

## The Need for a New Regulatory Model for Electricity Distribution

*Amparo Nieto*

Electric utilities are taking steps to enable the integration of distributed energy resources (DERs) in their service territories in order to comply with low-carbon state regulatory policies.



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The presence of DER technologies, particularly rooftop solar generation, electric vehicles, energy storage and microgrids, reveal the limitations of traditional utility rates. Currently, residential rates in the United States are structured as a two-part tariff, containing a monthly fixed customer charge and an energy charge per kilowatt hour. The energy charge often includes a mark-up to recover not just the incremental costs of energy usage but also a share of the fixed costs of utility service. The rates also are not differentiated by time of day, thus they do not reflect the higher marginal costs of on-peak usage.

These overly simplified rate structures inappropriately compensate DERs for the services they provide to the grid. The lack of time-differentiation and the disconnect between the energy charge and the underlying marginal cost of service can create inefficient incentives for installation of DERs by electricity customers. Rooftop solar generation, in particular, often reduces the tariff revenue without a matching offset in costs, because most of the solar generation occurs outside of the peak hours. In addition, the standard rates are uniform across the service territory, hence they do not signal the higher cost of delivering power to areas where certain DERs like solar generation combined with battery storage could potentially work as a non-wire alternative.

Utilities and state regulators are now exploring new rate structures to allow for the efficient and sustainable integration of DERs, as well as potential revisions to the utility business model. Currently, profits of electric utilities are driven primarily by the state-authorized rate of return on utility plant. Enhanced regulatory models would permit variations around traditional rates of return to foster utility innovation in the transition to a modernized grid, while continuing to ensure reliability. Performance metrics tied to optimized grid planning and operations around DERs, owned either by the consumer, third parties or the utility, will be a critical component of these models. Any incentive mechanisms for adoption of new technologies will require a careful design to ensure benefits for the system and the customers as a whole.

### *Also In This Issue*

#### **Antitrust Division Chief Signals Possible Changes in DOJ Competition Policy Regarding Standard Setting Organizations**

Robert D. Stoner discusses recent remarks by Assistant Attorney General Makan Delrahim that could signal a shift in how the United States Department of Justice (“DOJ”) will analyze conduct between patent holders and technology implementers in the context of standard setting organizations (“SSOs”) and standard essential patents (“SEPs”). Economists recognize that the *ex post* licensing negotiations between patent holders and standard implementers have many potential outcomes and that either “hold-up” or “hold-out” can occur in equilibrium. Delrahim has indicated that the recent focus on potential “hold-up” has underestimated the costs of “hold-out.” If DOJ implements a different approach to SSO restrictions on a patent holder’s right to exclude, this could potentially result in challenges to SSO practices that had been condoned in prior DOJ business review letters.

#### **Debating a New Regulatory Framework for Radio Spectrum: Citizens Broadband Radio Service**

James W. Bono discusses two of the major economic issues in the FCC’s design of the Citizens Broadband Radio Service (CBRS) framework. The first issue concerns whether license areas should be offered at census tract, county or partial economic area (PEA). Larger geographic areas such as PEAs can allow a provider to achieve network and supply-chain cost efficiencies. However, larger licensing areas could result in large providers dominating the band. The second issue concerns the proposed license term of three years with no expectation of renewal. This shorter term could discourage investment by raising the risk that investments may not be recovered. Whether the FCC can align the goals of access by a wide range of stakeholders and allocative efficiency will depend on the specifics of the rules concerning geographic license areas and license terms.

# Antitrust Division Chief Signals Possible Changes in DOJ Competition Policy Regarding Standard Setting Organizations

Robert D. Stoner

In a November 2017 speech, Assistant Attorney General Makan Delrahim delivered remarks that could signal a shift in how the United States Department of Justice (“DOJ”) will analyze conduct between patent holders and technology implementers in the context of standard setting organizations (“SSOs”) and standard essential patents (“SEPs”). In a subsequent January 2018 speech, Delrahim indicated that DOJ is reviewing practices of various SSOs, including practices that appear to have been condoned in prior DOJ business review letters such as one issued to the Institute of Electrical and Electronics Engineers (“IEEE”) in 2015. In these speeches, Delrahim argued that antitrust enforcement had gone too far in accommodating the concerns of implementers of a given standardized technology at the expense of SEP owners, potentially undermining incentives to innovate.

Specifically, Delrahim stated that there had been too much emphasis on theories of potential “hold-up” by patent holders (demands for high royalties from technology implementers locked into a standard) and not enough emphasis on possible “hold-out” by implementers (bad faith bargaining by implementers leading to non-licensing or underpayment of royalties). Delrahim indicated that *ex ante* commitments by patent owners to adhere to “fair, reasonable, and nondiscriminatory” (“FRAND”) royalties in return for inclusion in a standard should not imply any sacrifice of the *ex post* right to bargain unilaterally over the determination of such royalty rates, including the right to refuse to license or seek an injunction. Delrahim stated that any resulting disputes over contract terms could be litigated through private actions, not government antitrust intervention. Further, Delrahim suggested that SSOs could potentially be challenged by DOJ for conduct that appeared to have been condoned by prior DOJ business letters, referencing the “IEEE” letter in which the DOJ said it would not challenge SSO statements that the value of SEP patents shouldn’t include the enhanced value stemming from the patented technology’s inclusion in the standard and that SEP patent holders should not seek injunctions except under very limited conditions.

Economists recognize that the *ex post* licensing negotiations between patent holders and standard implementers



EI Principal Robert D. Stoner has provided expert assistance in a number of matters involving intellectual property and FRAND commitments.

“Economists recognize that the *ex post* licensing negotiations between patent holders and standard implementers have many potential outcomes.”

have many potential outcomes. For example, using a simple model, Langus, Lipatov, and Neven (2013) find that either “hold-up” or “hold-out” can occur in equilibrium. Specifically, they find that “hold-out” is more likely to occur if courts will not grant injunctions on patents that may be valid and infringed without evidence of additional factors, such as licensee unwillingness. These authors also find that a limitation on injunctions may make “hold-up” less likely, since the patent holder doesn’t have a credible threat of exclusion. Similarly, DOJ’s IEEE business review

letter, while acknowledging the possibility of “hold-up,” also recognizes that potential “hold-out” by implementers (the “refusal [by implementers] of a [F] RAND license”) could skew patent negotiations.

The potential for “hold-out” makes it clear that there may be costs as well as benefits to putting limitations on an

SEP holder’s ability to seek an injunction against an infringing implementer. For example, if the ability of a patent holder to seek an injunction is limited to the situation where there is an “unwilling” licensee who offers only what is judged to be a below-FRAND rate, the prospective licensee gains a strategic bargaining tool. The prospective licensee may risk offering a below-FRAND rate even if the patents in question are perceived to be strong, because there is the possibility that the court will find that the prospective licensee was “willing” to license and not find its offers to be below the FRAND rate. This type of “hold-out” can lead to lower rates for patent holders, which, as Delrahim argued, can reduce incentives to innovate.

The tradeoffs between the benefits and costs of limiting the right to exclude and seek injunctions are highlighted in a recent letter to Delrahim by a group of industry, academic and small business interests (including Apple and Intel among others). This letter states that SEP patent holders, by their voluntary agreement to participate in standards developments and thereby gain access to a potentially large and

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# Debating a New Regulatory Framework for Radio Spectrum: Citizens Broadband Radio Service

*James W. Bono*

The FCC is finalizing a plan to implement a new framework for electromagnetic radio spectrum use in the 3.5 GHz band called the Citizens Broadband Radio Service (CBRS). The goal of this plan is to promote (i) more efficient spectrum use through dynamic spectrum sharing and (ii) innovation by offering opportunistic unlicensed spectrum use. The FCC currently is deliberating over the extensive record of public comments to determine final rules that strike the appropriate balance between the interests of stakeholders and outside concerns, such as global harmonization of a band that is rapidly being adopted for 5G by other countries.

Spectrum bands used by telecoms to carry wireless signals typically have followed a specific licensing model: a segment of bandwidth is divided into blocks, and firms pay for the exclusive right to use specific frequency blocks on a geographic basis for terms of 10 years or longer. The CBRS framework, however, proposes to mix licensed use with unlicensed use for the first time. The FCC has proposed to offer 70 MHz of Priority Access Licenses (PALs), with the remainder of the (up to) 150 MHz of spectrum to be offered on an unlicensed basis called General Authorized Access (GAA). PALs that are not used by the licensee also will be available for GAA operations. The GAA assignment process will be handled by administrators called Spectrum Access Systems (SASs).

Two of the major economic issues in the design of the CBRS framework are the geographic license areas and license terms. First, the FCC is considering whether PALs should be offered on the geographic level of census tract, county, or Partial Economic Area (PEA). Mobile carriers prefer licenses that cover large geographic areas, such as PEAs. Each band requires the mobile carrier to invest in specific infrastructure and hardware costs. Thus, when a mobile carrier deploys a network over a large area, it can achieve cost efficiencies. If the geographic areas are small, like census tracts, mobile carriers can face what is called exposure risk. That is, they might try to cobble together licenses in multiple small areas to cover a larger area. If they are unsuccessful in getting all the small areas – for example, they are outbid for some areas in an auction – they will have efficiency-reducing holes in their footprint. When that happens, a mobile carrier might overpay for an inferior subset of areas. Small geographic areas also create more complex borders, raising the costs of managing inter-



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**“Two of the major economic issues in the design of the CBRS framework are the geographic license areas and license terms.”**

ference. Whether mobile carriers can use the GAA licenses to mitigate some of these problems remains uncertain, as the full details of how GAA spectrum will be provisioned by SASs are not yet public.

On the other hand, small providers – for example, wireless internet service providers (WISPs) – prefer smaller geographic areas and fear that PEA licensing could result in large providers dominating the band, which could lead to underuse. The 3.5 GHz band has physical properties that make it more suitable for boosting capacity than expanding service over a large area. In addition, the FCC’s rules require low-power transmissions. Together, these factors would require a small-cell infrastructure, which is costlier for covering large areas. Specifically, small providers are concerned that large providers will buy entire PEAs but only deploy 3.5 GHz networks in population centers. However, the FCC’s proposed rules allow for PALs in unused areas to be offered through GAA. This would effectively increase the quantity of GAA spectrum outside population centers, and small providers would have access to this increased GAA spectrum.

A possible solution is to give PAL licensees the right to partition and disaggregate PEA licenses on the county and census tract levels. Performance and construction requirements, as used in other bands, could encourage secondary market offerings by the PAL licensees. Another possible solution is to allow bidding for packages of county or census tract licenses. However, the FCC has avoided package bidding in past auctions due to concerns about complexity, even when there were as few as 179 geographic areas. As there are over 73,000 census tracts, package bidding may need to be significantly constrained in order to be viable. A hybrid of census tract and PEA licensing also has been proposed, but this would significantly increase the complexity of the auction and constrain the supply of contiguous spectrum.

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## Possible Changes in DOJ Competition Policy

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lucrative standardized market, are expressing their willingness, as a quid pro quo, to limit their ability to exclude implementers. Thus, in addition to reducing potential “hold-up,” the benefits of limiting the right to exclude and seek injunctions can extend to the patent holders as well by allowing them access in the first place to a potentially lucrative market. The FTC’s recent lawsuit against Qualcomm challenging its SEP licensing practices for modem chips necessary to making smartphones is based on a theory that a patent holder surrenders its right to exclude (particularly through denial of an input such as modem chips over which it has alleged market power) if it agrees to contribute its technology to a standard.

In recent years, SSOs have focused on limiting the potential for “hold-up” by SEP patent holders and some, such as the IEEE, have adopted language discouraging SEP holders from seeking injunctions. Antitrust authorities also have sometimes taken the position that the ability of an

SEP holder to seek an injunction should be limited, and injunctions should only be granted in situations where the implementer has refused to participate in licensing negotiations or was “unwilling” to take a FRAND license. Some courts, e.g., Judge Posner’s U.S. District Court decision in *Apple v. Motorola*, have similarly ruled that when there is a FRAND commitment, injunctions should be rare and limited to a situation where potential licensees refuse to take what appears to be a FRAND license offer.

Delrahim, while recognizing the possible benefits of limiting injunctions on SEP patents, has indicated that the recent focus on potential “hold-up” has underestimated the costs of “hold-out.” Delrahim’s recent speeches suggest that DOJ is re-evaluating its policy regarding permissible SSO restrictions on SEP holders and their licensing obligations. If DOJ implements a different approach to SSO restrictions on a patent holder’s right to exclude, this could potentially result in challenges to SSO practices that had been condoned in prior DOJ business review letters.

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## Debating a New Regulatory Framework

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Second, the FCC proposal to restrict the PAL license term to three years deviates from established spectrum licensing models, which set the license term at 10 years or longer. This shorter term was intended to encourage “evolution of the band and an ever-changing mix of GAA and Priority Access bandwidth over time” by (i) incentivizing market entry, particularly by small providers, and (ii) giving those same small providers a better chance of acquiring PALs when competing with larger providers. However, a shorter term can discourage investment by raising the risk that investments will be stranded if a licensee fails to win back its license after the term expires. A 10-year term with an expectation of renewal could encourage more robust investment in the band. On the other hand, WISPs have invested

in the 3.5 GHz band since 2015 based on an expectation of three-year terms, suggesting that longer terms may not be necessary to encourage certain types of investment. The effect of license term on investment largely depends on whether GAAs are seen as substitutes for PALs and whether the band will be used for 5G or current technologies.

The FCC has billed 3.5 GHz as the “innovation band,” with the idea that “regulatory adaptability should make the 3.5 GHz band hospitable to a wide variety of users, deployment models, and business cases, including some solutions to market needs not adequately served by our conventional licensed or unlicensed rules.” Whether the FCC can align the goals of access by a wide range of stakeholders and allocative efficiency will depend on the specifics of the rules concerning geographic license areas and license terms.

## *EI News and Notes*

### **Labor and Employment Consultant Joins EI**

Royal Yu recently joined EI's labor and employment practice in Tallahassee, FL. Mr. Yu's experience includes matters relating to employment litigation, OFCCP audits, EEOC complaints, wage and hour claims, and routine self-monitoring. Mr. Yu also prepares statistical analyses from proprietary data of compensation practices and employment decisions including hiring, promotions, terminations, and reductions-in-force.

### **Publication on Applied Econometrics**

EI Vice President Kevin Caves and Principal Hal Singer have published "Applied Econometrics: When Can an Omitted Variable Invalidate a Regression?" in the December 2017 issue of the ABA's *Antitrust Source*. In the article, Caves and Singer explore "omitted variable bias," a fundamental econometric concept that frequently arises when regression models are applied to assess liability and damages in antitrust litigation.

### **Publication on Loyalty Rebate Cases**

EI Vice President Su Sun has published "Raising the Bar: How Does China's Tetra Pak Decision Measure Up to the ECJ's Requirements for Loyalty Rebate Cases?" (co-authored with Dr. Fei Deng) in the February 2018 issue of the ABA's *Antitrust Source*. The article analyzes China's State Administration of Industry and Commerce's Tetra Pak decision in view of the European Court of Justice's Intel judgment. Comparing and contrasting these two rulings on loyalty rebates, the authors conclude that although they were generally consistent in principle, the ECJ's judgment sets a higher standard than was contained in the SAIC's decision in its reasoning for a finding of liability.

# Economists

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