

FHH Telecom Law

Current Issues in Telecommunications Law and Regulation

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700 club gettin' down to bid-ness

700 MHz Auction Approaches With Loose Ends Galore

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The FCC doesn't have much time left to adopt a final band plan for the remaining 700 MHz spectrum, and the heat is definitely on. Congress has set a deadline of January, 2008, for the Commission to initiate the 700 MHz auction, which means that the Commission must have the band plan in place and the auction rules set in the very near future in order to allow the necessary lead time before auction applications are due. The proceeding has drawn an enormous amount of scrutiny from carriers large and small as well as a number of potential new entrants into the field. It is unusual this late in the game for so many key issues to remain unresolved. At stake are 60 MHz of highly desirable spectrum in the band which must be cleared of UHF television operations by February, 2009. The spectrum is coveted because of the favorable propagation characteristics of the 700 MHz band compared to higher frequencies and the availability of large chunks of unencumbered spectrum for broadband and 4G applications.

Still up in the air are:

- ? Whether the band will be allocated by huge geographic territories available only to the largest carriers or offered in a combination of large, medium and small sizes to make some of the spectrum accessible to all.
- ? Whether "combinatorial" or package bidding will be permitted. This type of bidding is considered to favor large carriers because it permits them to bid

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Tightening the screws



Tougher E-911 Standards In The Works

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Proponents of more stringent E-911 standards for wireless and Voice-over-Internet Protocol (VoIP) services will likely soon be appeased. A Notice of Proposed Rulemaking released on June 1 indicates that the Commission is prepared to adopt a proposal by the Association of Public Safety Communications Officials (APCO) that will dramatically increase testing requirements under Section 20.18(h) of the Commission's rules. The APCO proposal endorses a single accuracy standard which would apply to all carriers regardless of the technology employed to determine a caller's location.

Chairman Kevin Martin was prepared to adopt APCO's proposal without seeking industry comments, but instead announced a series of tentative conclusions at the June Open Meeting, and introduced a tight schedule for comments. Initial comments on the proposal are due 14 days after publication in the *Federal Register*, with reply comments due just seven days later. As of press time, the proposal had not yet appeared in the *Federal Register*.

The APCO proposal would require carriers to meet accuracy requirements based on each carrier's community or "public safety answering point" (PSAP) level, instead of averages of large geographic service areas. The NPRM stated that testing location accuracy over areas larger than a carrier's PSAP is "directly contrary to the interests of public safety and homeland security."

The Commission has received vociferous opposition from the wireless industry on tightening Section

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Google™ Eyes New Model

On-line leviathan proposes Internet-style auction for 700 MHz spectrum

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Another month and another new 700 MHz proposal, this latest one from Google. The Google proposal is somewhat different in that the company claims it has no interest in bidding in the auction, although the company has at times stated that it might bid as part of a consortium. Rather, Google would like to see the introduction of a “real time airwaves auction model” for prospective licensees in the 700 MHz band.

The real time auction model as proposed would operate in similar fashion to Google’s advertising auctions. In Google’s advertising auctions, advertisers, in real time, bid an amount per click through (pay per internet user that clicks on the link generated on Google’s search page). Needless to say, this has been a successful approach for Internet advertising as Google generates billions of dollars in advertising revenue.

For spectrum in the 700 MHz band, Google proposes the same approach, where spectrum users would bid, in real time, for the use of the frequency. In some cases this may require that each wireless device have a component (either hardware or software) dedicated to navigating this spectrum marketplace. The actual license holder would essentially own the spectrum and run the market. This would, according to Google, maximize the value to the public by allowing for full use of the spectrum allocated in a market-based approach.

Google filed an *ex parte* letter asking for clarification as to whether the 700 MHz band rules allow for spectrum auctions as proposed, and whether they would be in the public interest. The Commission placed Google’s proposal on Public Notice on May 24. Frontline Wireless, whose proposal we wrote about in our May issue, has already endorsed the Google proposal. This is not surprising since the Frontline proposal included the ability to lease some portion of the spectrum, so the two proposals dovetail nicely. The Commission is expected to rule on these matters within the next month.

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FHH Launches Blog

Fletcher, Heald & Hildreth is pleased to announce that its blog site is now up and running. You can find it at:

www.commlawblog.com

FHH attorneys will be adding news and observations on current developments in broadcast regulation as well as a wide range of non-broadcast matters (including, wireless broadband, wireline telephone, VoIP, cable TV, license-exempt services) in a real-time environment. Readers will have the opportunity to chime in with their own perspectives on developments at the FCC.

Check it out!

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LECs over ETCs



Joint Board Recommendation – What Were They Smoking?

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A Joint Board comprised of FCC commissioners and representatives of state public utility commissions has made a recommendation to the FCC on how to deal with the mushrooming costs of the Universal Service Fund. The administrators of the USF have been concerned that the cost of providing high cost support to participating carriers has increased from \$2.6 billion in 2001 to \$4 billion in 2006.

Most of the \$1.4 billion increase is attributable to payments to competitive ETCs who have increasingly qualified as eligible recipients despite FCC inaction on routine and uncontroversial requests for such designation. The competitive ETCs have long complained that they are major contributors to the fund and there is no reason why they should not receive high cost support in areas where such support is warranted.

LECs, on the other hand, who have long enjoyed the comfort and security of high cost support, are concerned that letting competitive ETCs share the fund will drive the costs up so high that the whole system will totter. They suggest that they should keep their existing funding but ETC support should be limited to one competitor per market and the level of support should be set at that carrier's cost level rather than the (usually higher) level enjoyed by the LEC.

The Joint Board bought the LEC's argument that it is the newcomers – rather than, as logic would suggest, the *combination* of the newcomers and the incumbents – who are overburdening the system. The Board therefore recommended that high cost support for ETCs (but not for LECs) be capped at 2006 levels. This would be done on a state by state

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Make the checks payable to USF, TRS

Court, FCC Put VoIP On The Hook For Pay-Ins

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The U.S. Court of Appeals for the D.C. Circuit has upheld a 2006 FCC Order requiring interconnected Voice-over-the-Internet (VoIP) providers to contribute to the federal universal service fund (USF). While remanding back to the FCC questions regarding the details of calculating that contribution, the Court's action continues the momentum over the last few years to regulate core aspects of VoIP in a manner similar to traditional telecommunications carriers. Consistent with that momentum, on the day prior to the Court's action the FCC announced an Order under which it imposed an obligation on interconnected VoIP providers to contribute to the Telecommunications Relay Service (TRS) and comply with other carrier obligations to the disabled, and a notice of proposed rulemaking seeking comments on location accuracy and reliability requirements for VoIP (and wireless) providers.

In 2006, while the FCC had still not resolved the issue of whether VoIP should be considered a Title II "telecommunications service" or a Title I 7 information service," it concluded that it had the authority to require providers of "interconnected" VoIP (VoIP that enables real-time two-way voice service to and from the public switched telephone network) to contribute to USF, and that it was good policy to enact such a requirement. The FCC asserted authority to do so under its Title I jurisdiction to take actions ancillary to its other responsibilities. The Commission also based its authority on the provisions of Section 254(d) of the Communications Act, which authorizes the contributions not only by "telecommunications carriers," but by "providers of interstate telecommunications."

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Skype looks to break the stranglehold . . .



Cell Phone Users -- Throw off Your Chains!

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Skype, a voice-over-Internet provider, wants the FCC to break the cell companies' stranglehold over customer handsets, reprising the liberation of wireline customers forty years ago.

Background

Before 1968, the only way to put an extra phone in your house was to call the local phone company, usually AT&T, which sent a man in a truck to install it. The phone still belonged to the company, which assessed a monthly charge forever.

Connecting a phone of your own violated the tariff, and could result in cessation of phone service.

That state of affairs changed abruptly in 1968, when the FCC's *Carterfone* order struck down the relevant tariff provision. AT&T strongly opposed that decision. To let people wire in anything they wanted, said AT&T, could bring down the network. The FCC responded by adopting rules that set technical standards, established a registration procedure, and prohibited unregistered phones.

To see the effects of *Carterfone* today, just stroll through Staples or Best Buy past the wired phones, cordless phones, answering machines, fax machines, headsets, ringers, caller ID boxes, and more. Equally important, *Carterfone* promoted competition that led to high-speed, low-cost modems - essential to the spread of the Internet.

Back now in the present, if you want a new handset for your wireless phone service, Staples and Best Buy probably cannot help. Instead you must go to Sprint, AT&T, Verizon, T-Mobile - your service provider. You pick one of the handsets the provider has chosen to make available. And you put up with the

provider's possibly having disabled some of its features. No Wi-Fi, because otherwise you might not sign up for the provider's broadband service. No ability to load VoIP software, because otherwise you might not use a lot of expensive minutes. You must do your banking, music downloads, photo transfer, etc., only through companies the carrier has chosen (and which pay the carrier a percentage). Odds are the handset is "locked" against transfer to a competing provider. And, if you qualify for a discount, that too comes at a price - a required one- or two-

year contract, over which you will pay back the discount, and more. To be fair, not all wireless providers impose all of these restrictions. But most providers do impose most of them.

Skype's Request

Last February Skype petitioned the FCC to apply *Carterfone* principles to the wireless networks. Establish technical stan-

dards. Test handsets for compliance. Require the carriers to allow use of any handset that passes. Allow any software, any on-line services.

A few weeks later, Skype recast its request into one potentially even more threatening to the carriers. Skype now wants the FCC to carry over its four principles of broadband Internet regulation to wireless phone service. Those principles are:

1. users should have access to any lawful content;
2. users should be free to choose their applications and services;
3. users should be able to connect any compliant hardware; and
4. users should have the benefits of competition

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Today, if you want a new handset for your wireless phone service, you must go to your service provider and pick one of the handsets the provider has chosen to make available.



(Skype proposal - Continued from page 4)
among providers.

Note that item (3) would accomplish much the same result as applying *Carterfone*, while (2) would presumably allow wireless phone users to load and use Skype software, if they choose.

Opposition

To say that Skype's request touched a nerve among the cell phone carriers would be a serious understatement. The companies' response was immediate and outraged. Their trade association proclaimed: "Skype's self-interested filing contains glaring legal flaws and a complete disregard for the vast consumer benefits provided by the competitive marketplace." The oppositions eventually added up to many hundreds of pages. In all, they made two main kinds of arguments.

First, the carriers insist the Skype request is bad policy. The stunning growth of cell phone use over the past decades, they say, shows the benefits of active competition, and especially the benefits of a largely unregulated environment. The carriers' steady roll-out of new services is evidence that consumers are getting what they want. The discounting of handsets makes new technology more affordable, and so promotes innovation. Besides, say the carriers, uncontrolled handset deployment would threaten not only service quality, but customers' data security as well, as rogue handsets pry out people's call logs and passwords.

The carriers also challenge the *Carterfone* precedent on three grounds: (1) unlike wired phone service in 1968, the wireless phone market today is "vibrantly competitive"; (2) unlike AT&T in 1968, the carriers do not manufacture their own handsets; and (3) unlike telephone lines in 1968, the wireless network relies on shared radio spectrum, so a defective handset could potentially harm service to other subscribers.

Skype disputes the policy arguments. Even if letting carriers control handsets once made sense, it says, the evolution of cell phones into pocket-sized computing

platforms has rendered that policy obsolete. And Skype points to numerous instances in which the carriers' vaunted new services and technology come with strings and limitations. While tacitly conceding the *Carterfone* arguments, Skype still aims to accomplish the same ends through application of the Four Principles.

Prospects

Skype may be closer to its goal than it thinks. In a different proceeding, shortly after Skype's initial request, the FCC issued an order that deregulates wireless broadband Internet access. This was widely expected, as the FCC had already done the same for three competing technologies: cable modem, DSL, and broadband-over-power-line. The FCC did not mention it, but presumably that decision makes the Four Principles applicable to wireless broadband.

The FCC was careful to specify that its deregulatory order excludes "interconnected" service - *i.e.*, cell calls to or from a telephone number. Less clear, however, is the status of a "mixed" service that offers both interconnected calls and broadband Internet access. A wireless carrier that markets broadband services is competing with

other broadband providers, and arguably should be made subject to the same regulatory standards, including the Four Principles, when its customers are accessing the Internet. An FCC decision along those lines, although a relatively small step, would give Skype everything it asked for.

The outcome of this dispute may be years away. Precedent at the FCC favors Skype, as "consumer choice" has long been the agency watchword. Indeed, wireless phone service is almost unique in allowing the service provider to control the end user's equipment. Still, the FCC has been generally sympathetic to the wishes of the phone companies. But the consumers are also chiming in. Well over 4,500 had written to the FCC by mid-June, albeit in form letters, nearly all of whom are deeply unhappy with the phone companies' handset practices. The day may be coming when the wireless companies have to rethink their business model and give customers their freedom.



FCC okays virtual proofs

Burden of Proof Eased For AM Directionals

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The FCC has requested comments on a proposal to let some, but not necessarily all, AM directional applicants use “moment method” computer modeling to demonstrate that their directional antennas perform as authorized. The proposal was advanced by a coalition of broadcast engineering mavens – broadcasters, manufacturers, consulting engineers – in early May, following several months of meetings and deliberations. The idea is to reduce the burden, both on AM applicants and on the Commission’s processing staff, by eliminating the need to conduct and analyze field strength measurements of directional arrays in order to verify that they’re working like they’re supposed to.

Historically, the Commission has required directional AM applicants to undertake elaborate, labor-intensive measurements to confirm that their arrays were working properly. Those measurements were then sent to the Commission, where staff members reviewed them as well.

But moment method computer programs (also referred to as NEC, or Numerical Electromagnetics Code, programs) permit the accurate calculation of actual performance based on certain internal antenna parameters, such as current and phase. The coalition also came up with draft rules which would permit the use of moment method modeling to assess the effect of nearby re-radiators on the resulting pattern. Though sponsored primarily by broadcast-oriented firms, this proposal should also speed and simplify the showing required of cellular firms who erect towers within a mile or half mile of an AM station and must therefore demonstrate that their construction is not impacting the AM propagation pattern.

Comments on the coalition’s proposal are due by July 23, 2007; reply comments are due by August 22, 2007.

Easier access to the wire

FCC Helps Open Apartment, Condo Doors to Competition

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The Federal Communications Commission has been taking actions recently to improve the ability of residents in multiple dwelling unit (MDU) buildings such as apartments and condominiums to enjoy the benefits of increased competition in telephone and video service offerings. Some estimates show that approximately 25 percent of Americans live in MDUs.

First, in a recent Order, the Commission clarified that competitive video service providers must not be forced to cut through sheet rock to connect their cable wiring to cable home wiring inside a unit. The Commission also ruled that competing telephone companies must have access to the incumbent’s inside wire subloops in MDUs at the terminal block in order to install service. The inside wire subloop typically is used by competing telephone companies to connect to individual consumers in MDUs. The Commission hopes that by removing economic and operational barriers to infrastructure investment in the communications market, they will enhance video and telephone competition.

On a similar front, the Commission recently also released a Notice of Proposed Rulemaking seeking comments on whether and how the Commission should prohibit enforcement of exclusive video service agreements for MDUs. These agreements allow only one multichannel video provider to offer service in an MDU, and thus “lock” the residents into taking video service only from that provider.

Commission action in the exclusive service agreement proceeding could be very impactful, and we will be tracking progress in this proceeding.



(E-911 Standards - Continued from page 1)

20.18(h), but the NPRM suggested that the APCO proposal would merely clarify what the rules *already* require. According to the NPRM,

[a]lthough Section 20.18(h) does not expressly state that accuracy must be measured and tested at the PSAP level, we note that the Commission has never suggested that it is appropriate to average accuracy results over an entire state, much less over a multi-state carrier's entire service area.

The Commission's current rules use a bifurcated approach which treats carriers operating with handset technology differently than those using network technology. Carriers operating under handset-based technology (including Verizon Wireless and Sprint Nextel) use a global positioning system in the handset to pinpoint the location of a 911 caller. The current rules for handset-based carriers require that 95 percent of 911 callers are located within 150 meters, and 67 percent within 50 meters. Carriers employing network-based technology (including AT&T and T-Mobile), using towers and triangulation to determine the location, are afforded more leeway. They must be able to locate 95 percent of the calls within 300 meters, and 67 percent within 100 meters.

The NPRM stated "it is not clear that this bifurcated approach continues to best serve the public interest,"

and drew a tentative conclusion that a single location accuracy requirement should be introduced for both handset and network-based technologies.

"Consumers cannot reasonably be expected to recognize the implications of the location technology used by their carrier, nor understand why one carrier would provide better reliability in an emergency than another," the Commission explained.

The Commission drew a tentative conclusion that VoIP services should be required to meet the same location accuracy requirements as circuit-switched CMRS carriers, to the extent that the VoIP services can be used in multiple locations.

While it appears a foregone conclusion that the Commission will adopt the APCO proposal in some form, comments filed in the proceeding will affect a number of issues that the Commission has sought input on, including the length of time that enforcement should be deferred to enable carriers to prepare for compliance, the type of methodology which should be employed to measure and verify compliance, and whether the current requirements for handset-based systems are appropriate as the barometer for all carriers.

Given the extremely time-sensitive deadline to file comments and/or reply comments, it is vital that anyone wishing to become involved in the proceeding contact their communications counsel as soon as possible.

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(VoIP/USF/TRS decisions - Continued from page 3)

Having decided to require VoIP providers to contribute to USF, the FCC then turned to the issue of how to calculate the level of such contributions. While USF

contributions are to be based only on revenues generated from interstate and international calls, determining the jurisdictional nature of VoIP calls (and wireless calls) can be very difficult, given the ability of VoIP users to call from different states or countries using the same area code and number. So, the FCC provided a “safe harbor” figure of 64.9% interstate/international traffic, for VoIP providers to use in making calculations. VoIP providers wishing to use a lower percentage of such traffic for purposes of calculations were required to submit traffic studies to the FCC for pre-approval. By contrast, wireless carriers that rely on traffic studies do not need such pre-approval. The FCC justified this different treatment by noting that wireless carriers have long relied on not having to obtain pre-approval. Lastly, the FCC suspended the so-called carrier’s carrier rule, which prevents duplicative USF contributions at the wholesale and retail levels for the same call. The Commission justified this by asserting that failure to do so would “result in a net decrease in the Fund in the short term.”

A VoIP provider (Vonage), and an industry trade group, challenged the FCC’s attempt to impose USF contribution obligations on VoIP, and challenged the FCC’s creation of the 64.9% safe harbor and suspension of the carrier’s carrier rule. The Court upheld the FCC’s authority to impose contribution obligations, based on the language of Section 254(d) of the Communications Act which states that the FCC may impose that obligation on a “provider” of interstate telecommunications.

In doing so, the Court was obliged to deal with the fact that the FCC has refused to rule on the broader question of whether VoIP is a telecommunications service or an information service. As part of its “dance” to avoid classifying VoIP, the FCC has made

The Court was obliged to deal with the fact that the FCC has refused to rule on the question of whether VoIP is a telecommunications service or an information service. . . . It upheld the FCC’s action by going through an arcane analysis to find that “provide” is a broader term than “offer”.

arcane findings that a telecommunications carrier “offers” telecommunications service to the public (and thus is required to contribute to USF), while an information service provider “provides” telecommunications as part of the broader information service offering. Because the FCC has concluded that VoIP operators at least “provide” telecommunications, it concluded that VoIP falls under a portion of Section 254 that allows (but does not require) the FCC to impose USF contribution requirements on “providers” of telecommunications. The Court upheld the FCC’s action by going through an arcane analysis to find that “provide” is a broader term than “offer” and thus VoIP could be said to

“provide” telecommunications even if the FCC has not yet found that it “offers” telecommunications.

Having upheld the FCC’s authority under Section 254, the Court chose not to rule on whether the FCC had authority under Title I of the Act.

On related issues, the Court upheld the FCC’s 64.9% interstate safe harbor for VoIP, ruling that the FCC was reasonable in considering VoIP traffic to be closer to interstate wireline than to wireless traffic, in

terms of percentages of interstate vs. local. The Court did remand back to the FCC, however, the decision to require VoIP operators to get pre-approval of traffic studies to be used to show lower percentages of interstate traffic. The Court held that on this issue, it was inequitable to treat VoIP and wireless differently.

The Court also remanded the FCC’s decision to suspend the carrier’s carrier rule for two quarters as applied to VoIP, noting that the FCC’s justification of preventing a “net decrease in the Fund” was nonsensical if VoIP was not contributing before the FCC ruling, there could be no resulting “decrease” in contributions from applying the carrier’s carrier rule.

On the big picture level, the news here is that the momentum for applying core telecom regulations to VoIP continues. Contributing to USF is a huge part of the obligation on telecommunications carriers, and

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(VoIP/USF/TRS decisions - Continued from page 8)

the Court has upheld this. Consistent with this momentum, the day before the Court's ruling, the FCC took two actions towards further applying telecom regulation to VoIP.

First, it announced an Order ruling that interconnected VoIP providers must comply with Section 225 requirements for providing service to the disabled. These requirements include making contributions to the TRS, and offering 711 abbreviated dialing service for access to TRS. In its other action, the FCC sought comment on its tentative conclusion that providers of interconnected VoIP that allows the subscriber to "roam" to different locations must employ automatic location technology that meets the same accuracy standards as those

imposed on wireless carriers, in connection with the provision of E911 emergency service.

VoIP providers had high hopes five years ago that they could come into the market and provide voice services without any of the "legacy" regulations imposed on traditional carriers. Those hopes appear to be long gone at this point, with only the question of access charges undecided. If the FCC imposes that requirement on VoIP operators (as it appears likely to do), then VoIP operators will have to see if they can succeed in the marketplace without regulatory advantages over traditional carriers.



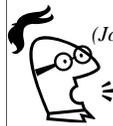
(700 MHz auction - Continued from page 1)

on combinations of smaller markets at one time and thus outbid firms who desire only a smaller subset of the markets.

- ? Whether the spectrum can be leased out by the winning bidders on a sort of carriers' carrier basis without regard to the Commission's latest rules limiting leasing by Designated Entities.
- ? Whether the current 700 MHz guard band channels should be restructured.
- ? Whether the last-minute "Frontline" proposal to associate a channel block with the adjacent public safety spectrum to permit a commercial build-out of public safety facilities should be adopted in some form.
- ? Whether tight construction benchmarks should be established for licensees
- ? Whether the technical parameters of operations should be tweaked.

The Commission can be expected to endure a barrage of comments and a swarm of visitors on these subjects during June as the time to make a final decision nears. In addition to the smaller carriers

who have formed coalitions to espouse their positions and the largest mobile carriers like Verizon and AT&T, new giants like Google have waded into the fray. One envisions something like the administrative equivalent of the battle of Waterloo, where all the armies of Europe's kingdoms, dominions and principalities marched toward Belgium to converge in a single massive test of strength and will. Here battalions of lawyers and legions of lobbyists are already launching *ex parte* missiles, making 8th floor sallies, mobilizing all the forces at their command, and forming strategic alliances. At stake are several billion dollars worth of spectrum and, possibly, the mid-term future of wireless broadband in America. Keep your heads down and your powder dry.



(Joint Board recommendation - Continued from page 3)

basis. The Board emphasized that this proposal was intended as a stopgap measure until it can develop a more comprehensive (and much needed) USF reform plan. The Board committed to adopt such a plan by November, 2007. Given the pace of reform efforts to date, skeptics question that timetable.

The FCC must now consider the Board's recommendation and adopt, reject, or modify it. The Commission has put that process on a fast track, with Comments filed June 6 and replies due shortly thereafter.

**FCC REQUIRES 3650-3700 MHZ LICENSEES
TO PLAY NICELY TOGETHER**

The FCC has rejected most petitions for reconsideration of its novel rules in the 3650-3700 MHz band.

Background

This band is licensed on a shared, nationwide, non-exclusive basis. Licensees must register the locations of their fixed and base stations in the FCC's ULS licensing system. Licensees planning new stations are expected to consult the database to avoid causing



(Five Easy Pieces - Continued from page 10)

originated with a unilateral public notice from the FCC, rather than a rulemaking in which the public participated. The FCC has now released a “Second Report and Order” that codifies and extends the 2000 public notice. (The First Report and Order in this docket made other changes to the Part 15 rules without addressing modular certification.)

The new order carries over most elements of the 2000 public notice almost intact, with two significant changes. First, devices incorporating modular transmitters may now display the FCC ID in electronic form. Electronic FCC ID display has previously been allowed only in software-defined radios. Second, the FCC adopted new rules to govern “split modular transmitters.” In these, the radio front end and controlling firmware are separate, possibly located in different components. Manufacturers must ensure that only components that have been certified together are capable of operating together.

A handy escape clause allows a manufacturer to bypass any of the modular requirements if it can persuade the FCC that the device will nonetheless comply in all of the end products in which it is used.

ARE YOU SMARTER THAN YOUR RADIO?

The FCC has clarified the rules that govern software-defined radios (SDRs) and cognitive radios. In FCC-speak, an SDR is a radio whose regulated characteristics (such as frequency range, bandwidth, modulation, and maximum power) are under software control. The FCC established special procedures in 2001 for lawfully modifying SDRs through software changes. A cognitive radio is one step beyond – an SDR that adjusts its own operating parameters by interacting with the radio-frequency environment. The FCC amended the SDR rules in 2005 to facilitate the development of cognitive radios.

The FCC did the following:

 clarified that an SDR must be certified under the SDR rules only if its software is designed or expected to be modified by parties other than the

manufacturer; otherwise (at the manufacturer’s option) it can be certified as an ordinary radio;

 stated as policy that manufacturers should not make public the security software that prevents unauthorized persons from modifying an SDR (which seems obvious to us);

 declined to adopt a rule requiring confidential treatment of SDR software submitted to the FCC, noting that it expects to request such submissions only infrequently;

 declined to launch a rulemaking on the separate regulation of digital-to-analog (D/A) converters, despite a party’s assertions that a D/A converter with appropriate software can act like a radio transmitter; and

 clarified that the rules exempting most amateur radio transmitters from FCC certification remain unchanged, even if the transmitters incorporate SDR capability.

COMMENTS SOUGHT ON TANK LEVEL PROBING RADAR WAIVER REQUEST

The FCC has asked for comment on a waiver request for certification of a “tank level probing radar” in the 77-81 GHz band. The device would comply with the general emissions limits in Section 15.209. The band is allocated for radio astronomy, space research, radar, and amateur use. A waiver is necessary because 77-81 GHz falls within the “restricted bands” in which the FCC ordinarily prohibits intentional emissions from unlicensed devices. When the restricted bands were first identified, there was little activity above 38.6 GHz, so as a precaution the FCC declared everything above 38.6 GHz to be restricted. That includes this device’s proposed operating frequencies. As the FCC continues to promote use of the millimeter-wave spectrum above 38.6 GHz, a reexamination of the restricted bands in that region is becoming increasingly urgent.

Comments on the waiver request are due on July 12, and reply comments in July 27.

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