P25 Phase 2 in Maryland

How It’s Tackling 700 MHz Regulatory Hurdles

Inside

A New EOC on a Budget

The FCC and Critical Infrastructure

Your Guide to Software and Providers
What Does the FCC Have Against Critical-Infrastructure Companies?

With all the talk about improving the integrity of the country’s infrastructure — modernizing it, protecting it from terrorist attacks, hardening it against environmental disasters — wouldn’t you think the FCC would be anxious to do its part? Apparently not.

The FCC not only hasn’t helped the nation’s electric utilities and oil and gas companies as they struggle to implement advanced communications technologies, it has occasionally thrown some unnecessary obstacles in their way. Railroads have fared slightly better, but they too have long been subject to commission rules that favor commercial providers at the expense of the nation’s infrastructure companies. From spectrum allocations to enforcement actions and almost everything in between, the FCC’s view of the public interest seems to include only consumer-based broadband applications, not the requirements of critical-infrastructure industries (CII), including utilities, railroads, and oil and gas companies. Here are just a few examples.

The National Broadband Plan

When preparing its national broadband plan, which among other things was supposed to promote energy independence and efficiency, the oil and gas industry told the commission that the lack of available broadband spectrum was impairing its implementation of “digital oil fields of the future,” such as next-generation, IP-enabled communications systems providing video security, remote site monitoring and control, and mobile IP enterprise applications. With new, exclusive broadband spectrum, industry experts said they could improve efficiency, promote safety of life and property, support disaster response efforts and increase environmental protection. Without spectrum, the options would be limited.

The commission had no response to the oil and gas industry in the national broadband plan. There were some remarks about the inadequacies of commercial networks and the promise of smart grids, but nothing about the requirements of the oil and gas industry or the necessity of an exclusive broadband allocation for critical-infrastructure companies. Instead, the plan contained a lengthy discussion about the large amount of spectrum required to satisfy demand for consumer-based broadband applications.

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Spectrum Allocations

Rather than allocating additional spectrum for use by CII companies, the FCC historically has required them to vacate core frequency bands to accommodate new commercial providers serving mass markets. For example, CII companies were required to vacate the 1.85 – 1.99 GHz band for personal communications services (PCS), portions of the 2 GHz band for advanced wireless services (AWS) and the 12.2 – 12.7 GHz band for direct broadcast satellite (DBS) services. They also had to relocate to different 800 MHz frequencies to reduce interference to public-safety systems from commercial mobile operators.

For years, the FCC has taken sizable chunks of spectrum from critical-infrastructure companies and allocated no substantial new spectrum in return. Not surprisingly, these companies are now sometimes left without the spectrum tools necessary to implement next-generation, IP-based applications to increase efficiency, security and safety in providing essential services to the public.

Electric utilities are pressed for spectrum to implement smart-grid technologies, and oil and gas companies are blocked in implementing digital oil fields of the future. While railroads also are scrambling to find frequencies for positive train control (PTC), the commission at least has initiated an inquiry regarding their spectrum requirements. The commission should initiate the same type of spectrum inquiry for the energy...
The electric utility industry’s concerns were dismissed, and the FCC adopted unprecedented rules mandating faster, cheaper attachments by communications companies.

industry as it has for railroads, and the inquiries should be followed by fast-track rulemaking proceedings to allocate the necessary spectrum.

Spectrum Auctions
Revenues generated by spectrum auctions go straight to the U.S. Treasury. Because of increasing pressure for more revenues, new spectrum almost always is made available to the highest bidder through auctions. Large commercial wireless carriers can compete on that playing field. When they need spectrum to serve subscribers in the Los Angeles area, for instance, they buy it at auction.

Meanwhile an oil and gas company looking for spectrum to serve a refinery in Los Angeles, or a gas pipeline or railroad needing spectrum throughout west Texas, is out of luck. The FCC never customizes the geographic areas of auctioned licenses to fit the limited service territory of a refinery or the unique ribbon configurations of a pipeline or railroad. Because the FCC draws its license boundaries around metropolitan areas, CII companies can’t compete with commercial carriers for auctioned spectrum. Adding salt to the wounds, carriers aren’t anxious to reduce the overall value of their spectrum by assigning small portions of it to CII firms for use in particular geographic areas.

Narrowbanding
While the commission applauds broadband developments in cellular and other consumer-based applications, critical-infrastructure companies are being required to narrowband their operations. By Jan. 1, 2013, all of the oil and gas companies, electric utilities and railroads operating in the VHF (150 – 174 MHz) and UHF (421 – 512 MHz) bands must transition from 25 kilohertz to narrower bandwidths (12.5 kilohertz, or if data, an equivalent efficiency standard) or they must cease operations altogether. So much for broadband for CII companies.

Construction Requirements
The FCC understandably has adopted construction requirements to prevent licensees from warehousing spectrum. These requirements come in a variety of flavors: population coverage based on the number of pops covered, geographic coverage based on square miles covered or a broader, catch-all category called substantial service. If any one of these tests is passed, the licensee can keep its license.

Electric utilities, railroads, and oil and gas companies don’t serve consumer subscribers or pops with their communications systems. Nor do they necessarily cover large geographic areas. Instead, they use fixed point-to-point or point-to-multipoint communications facilities to mirror the areas covered by their unique service territories. Accordingly, substantial service — not pops or geography — is the best-suited construction test.

But the FCC is reluctant to make decisions based on the substantial service test, because it isn’t as easily measurable as pops and geography. The result? Gridlock. The commission has declined to rule on a multitude of construction showings, causing confusion and uncertainty in the industry and impeding deployment.

Maritime Hearing
Unable to get spectrum elsewhere, a dozen critical-infrastructure companies (seven electric utilities, four oil and gas companies, and one railroad) entered into transactions to acquire frequencies from Maritime Communications/Land Mobile. A few months ago, the commission ordered Maritime to show cause why its licenses shouldn’t be revoked based on allegations of licensee misconduct.

The commission set the matter for hearing before an administrative law judge and asked whether the applications to assign small slices of Maritime’s spectrum to the CII firms should be granted or denied. Some of these applications had been pending at the commission for years, and none of the applicants was accused of any misconduct.

In the order designating the applications for hearing, the commission allowed the railroad to demonstrate why its application should be “removed from the ambit of the hearing designation order” and granted. But what about the seven electric utilities and four oil and gas companies? According to the commission, they can fight their way through an expensive, time-consuming and uncertain hearing if they hope to get their applications granted.

Transfers and Assignments
No other FCC rule is more vigorously enforced against electric utilities, railroads, and oil and gas companies than the one prohibiting an FCC station license from being transferred or assigned without first obtaining the commission’s consent. The rule, however, makes absolutely no sense for private radio licenses held by CII companies.

Unlike certain broadcast and common carrier licenses, the commission requires no ownership information when a company first receives a private radio license. But even though a company must not disclose its ownership when obtaining a private radio license, it can get into serious trouble if it changes ownership without receiving the commission’s prior consent. Rather than putting this rule at the top of its enforcement priorities, the commission should forebear...
from enforcing it altogether.

Pole Attachments

Last year, the FCC put forth a host of proposals designed to make it cheaper, easier and quicker for communications companies to attach to poles owned and operated by electric utilities. Communications companies flooded the FCC with pleadings and presentations supporting the commission’s proposals. The electric utility industry, on the other hand, was uniform in its opposition to almost all of them based primarily on safety and reliability concerns.

On two separate occasions, 50 or so electric utility representatives met en masse at the FCC to explain that the commission’s proposals were unsafe and unworkable in the real world of electric utilities. To my knowledge, these were the largest ex parte meetings ever conducted by any industry group in the history of the FCC.

The result? The FCC dismissed the electric utilities’ concerns and adopted unprecedented rules mandating faster, cheaper attachments by communications companies. The FCC was so enamored with its new pole attachment rules that it recommended Congress grant it authority to apply them to railroads and rural electric cooperatives, which are statutorily exempt.

I like the FCC. They have a tough job. They need to balance a host of competing interests, and not everyone can be satisfied all of the time. But critical-infrastructure companies have been getting the short end of the stick at the commission for too long. Electric utilities, railroads, and oil and gas companies should be able to count on the FCC for assistance in implementing state-of-the-art communications systems — yet the score sheet to date looks bleak. The industry needs to step up its efforts at the commission. We need to convince the FCC that critical-infrastructure companies deserve the agency’s full support. ■

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