Standards, Patent Policies, and Antitrust: A Critique of IEEE-II

BY LISA KIMMEL

Collaborative standards in the information and communication technology (ICT) sector typically include many patented technologies. The standard-development organizations (SDOs) that create these standards often require members participating in the development process to indicate whether they will permit access to patented technology essential for practicing the standard on reasonable and nondiscriminatory (RAND) terms.[1] SDOs then typically leave it to patent owners and implementers to determine license terms through bilateral negotiations.

Two SDOs that follow a disclosure and RAND access model—VITA and the Institute of Electrical and Electronics Engineers (IEEE)—have experimented with policies that differ from the usual framework. These policies have taken two directions: rules that foster unilateral disclosure of licensing terms by patent owners and, more recently, collective action to define key parameters of a RAND agreement by the SDO itself.

Like the technology development and selection process at the core of the standard-setting endeavor, SDO patent policies are also agreements among competitors. When adopted by SDOs that represent a critical path for monetizing patents, these buyer-side agreements can depress returns in technology markets and harm incentives to innovate. Recognizing this antitrust risk, VITA (in 2006) and IEEE (in 2007 and 2014) asked the Department of Justice for Business Review Letters before approving revisions to their policies. In each case the DOJ analyzed the policies under the rule of reason and issued a favorable review.

In this article I review the VITA, IEEE-I, and IEEE-II Business Review Letters and consider whether, read together, they provide sound, consistent antitrust guidance to SDOs considering changes to their patent policies. My review suggests that the balance that previously characterized agency enforcement guidance has tipped against technical innovation in IEEE-II. As a result, the DOJ has embraced an enforcement framework that may encourage SDOs to adopt policies likely to harm competition and the continued success of ICT-sector standards.

Lisa Kimmel is Senior Counsel in the Antitrust Practice Group at Crowell & Moring LLP. Prior to March 2015, the author was an advisor to Chairwoman Edith Ramirez at the Federal Trade Commission and lead advisor on antitrust and competition policy matters in the technology sector, including issues at the intersection of competition and IP. The author thanks Robert McNary, Counsel at Crowell & Moring, for valuable comments on the article. The views expressed in this article are those of the author alone and do not necessarily represent the views of her current or former employers or any current or former clients.

SDOs and Patent Policies

Standards developed through a consensus process deliver substantial consumer benefits by allowing components produced by many suppliers to work together, encouraging investment and competition in standard-compliant products. Collaborative standards also may eliminate the uncertainty and delays associated with a marketplace standards war. Moreover, consensus standards are often technically superior to de facto standards because the multiparty development process combines expertise across an industry, generating synergies that cannot be replicated by a single firm. Patented technologies, which often represent best-in-breed solutions to technical problems, add critical value; as a practical matter, it may be impossible to construct the robust technical standards we see in the ICT sector today without patented technologies.

But while patented technologies provide crucial building blocks for standards, patents also introduce tension. For standards to succeed, implementers must have access to patented technologies on terms that make investment in product development attractive. Similarly, firms that contribute patented technology must earn a market reward or they are unlikely to invest and contribute proprietary technology to standards in the future. To manage this tension, SDOs typically strive to establish patent policies that balance the needs of technology contributors and implementers. Though there is wide variation in the form of the disclosure and licensing commitments, most large organizations require members to disclose patents they are aware may read on a developing standard and to state whether they will permit access to essential patents on RAND terms.[2] SDOs with disclosure and RAND licensing policies usually leave it to standard-essential patent (SEP) owners and implementers to determine royalty rates and other terms and conditions of a RAND license through bilateral negotiations that take place either before or after a standard is formally adopted. These negotiations occur in the shadow of the law (and potential litigation), which will provide a remedy if negotiations fail.

VITA and IEEE-I

Nearly ten years ago, two SDOs adopted policies that require or permit members to disclose key licensing terms for essential patents at the time they make a RAND commitment, typically before the standard is formally adopted or ex ante. In 2006, VITA, which sets standards for computer architecture, introduced a policy that requires working group members that disclose essential patents to declare ex ante the maximum royalty rates they will demand for a RAND license in a letter of assurance.[3] The following year, IEEE, which develops standards in the electronics and communications sectors, adopted a modification that permits members to disclose their most restrictive licensing terms, including maximum royalty rates.[4] Both policies prohibit any discussion or negotiation of licensing terms among working group members. However, under IEEE's policy, working group members are allowed to discuss "at least in general terms the relative costs of competing technologies in making cost-performance comparisons."[5]

Both organizations requested a Business Review Letter in advance.[6] Each claimed that, without more, a RAND commitment did not provide members with adequate notice of licensing terms, making it difficult for working groups to evaluate costs when considering whether to include a patented technology in a standard. VITA described two instances where members had made RAND commitments and later revealed terms that others did not consider reasonable. IEEE identified examples where the unilateral disclosure of royalty terms broke a stalemate within a working group, leading to the selection of the technology with known royalty rates.

Both organizations also claimed that uncertainty led to the risk of patent hold-up. Patent hold-up is an example of contractual opportunism that can occur when parties negotiate terms after one side has made an investment specific to the relationship. In the standard-setting context, firms may make large irreversible investments to develop and market standard-compliant products. These investments may diminish the competitive force of any alternative technologies that may have existed and could have been adopted at an earlier stage. As a result, the owner of SEPs may be able to demand more favorable licensing terms after a standard is adopted and implemented than it could have demanded beforehand, risking harm to incentives to invest in downstream standard-compliant products.[7] The exercise of leverage based on the costs of switching away from a patented technology is typically called patent hold-up.

In VITA and IEEE-I, the DOJ saw procompetitive value in policies that clarify the terms of a RAND commitment and reduce the risk of patent hold-up.[8] According to the DOJ, disclosure of specific licensing terms would encourage competition during the technology development and selection process, permit more informed decisions by working groups, and reduce the risk of patent hold-up. Because it saw plausible procompetitive value in the proposals, the DOJ evaluated the policies under a traditional rule of reason standard. With regard to competitive harm, the DOJ focused on the potential for unilateral ex ante disclosure within SDOs to foster joint negotiation of licensing terms, which could drive returns to innovation below market levels, an exercise of market power by technology implementers often called reverse hold-up.[9]

As the name suggests, reverse hold-up mirrors the concept of patent hold-up in many respects. A firm considering whether to invest in the development of new technologies will consider a variety of factors, including costs, the likelihood of technical success, and return on investment in light of future market conditions. In some sectors, those drivers may include the opportunity to contribute proprietary technology to a standard. If a technical contribution is the best strategy for monetizing output from an R&D program, implementers acting collectively have the power to push licensing returns below market levels, effectively appropriating irreversible R&D expenditures from innovators. Reverse hold-up can harm upstream incentives to innovate, reducing the output of cutting-edge technologies needed to drive next-generation standards forward. In VITA and IEEE-I, the DOJ recognized the risk of reverse hold-up, but decided it was not meaningful under the proposals because both organizations continued to prohibit joint negotiation of licensing terms. Because the policies did not leverage the collective market power of licensees, the DOJ saw little risk of competitive harm, ending the rule of reason analysis.

IEEE-II

The Road to New Policy. While VITA's mandatory ex ante disclosure policy remains in place today, other SDOs have largely declined to follow suit.[10] Moreover, IEEE has reported that its voluntary disclosure policy has been unpopular. Since the policy was adopted in 2007 only two members made disclosures that included maximum royalty rates.[11] However, patent policy at least remained on the agenda at some SDOs. On October 10, 2012, the International Telecommunications Union (ITU) announced a roundtable to assess the effectiveness of RAND.[12] In a speech at that roundtable, Deputy Assistant Attorney General Renata Hesse voiced support for the VITA and IEEE revised policies, but recognized that "there has been little inclination among standards bodies to follow VITA's and IEEE's lead . . . ."[13] Hesse suggested a new and different direction. She listed six proposed changes to SDO patent policies that the "division has identified…could benefit competition," including imposing limits on the ability of essential patent owners to demand cross-licenses and providing guidelines for setting RAND royalty rates. She also encouraged SDOs to limit the right of a patent holder that has made a RAND commitment to seek an injunction unless an implementer "is unwilling to have a neutral third-party determine the appropriate F/RAND terms or is unwilling to accept the F/RAND terms approved by such a third-party."[14] The following month, Hesse presented the same six "DOJ Recommendations" for discussion at an American National Standards Institute committee meeting on IPR policies.[15]

A few months later, in March 2013, a committee charged with developing patent policy for IEEE standards, IEEE-SA PatCom, established an ad hoc group to discuss the six proposals.[16] The group later returned with an initial recommendation to move forward with several of the DOJ's proposals. Over the next 15 months, the ad hoc committee met in closed sessions and developed a draft policy update, which it posted for comments. IEEE reports that the ad hoc committee received and reviewed over 600 comments.[17] Multiple members that had contributed valuable patented technology to IEEE standards nevertheless objected to the substance of the update and the process for developing the new policy. Opponents complained that the composition of the ad hoc committee did not reflect the interests of patent owners; they claimed that their comments were disregarded, and that the principles of due process and consensus that applied to the development of IEEE technical standards were missing from the development of the patent policy. Other members who favored the update claimed that members had ample opportunity to comment and that additional participation in the ad hoc committee would have produced a stalemate.[18]

The draft update had several key provisions, all of which would apply to patents subject to a RAND commitment made after the policy was to take effect. Several provisions covered the definition of a reasonable royalty. In particular, a reasonable royalty would be defined as appropriate compensation to the patent holder "excluding the value, if any, resulting from inclusion . . . in the IEEE Standard."[19] The proposed update also included several factors that parties should consider when negotiating royalty terms. These factors included consideration of the value that the essential patent claim contributes to the smallest saleable unit compliant with the standard, in light of the value contributed by all other essential patent claims for the same standard. In addition, parties should consider licenses negotiated without any "explicit or implicit" risk that an injunction would issue as a benchmark for determining a reasonable rate.[20]

The update largely took injunctions off the table as a remedy for infringement of SEPs. In particular, firms providing a letter of assurance under the new policy would be prohibited from pursuing or seeking to enforce an injunction or exclusion order in any jurisdiction unless an implementer "fails to participate in, or to comply with the outcome of an adjudication, including an affirming first-level appellate review . . . ."[21] Finally, by changing the definition of the term "compliant implementation," SEP owners would be required to provide a license to any compliant implementation within the vertical production chain, and would be prevented from demanding cross-licenses to patents not essential to implementing the same IEEE standard.[22]

DOJ's Analysis. In June 2014, PatCom approved the draft policy by a vote of three to two. In August 2014, the IEEE Standards Board recommended that the Board of Governors approve the new policy, subject to a favorable review from the DOJ. IEEE submitted its request on September 30, 2014, telling the DOJ that its 2007 policy had failed to address uncertainty over the meaning of reasonable rates for SEPs. IEEE pointed to Hesse's suggestions to SDOs, along with the comments of other enforcers on antitrust and competition policy issues related to SEPs, to support the value of the update.[23] On November 21, 2014, the IEEE-USA, a policy branch of IEEE, passed a motion expressing significant concerns about the potential effects of the proposed new policy, and a few days later, the IEEE Board of Directors voted to accept those concerns and postpone a decision until at least February 2015.[24]

The DOJ had three options in response to IEEE's request. It could issue a favorable review, issue a negative review, or decline to state its enforcement intentions (something it has done when it cannot confidently predict the likely competitive effects of a proposal).[25] Given the DOJ's earlier support for many of the provisions in the update, abstention or rejection as a matter of enforcement policy was unlikely. In February 2015, the DOJ announced that it had had no present intention to challenge the update if it were to take effect.[26] On February 8, 2015, the IEEE Board voted to approve the new policy.[27]

As in prior letters, the DOJ was persuaded that the revised patent policy would clarify the terms of a RAND commitment, promote competition among technologies where technical options were present, and reduce the risk of hold-up in subsequent licensing negotiations. The DOJ also addressed complaints from IEEE members that "parties desiring lower royalty rates commandeered the IEEE-SA and that the Update was the product of a closed and biased process antithetical to the consensus-based goals of open SSOs." While the DOJ considered these concerns, it concluded that the "overall process afforded considerable opportunity for comment on and discussion of the Update . . . ." The DOJ noted that the update was approved by majority votes of PatCom and the Standards Board and Board of Governors, and that the update would not go into effect without a majority vote from the Board of Directors, which has a fiduciary duty to the organization. Consequently, the DOJ concluded that the process itself did not raise antitrust concerns.[28]

After concluding that the update would have procompetitive value, the DOJ analyzed the potential for harm through "anticompetitively reducing royalties and thereby diminishing incentives to innovate."[29] Here, the DOJ showed less concern with reverse hold-up than in prior guidance. It decided that although the restrictions were set collectively, harm was unlikely because (1) licensing rates are ultimately determined through bilateral negotiations, and (2) the update is "not out of step with the direction of current U.S. law" interpreting the RAND commitment or setting infringement remedies for patents covering complex multi-component products generally. It also found that implementers of IEEE standards lacked market power, noting that "patent holders can avoid the updated RAND Commitment and still participate in standards-setting activities at IEEE-SA (or can depart to other SSOs)."[30]

An Antitrust Framework

Missing from all three letters is much discussion of the antitrust framework that should guide the analysis. The DOJ (and the Federal Trade Commission) have indicated that SDO patent policies should be evaluated under a standard rule of reason analysis, unless the policies are a sham to conceal a price-fixing arrangement among licensors or sellers of downstream products.[31] That conclusion is worth a second look. An agreement among implementers to fix the terms on which they will license technology would almost surely be condemned as per se unlawful if it occurred outside the context of procompetitive collaboration.[32] Of course, courts and antitrust agencies recognize that consensus standards have substantial procompetitive benefits. Core SDO activities, such as those related to the technology selection process, are evaluated under the same principles that apply to other procompetitive collaborations such as research and production joint ventures and group purchasing cooperatives.[33] Unless these activities are a sham to conceal a naked restraint such as price fixing or market division, core SDO activities are evaluated under the rule of reason.[34]

Under established joint venture principles, agreements that are ancillary to a legitimate joint venture are also typically evaluated under the rule of reason if they are necessary to support the procompetitive benefits of the underlying collaboration. An agreement can be reasonably necessary without being essential, but an agreement is not reasonably necessary if participants could achieve equivalent efficiencies through significantly less restrictive arrangements.[35] The agencies typically evaluate competitive effects in a relevant product, technology, or innovation market affected by the agreement unless the effects can be clearly evaluated without defining a market.[36]

While economic theory suggests that hold-up can be a risk in some contractual settings, the circumstances vary, and there is no substantial evidence suggesting that hold-up is a wide-spread problem in the standard-setting context under current policies.[37] The existing disclosure and RAND policies already make it difficult for patentees to leverage switching costs to extract excessive royalties, and the antitrust agencies have recognized that firms that regularly contribute technology may suffer in the long run if they ignore industry norms and act opportunistically.[38] Importantly, if the risk of hold-up were meaningful, one would expect to see lackluster investment in standards and overall sluggish growth and competition in markets for standard-compliant products. That does not describe ICT markets driven by standards. Markets for 3G and 4G wireless products have grown at exponential rates, with billions of new connections every year. User costs are also falling rapidly with average mobile subscriber costs per megabyte falling by 99 percent between 2005 and 2013. Smartphones are available across the globe for as little as 40 dollars a unit.[39] Markets for Wi-Fi enabled products compliant with the IEEE 802.11 family of standards are also growing rapidly.[40] The continued development and market success of ICT sector standards suggests the risk of hold-up is not harming the integrity of the standard-setting process.[41]

Given the lack of empirical evidence indicating that IEEE faced a serious hold-up problem under the existing policy, it is worth asking whether the DOJ applied the correct baseline legal standard. Courts faced with novel joint venture or trade association rules that lack obvious procompetitive value sometimes apply a quick look rule of reason. For example, in *FTC v. Indiana Federation of Dentists*,[42] the Supreme Court evaluated an agreement among competing dentists to withhold from insurers x-rays used to assess dental claims. Finding the per se rule inappropriate, the Court considered whether the defendants had a legitimate procompetitive justification for the restraint and found they did not. The Court explained that a refusal to compete on nonprice terms of trade, "no less than a refusal to compete with respect to the price terms" harms the competitive process; absent a procompetitive justification, "no elaborate industry analysis" was required to find the horizontal restraint unlawful.[43] Some commentators have suggested that patent policies that foster market power among licensees, which rapid growth in the ICT sectors tells us is not reasonably necessary to support the development of successful standards, should also be evaluated under an abbreviated rule of reason analysis.[44] Nevertheless, though no court has considered the question, the U.S. antitrust agencies have stated that SDO patent policies, even joint negotiation of licensing terms, should be evaluated under a full-blown rule of reason, which looks first to whether the restraint harms competition, and if so, whether that harm is outweighed by countervailing benefits.

The Competitive Benchmark. Given the limited case law on SDO activity restricting patent rights, it is particularly important that agency enforcement guidance reflect both the costs and benefits of patent policies, and do so by reference to a consistent competitive benchmark. That has traditionally been the case. In evaluating the competitive benefits in VITA and IEEE-I, the DOJ considered whether the policies would lead to licensing terms that reflect the ex ante competitive value of the technology, which can be understood as the market value of the technology exclusive of switching costs associated with irreversible investments made to develop and implement a standard. The DOJ and the Federal Trade Commission have typically applied that same competitive benchmark to evaluate the competitive risks of patent policies. For example, the agencies have stated that joint negotiation

> might be unreasonable if there were no viable alternatives to a particular patented technology that is incorporated into a standard, the IP holder's market power was not enhanced by the standard, and all potential licensees refuse to license that particular patented technology except on agreed upon terms. In such circumstances, the ex ante negotiation among poten-

tial licensees does not preserve competition among technologies that existed during the development of the standard but may instead simply eliminate competition among the potential licensees for the patented technology.[45]

The DOJ made a similar point in IEEE-I, recognizing that the limited discussion of relative costs within working groups permitted under the 2007 policy update was a short step from joint negotiation of terms. Rather than attempt the complex rule of reason analysis required to evaluate whether joint negotiation would survive antitrust scrutiny, the DOJ placed the question outside the scope of its review, stating that IEEE had "not requested, and we are not providing, the Department's views on joint negotiations that might take place inside or outside such standards development meetings of IEEE sponsored meetings."[46]

But the balance that characterized prior guidance shifted noticeably in IEEE-II. The DOJ claimed the rules clarified the terms of a RAND commitment, then emphasized the benefits of clear rules, without serious attention to whether the revised IPR rules reflect the exercise of market power. As an initial matter, the update does not plainly clarify the terms of a RAND commitment.[47] Instead it introduces vague guidance, such as factors that "should" be considered in determining a RAND rate, while casting doubt on the evidentiary value of comparable licenses, often the best evidence of the market value of a portfolio. But it is important to recognize that even if the update does clarify the terms of a RAND agreement, clarity does not legitimize an anticompetitive process under the antitrust laws. For example, a public agreement on price among a group of dominant input suppliers would promote clarity, and likely reduce the costs of negotiating contracts. However, few would argue the conduct is procompetitive because the agreed-upon terms, though clear, reflect the anticompetitive exercise of market power among competitors.

Though it recognizes the risk of reverse hold-up in principle in IEEE-II, there is nothing to suggest the DOJ grappled with the complexity of a full-blown rule of reason analysis, or had the information necessary to understand and weigh the costs and benefits at issue. Importantly, the DOJ provides no explanation or support for its conclusion that patent owners can easily depart to other SDOs, a conclusion that could well be dispositive of the competitive effects of the policy, one way or the other. IEEE is an established SDO with a long history in the development of successive generations of core ICT sector standards, such as the 802.11 family of WiFi standards. The need for newly manufactured products to be "backward-compatible" would make switching difficult if not impossible. Moreover, switching would generate significant coordination issues, not unlike those implementers would face trying to design around a single technology after a complex standard has been developed and adopted.

The DOJ's positive review also rests in part on its conclusion that licensing rates will continue to be "ultimately determined through bilateral negotiations." However, a SEP owner's revenue stream is determined by a combination of the price and non-price terms associated with a license, including its ability to seek and secure injunctions against recalcitrant licensees and to determine the level at which to license within a vertical chain.[48] It seems difficult at best to conclude that SEP owners can recover revenue lost through restrictions on non-price terms through bilateral negotiations over rates alone, and still earn a market return.

The DOJ also claims that many of the proposed restrictions are not "out of step with the direction of U.S. law."[49] But licensing disputes are resolved on a case-by-case basis, and terms and remedies that are off the table under the new policy would have likely been available to at least some SEP owners in appropriate circumstances, particularly when necessary to permit an adequate market reward.[50]

The competitive effects analysis is necessarily complicated. The update is likely to affect research and development firms differently depending on a number of individual factors, such as the ex ante market value of a firm's technology and the available alternatives for monetizing patents without contributing technology to IEEE. Yet the DOJ made that call in the aggregate over a large number of technology markets, concluding with confidence that the update will not drive the returns to innovation below competitive levels.[51] Without evidence that IEEE's current policy was inadequate, the DOJ's broad support for the update lacks a strong foundation in either law or economics, and wrongly signals a green light for patent policies that may reflect the exercise of market power by implementers acting through SDOs.

Conclusion

The DOJ's Business Review Letters provide important antitrust guidance to the business community. Combined with the 1995 Antitrust Licensing Guidelines and 2007 Antitrust/IP Report, the DOJ's Business Review Letters on issues at the intersection of antitrust and IP, such as patent pools, have provided a roadmap for organizing collaborative activity in technology markets to promote competition and innovation.[52] That same guidance is important for providing a roadmap to SDOs considering updates to their patent policies. In providing that guidance, the DOJ and the FTC should recognize that while clarity has its competitive virtue, a process that produces even clear terms should not win applause from antitrust enforcers if those terms reflect the anticompetitive exercise of market power by technology implementers. ■

1 SDOs in the United States typically ask if the member will license on RAND terms, while organizations in the rest of the world typically request a [fair, reasonable, and nondiscriminatory] or "FRAND" commitment. The competitive issues discussed in this article apply equally to both. As shorthand, some writers refer to RAND and FRAND together as "F/RAND."

2 SDOs that seek licensing declarations typically give patentees several options, including non-enforcement, royalty-free licensing, licensing on RAND

terms or notice licensing will not be granted on RAND terms. Declarants are also typically free to refuse to submit a declaration or offer a license and the SDO can take that action into account when deciding whether to include the technology in a standard. Some SDOs will not allow patented technology to be incorporated into a standard without a commitment to license. *See, e.g.*, European Telecommunications Standards Institute Intellectual Property Rights Policy, Annex 6 (Nov. 19, 2014) http://www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf.

[3] VITA, Disclosure and Licensing of Patents in Standards, http://www.vita.com/disclosure; *see also* Letter from Robert A. Skitol, Esq., Drinker Biddle & Reath LLP, to Thomas O. Barnett, Assistant Att'y Gen., U.S. Dep't of Justice (June 15, 2006) [hereinafter VITA Request], *available at* http://www.justice.gov/atr/public/busreview/request-letters/302160.pdf.

[4] Introduction and Guide to IEEE-SA Patent Policy Effective 1 May 2007, *available at* https://development.standards.ieee.org/myproject/Public/mytools/mob/patut.pdf; *see also* Letter from Michael A. Lindsay, Esq., Dorsey & Whitney LLP, to Thomas O. Barnett, Assistant Att'y Gen., U.S. Dep't of Justice (Nov. 29, 2006) [hereinafter IEEE-I Request], *available at* http://www.justice.gov/atr/public/busreview/request-letters/302148.pdf.

[5] Introduction and Guide to IEEE-SA Patent Policy Effective 1 May 2007, *supra* note 4, at 11.

[6] The Antitrust Division's business review procedure provides a way for businesses to determine how the Division may respond to proposed joint ventures or other business conduct. For a description of the process, see U.S. Dep't of Justice, Introduction to the Antitrust Division's Business Reviews, *available at* http://www.justice.gov/atr/public/busreview/276833.pdf.

[7] U.S. Dep't of Justice & Fed. Trade Comm'n, Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition 35 n.11 (2007) [hereinafter 2007 Antitrust/IP Report], *available at* https://www.ftc.gov/sites/default/files/documents/reports/antitrust-enforcement-and-intellectual-property-rights-promoting-innovation-and-competition-report.s.department-justice-and-federal-trade-commission/p040101promotinginnovationandcompetitionrpt0704.pdf.

[8] Letter from Thomas O. Barnett, Assistant Att'y Gen., U.S. Dep't of Justice, to Robert A. Skitol, Esq., Drinker Biddle & Reath LLP (Oct. 30, 2006) [hereinafter VITA Response], *available at* http://www.justice.gov/atr/public/busreview/219380.pdf; Letter from Thomas O. Barnett, Assistant Att'y Gen., U.S. Dep't of Justice, to Michael A. Lindsay, Esq., Dorsey & Whitney LLP (Apr. 30, 2007) [hereinafter IEEE-I Response], *available at* http://www.justice.gov/atr/public/busreview/222978.pdf.

[9] Joseph Farrell, Director, Fed. Trade Comm'n Bureau of Economics, Remarks at Federal Trade Comm'n Workshop, Tools to Prevent Patent Hold-Up (June 29, 2011) (tr. at 245) ("However, if you have group negotiations with the patent holder at the time when the technology has already been developed, then you do, indeed, risk a reverse hold-up problem, and so we need to be careful of that . . . it's a group choice where you have to be careful to avoid the reverse hold-up dynamic, okay?"), *available at* https://www.ftc.gov/sites/default/files/documents/public_events/tools-prevent-patent-hold-ip-rights-standard-setting/transcript.pdf; Richard J. Gilbert, *Deal or No Deal? Licensing Negotiations in Standard-Setting Organizations*, 77 Antitrust L.J. 855, 856 (2011); J. Gregory Sidak, *Patent Holdup and Oligopsonistic Collusion in Standard-Setting Organizations*, 5 J. Competition L. & Econ. 123 (2009).

[10] VITA, Disclosure and Licensing of Patents in Standards, *supra* note 3. At least two other organizations have policies in place that permit disclosure of terms, and other organizations may at least not expressly prohibit ex ante disclosure of terms. For a more detailed discussion of the patent policy landscape on *ex ante* disclosure, see Jorge Contreras, *An Empirical Study of the Effects of Ex ante Licensing Disclosure Policies on the Development of Voluntary Technical Standards* (Nat'l Inst. of Standards and Technology, No. GCR 11-934, June 2011), *available at* http://ssrn.com/abstract=1916743.

[11] Letter from Michael A. Lindsay, Esq., Dorsey & Whitney LLP, to William J. Baer, Assistant Attorney Gen., U.S. Dep't of Justice 10 (Sept. 30, 2014) [hereinafter IEEE-II Request], *available at* http://www.justice.gov/atr/public/busreview/request-letters/311483.pdf.

[12] *See* http://www.itu.int/en/ITU-T/Workshops-and-Seminars/patent/Pages/default.aspx.

[13] Renata Hesse, Deputy Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, Six 'Small' Proposals for SSOs Before Lunch, Remarks as Prepared for the ITU-T Patent Roundtable 13 (Oct. 10, 2012), *available at* http://www.justice.gov/atr/public/speeches/287855.pdf.

[14] *Id.* at 8–9. In a 2014 speech that voiced concerns with reports that China was using antitrust enforcement to reduce licensing rates for SEPs, Federal Trade Commission Chairwoman Edith Ramirez also expressed a view that greater clarity on the terms of a FRAND licensing agreement would "facilitate private negotiations and limit the need to seek a third-party determination of a FRAND rate." However, Ramirez's competition policy advice was directed to courts called on to resolve RAND-related disputes, not to private SDOs developing IPR policies. Edith Ramirez, Chairwoman, Fed. Trade Comm'n, Standard-Essential Patents and Licensing: An Antitrust Enforcement Perspective, 8th Annual Global Antitrust Enforcement Symposium (Sept. 10, 2014) *available at* https://www.ftc.gov/system/files/documents/public_statements/582451/140915georgetownlaw.pdf.

[15] Renata Hesse, Deputy Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, The Antitrust Division and SSOs: Continuing the Dialogue (Nov. 8, 2012), *available at* http://www.justice.gov/atr/public/speeches/288580.pdf.

[16] IEEE-II Request, *supra* note 11.

[17] *Id.* at 14.

[18] [PP-Dialog] Email from Qualcomm, Nokia, NSN, and Blackberry to the Members of the SASB, http://grouper.ieee.org/groups/pp-dialog/email/msg00287.html.

[19] IEEE-II Request, *supra* note 11, at 16; *see also* Draft IEEE Standards Board Bylaw, Section 6. Patents [hereinafter Draft IEEE Bylaw], http://grouper.ieee.org/groups/pp-dialog/drafts_comments/SBBylaws_100614_redline_current.pdf.

[20] IEEE-II Request, *supra* note 11, at 16.

[21] Draft IEEE Bylaw, *supra* note 19, Sec. 6.2.

[22] *Id.*

[23] IEEE-II Request, *supra* note 11, at 10, 18.

[24] Press Release, Motion Approved by the IEEE-SA Board of Directors (Nov. 21, 2014), *available at* http://www.ieeeusa.org/volunteers/committees/IPC/IEEEUSAPatentPolicyMotionNov14.pdf; Leah Nylen, *IEEE Leaders Intercede, Delaying Intellectual Property Rights Policy Change*, Mlex U.S. Antitrust (Nov. 24, 2014).

[25] The DOJ sometimes declines to state its enforcement intention when it is unable to reliably evaluate or predict the competitive effects of a proposal. It did so most recently in response to a request from International Property Exchange International, Inc. to establish an exchange for tradeable instruments based on exclusive licenses acquired from patentees. Letter from William J. Baer, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, to Gerard R. Beeney, Partner, Sullivan & Cromwell (Mar. 26, 2013), *available at* http://www.justice.gov/atr/public/busreview/295151.pdf.

[26] Letter from Renata B. Hesse, Acting Assistant Att'y Gen., U.S. Dep't of Justice, to Michael A. Lindsay, Esq., Dorsey & Whitney LLP at 1 (Feb. 2, 2015) [hereinafter IEEE-II Response], *available at* www.justice.gov/atr/public/busreview/311470.docx.

[27] Jorge L. Contreras, *IEEE Amends Its (FRAND) Policy*, PATENTLYO (Feb. 9, 2015), http://patentlyo.com/patent/2015/02/amends-patent-policy.html.

[28] IEEE-II Response, *supra* note 26, at 8. The DOJ also noted that the process question was largely moot because the update itself was not likely to harm competition, which is necessary to establish an antitrust violation. *Id.* at 8 n.31.

[29] *Id.* at 8.

[30] *Id.*

[31] 2007 Antitrust/IP Report, *supra* note 7, at 51.

[32] Courts have long recognized that like price fixing among sellers, naked restraints among buyers are per se unlawful. *See* Mandeville Farms v. Am. Crystal Sugar, 334 U.S. 219, 233 (1948); *see also* Nat'l Macaroni Mfrs. Ass'n v. FTC, 345 F.2d 421 (7th Cir. 1965).

[33] Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492, 501 (1988). The activities of voluntary consensus SDOs that adhere to certain principles

regarding openness and due process are also treated akin to joint ventures under the Standards Development Organization Advancement Act of 2004, 15 U.S.C. §§ 4301–4306.

[34] U.S. Dep't of Justice & Fed. Trade Comm'n, Antitrust Guidelines for Collaborations Among Competitors 8 (2000) [hereinafter Collaboration Guidelines], *available at* https://www.ftc.gov/sites/default/files/documents/public_events/joint-venture-hearings-antitrust-guidelines-collaboration-among-competitors/ftcdojguidelines-2.pdf.

[35] *Id.* at 10.

[36] *Id.* at 16.

[37] The DOJ's support for concluding that hold-up is a competitive problem is summarized in its analysis of IEEE's second revised policy. IEEE-II Response, *supra* note 26, at 6 n.28. The DOJ cites to economic theory and the fact of government enforcement actions against SEP owners that pursued injunctions. The DOJ's empirical evidence consists of references to two district court decisions where an initial offer for a portfolio license exceeded what the court later determined was a RAND rate. To the extent the conduct in these two cases represented an effort to engage in hold-up, implementers never paid the rates demanded and were able to resolve their disputes through the courts under current SDO patent policies. IEEE did not provide any empirical evidence of hold-up in its request. It did not suggest hold-up was a concern under its current policy until it was later asked by DOJ staff whether the update was motived by concerns about patent hold-up. Letter from Michael A. Lindsay, Esq., Dorsey & Whitney LLP, to William J. Baer, Assistant Att'y Gen., U.S. Dep't of Justice (Nov. 7, 2014), *available at* http://www.gtwassociates.com/answers/DOJ%20PDF/IEEEBRL2015/PatentHoldUpasRationaleIEEE_Bus_Review_Document_02_11072014.pdf.

[38] 2007 Antitrust/IP Report, *supra* note 7, at 40–41; *see also Prepared Statement of the Federal Trade Commission Before the United States Senate Committee on the Judiciary, Subcommittee on Antitrust, Competition and Consumer Rights, Concerning "Standard Essential Patent Disputes and Antitrust Law"* 6 (July 30, 2013) (recognizing that economic theory alone does not provide a clear prediction regarding the incentives for SEP owners to engage in hold-up), *available at* https://www.ftc.gov/sites/default/files/documents/public_statements/prepared-statement-federal-trade-commission-concerning-standard-essential-patent-disputes-and/130730standardessentialpatents.pdf.

[39] Boston Consulting Group, *The Mobile Revolution: How Mobile Technologies Drive a Trillion-Dollar Impact* (Jan. 15, 2015), *available at* https://www.bcgperspectives.com/content/articles/telecommunications_technology_business_transformation_mobile_revolution.

[40] Press Release, IDC, Worldwide WLAN Market Shows Continued Growth in Second Quarter of 2014 (Sept. 3, 2014), http://www.idc.com/getdoc.jsp?containerId=prUS25077714.

[41] While developing more than anecdotal evidence of hold-up is admittedly a difficult task, the strong growth and success of standards in the ICT sector suggests not merely an absence of evidence of widespread hold-up, but evidence of absence of a competitively significant risk.

[42] 476 U.S. 447 (1986).

[43] *Id.* at 459.

[44] James F. Rill & Christopher J. MacAvoy, *Ex ante Licensing Negotiations in Standard Setting and the Rule of Reason*, 4 Antitrust Rep. 82, 86–87 (2010).

[45] 2007 Antitrust/IP Report, *supra* note 7, at 53.

[45] IEEE-II Response, *supra* note 26, at 11.

[47] Some commentators conclude the policies are likely to merely create new issues for parties to argue about in negotiations and litigation. *See* Roy E. Hoffinger, *The 2015 DOJ IEEE Business Review Letter: The Triumph of Industrial Policy Preferences over Law and Evidence*, CPI Antitrust Chron. 10–16 (Mar. 2015).

[48] Courts and agencies recognize that agreements on nonprice terms of trade can have an equally adverse effect on competition. Catalano, Inc. v. Target Sales, Inc., 446 U.S. 643 (1980) (per curiam), *see also* Complaint, Ferrellgas Partners, L.P., FTC Docket No. 9360 (Mar. 27, 2014), *available at* https://www.ftc.gov/system/files/documents/cases/140401amerigascomplaint.pdf. For an analysis of the likely impact of the update on the ability of essential patent owners to earn a market reward on their portfolios, see Hoffinger, *supra* note 47, at 12–13, 16.

[49] IEEE-II Response, *supra* note 26, at 8.

[50] The DOJ itself recognized the need for injunctions in appropriate circumstances in advice to courts and the ITC. *See* U.S. Dep't of Justice & U.S. Patent & Trademark Office, Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments (Jan. 8, 2013), *available at* http://www.justice.gov/atr/public/guidelines/290994.pdf.

[51] *See* Farrell, *supra* note 9, at 245; Gilbert, *supra* note 9, at 856.

[52] U.S. Dep't of Justice & Federal Trade Comm'n, Antitrust Guidelines for the Licensing of Intellectual Property (1995), *available at* http://www.justice.gov/atr/public/guidelines/0558.pdf. For a discussion of DOJ's influential BRLs on patent pools, see 2007 Antitrust/IP Report, *supra* note 7, at 66–72.