not Call” list maintained by the FCC and Federal Trade Commission (FTC). You can put your home number on the list at [www.donotcall.gov](http://www.donotcall.gov) (some 209 million numbers have been registered), and telemarketers (at least those who observe the law) are not allowed to call it any more. But there are some big exceptions, including charitable and political organizations, which are allowed to call “do-not-call” numbers because of First Amendment concerns if their calls were forbidden.

The FCC has now adopted rules establishing a separate do-not-call registry for PSAP numbers (FCC 12-129). Why? Because Congress told them to do it in the Middle Class Tax Relief and Job Creation Act of 2012 – that same law that brought us the reverse and forward auctions that are supposed to entice TV stations to give up their spectrum

so that there will be more capacity for smartphones and tablets. The new rules apply to both voice and text messaging calls to PSAP numbers.

Congress wasn't fooling around, nor is the FCC. The statute mandates fines of at least \$100,000 and up to \$1 million *per call* for automatically dialed calls (“robocalls”) to PSAP numbers. Telemarketers must check the database at least once every 31 days.

But here's the big catch. An emergency call can be interrupted by any robocall with equally serious consequences, so they apply to charitable and political organizations as well as commercial telemarketers. That means that the non-profit and political worlds can no longer go about their business without checking the PSAP do-not-call registry. They will probably have to pay a fee to access the PSAP list, but at least the PSAP list will be a lot smaller, and presumably less expensive, than the existing list of 200 million numbers. So organizations that have previously not had to worry about programming their auto-dialers to avoid certain numbers are going to have to learn how to comply. Presumably robocalls to lists of an organization's own members will be permitted, since those lists should not have any PSAP numbers on them, but the calling organization will take the risk and will be subject to sanctions if it makes a mistake. There won't be any “safe harbor” for

*(Continued on page 17)*



*(FiberTower Cancellations - Continued from page 14)*  
for having made those expenditures.

Finally, it seems to us the public interest is better served by leaving the licenses with FiberTower. In taking them back, the FCC ensures the result it most wants to avoid: the spectrum will remain unused for many years to come. These bands can only be licensed by auction; no auctions are planned; and after seeing what happened to FiberTower, no rational applicant would bid very much anyway. If FiberTower continued to hold the licenses, there is at least some promise that its business might expand into the now-underused spectrum. But the FCC's action has closed out this possibility.

We hope the FCC finds a way to reverse its decision on Fi-

berTower, and in the process, take a hard look at its renewal policies in general for area-wide fixed spectrum.

Finally, we note that the FCC went to some lengths not to step on the jurisdiction of the bankruptcy court which is overseeing the FiberTower bankruptcy. FiberTower will likely assert that, as in the famous NextWave case of a few years ago, the FCC cannot take away licenses held by a bankrupt company. The FCC will no doubt respond that, unlike the NextWave case, these licenses are being cancelled for reasons having nothing to do with FiberTower's failure to pay a debt, and therefore fall into a different category. In the meantime, under a court order, the FCC has indicated it will not re-auction the licenses at least until the dust settles on the bankruptcy situation – and in practice a re-auction may take a lot longer.



*(Incentive Auction Overview - Continued from page 1)*

their spectrum for repurposing in the most efficient manner possible while what's left of the TV industry is repacked into less spectrum. And then there's also the goal of reconfiguring the freed-up spectrum and selling it to wireless providers. The NPRM provides all interested parties an opportunity to attempt to shape the auctions' final design.

Due to the length and complexity of the FCC's proposal, interested parties should consult Fletcher, Heald & Hildreth's blog which presents a series of articles examining auction eligibility, the repacking process, post-auction procedures and other aspects of the proposal, all of which are currently in play. The instant article provides an introduction to the overall auction scheme.

### ***Auction Design Overview -- A chicken-and-egg problem, on steroids, in three dimensions***

The Incentive Auction process will include two separate-but-interrelated auctions: a "reverse" auction in which TV and Class A licensees will agree to relinquish some or all of their spectrum rights in return for cash, and a "forward" auction, in which prospective mobile licensees will bid for the right to use portions of the spectrum freed up by the "reverse" auction.

Sounds simple, but wait.

The precise spectrum to be bid on in the "forward" auction won't be known until the "reverse" auction is completed. And Congress has mandated that the proceeds from the "forward" auction must cover all the payments to successful "reverse" auction bidders, plus a number of other administrative and reimbursement costs. So there's a threshold interdependence between the two that poses conceptual problems (sort of a regulatory equivalent to M.C. Escher's *Drawing Hands*).

But that chicken-and-egg problem is further complicated by the fact that the value of any particular broadcaster's to-be-relinquished spectrum is likely to be different from any other broadcaster's. The differences arise from a host of factors, some of them easily calculable (e.g., population covered, perhaps whether any particular relinquishment would create "white" or "gray" areas), some not so much (e.g., extent to which that particular spectrum will facilitate (a) repacking of the TV band and/or (b) repur-

posing of the spectrum). And, of course, the value of the spectrum available in the "forward" auction will depend on how much spectrum is available and where it can be used.

With respect to determining the value of to-be-relinquished TV spectrum, the FCC is considering a couple of computer programs that might serve to update the likely value of each participant's to-be-relinquished TV spectrum constantly through the course of the "reverse" auction. Remember, while participating broadcasters will want to keep that value up, it's in the Commission's interest to keep it down, so as to minimize the overall payout (and, thus, maximize the government's ultimate take from the "forward" auction).

One of the two computerized approaches under consideration (the "Integer Programming Algorithm Approach") "would, for a specified amount of spectrum to be cleared, minimize the sum of the reverse auction bids

accepted and the relocation costs of stations that are reassigned to new channels." But that particular approach would not necessarily lead to "optimal" results – although the Commission advises that results would be "within a certain tolerance of optimality" that the Commission, at least, could find acceptable. Oh yeah, and those results might not be easily reproducible and, thus,

"less than fully transparent".

The second computerized approach – the "Sequential Algorithm Approach" – would, as best we can understand it, assess for each auction participant prior to each auction round the feasibility of assigning that participant's station to some channel in its pre-auction band. As long as the station can be assigned to the pre-auction band, the participant can opt to continue in the "reverse" auction. (Alternatively, of course, it could bail from the auction at any time as well – but heads up: a decision to exit the auction would be irreversible.) The program would determine for each participant the "least-cost" move ("least-cost", that is, to the Commission). If no reassignment within the participant's pre-auction band is possible, then that participant's compensation would be set at the last price offer it accepted for its last preferred relinquishment option. This approach may be more easily replicated than the Integer Programming Algorithm, but it's apparently more complicated and less efficient.

*(Continued on page 17)*

*The precise spectrum to be bid on in the "forward" auction won't be known until the "reverse" auction is completed.*



*(Incentive Auction Overview - Continued from page 16)*

As far as operation of the “reverse” auction goes, the Commission is looking at two alternatives: either (a) a single round, one-and-done, put-your-final-bid-forward approach, or (b) a somewhat more conventional multiple round clock format. In the latter, in each round a progressively lower bid amount would be presented by the Commission and each bidder would indicate its willingness to accept that amount. It appears that each FCC-set bid would be unique to each auction participant (based on the particular attributes of that participant’s to-be-relinquished spectrum) and disclosed confidentially only to that participant. The idea is **not** to have broadcasters bidding against each other, but rather to enable the FCC and each broadcaster to arrive at a mutually agreeable cash value for the relinquishment of that broadcaster’s spectrum.

Another interesting point: the Commission is considering establishing “reserve” prices, *i.e.*, a maximum that it would be willing to pay for the relinquishment of spectrum rights. The maximum would likely vary from broadcaster to broadcaster, depending on the relevant characteristics (*e.g.*, audience served) of the broadcaster’s station.

The “forward” auction would be considerably simpler, but still not without its quirks. The Commission is tentatively planning on using a standard multiple round ascending auction typical of other spectrum auctions. Bidders would be bidding on “generic” categories of licenses (*e.g.*, paired or unpaired) in particular geographic areas, probably in 5 MHz blocks. Specific frequencies would **not** be involved; those would be assigned once the “forward” and “reverse” auctions have been completed and the repackaging process has permitted the identification of specific frequencies available in specific areas. We’ll be posting a

separate installment addressing in more detail “forward” auction issues.

For those readers who find the *NPRM*’s description of the auction process a bit too daunting, you may be better off by starting with the “Incentive Auction Rules Option and Discussion” included as Appendix C to the *NPRM*. Prepared at the FCC’s request by Auctionomics and Power Auctions, it provides a somewhat more accessible view of what the FCC has in mind. It’s still not quite “FCC Incentive Auctions for Dummies”, but we found it helpful.

Even those who are not interested in participating in the auction may want to take the opportunity to comment. Whether or not they choose to participate, all TV broadcasters will be affected by the Incentive Auction. That’s because, in order to package more desirable spectrum blocks for the “forward” auction, the FCC will likely be forcing most, if not all, remaining full power broadcasters to change channels or implement other modifications. While the Commission is required to take “all reasonable efforts” to protect full-power stations’ existing service areas, and to reimburse relocations costs (to be paid from the forward auction proceeds), the mechanics and implementation of the repackaging are, not surprisingly, rather complicated. For low power television licensees, the situation is much worse, as their services will not be entitled to any protection during the repackaging process.

Obviously, there remain plenty of questions relative to all auction mechanics. Comments on any and all such questions are invited in the *NPRM*. Again, comments are currently due to be filed by **January 25, 2013** and reply comments by **March 12, 2013**.



*(Robocalls - Continued from page 15)*

organizations that try to avoid PSAP numbers and fail or make calls taken over by a live person rather than a recorded message after an auto-dialer makes the connection.

PSAPs must also participate. Each one will have to designate representatives who will be the only people able to add numbers to or to delete numbers from the list. They will be responsible for updating their numbers on the list once a year. The lists will be kept highly secure and confidential, so don’t get any ideas that you may be able to find out the plain number of your local PSAP.

There is one exception to the new rules. Autodialers may be used to call PSAP numbers as part of emergency alert systems. In other words, the proposed rules won’t stop an emergency center from disseminating information to PSAPs using autodialers.

Because the new rules require the FCC to gather information, they must be approved by OMB before they can go into effect. The effective date will be announced by further Order.



## FCC and GAO Back Current Licensing for Fixed Microwave

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**W**ith all the work Congress has to do in averting fiscal cliffs, raising debt ceilings, and naming post offices, we were surprised they found time to look into whether fixed microwave spectrum is being used efficiently. Apparently no concern of national interest, no matter how obscure, escapes the attention of our lawmakers.

In passing the Middle Class Tax Relief and Job Creation Act of 2012, back in February, Congress tacked on questions to the FCC and the Government Accountability Office (GAO) about use of the 11, 18, and 23 GHz fixed microwave bands. Congress asked the FCC for the “rejection rate” in these bands – “rejection rate” being defined as the number and percentage of common carrier applications that are rejected due to spectrum congestion. Congress asked GAO whether current rules provide adequate incentive for efficient use of the spectrum, and whether the Government could maximize revenue by auctioning the bands.

Both agencies have now issued their reports.

The FCC very politely told Congress it had asked the wrong questions. Users in these bands are licensed on a link-by-link basis. A would-be applicant must successfully complete frequency coordination, establishing that the proposed link will neither cause nor receive interference, *before* it submits an application to the FCC. So by the time an application for this spectrum arrives at the FCC, it will already have passed the no-interference test at the coordination stage, said the FCC. This means the FCC’s “rejection rate” for applications is necessarily zero. But even rejections by frequency coordinators are extremely rare, if they happen at all; the FCC estimated their occurrence at “well under one percent.” The FCC does not know how many of those are common carrier applications, it

said, because frequency coordinators typically don’t know if a given application is for common carrier or private use.

The FCC noted that its current procedures allow for heavy re-use of frequencies in areas where demand is high, resulting in highly efficient use of the spectrum.

Much of the GAO report deals with basics of radio-frequency communications, licensing, and frequency coordination. Of course these matters are second nature to the FCC, although perhaps new to GAO (and possibly new to Congress as well). GAO went on to concur with the FCC that rejections due to frequency congestion are rare. Doing its best with Congress’s query on auctions, GAO struggled at length over the difficulties of auctioning spectrum that already has many thousands of users in place. It considered whether imposing “spectrum fees” instead might provide suitable incentives. But in the end, GAO found the FCC’s current approach, using link-by-link licensing, in fact has encouraged spectrum efficiency. GAO concluded there is no clear need for either auctions or spectrum fees.

We think both agencies reached the right result. The FCC’s licensing and coordination procedures for fixed microwave services have evolved over many decades in response to the technical and economic realities of an industry that forms an essential part of the U.S. telecommunications infrastructure. The procedures are working well. We hope Congress gets the message and leaves them alone.

(Disclosure: FH&H represents the Fixed Wireless Communications Coalition, which provided substantial input to both the FCC and GAO in the preparation of their respective reports.

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