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PUBLIC INTEREST COMMENT

Comments to the UK Intellectual Property Office on the Proposed Regulatory Framework for Establishing a Rate Determination Track (RDT) to Solve Rate Disputes for Standard Essential Patents (SEPs)

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INTRODUCTION

We thank the Intellectual Property Office (IPO), United Kingdom (UK) for the opportunity to provide comments and analysis on its proposed regulatory framework for establishing a Rate Determination Track (RDT) to solve rate disputes for Standard Essential Patents (SEPs).

Founded in 1980, the Mercatus Center at George Mason University is the world's premier university-based source for market-oriented ideas—bridging the gap between academic ideas and real-world problems. The Mercatus Center advances knowledge about how markets work by training graduate students, conducting research, and applying economics to offer solutions to society's most pressing problems. Our mission is to generate knowledge and understanding of the institutions that affect the freedom to prosper and to find sustainable solutions to overcome the barriers that prevent individuals from living free, prosperous, and peaceful lives. This comment, therefore, does not represent the views of any particular affected party or special interest group; it is intended to assist the UK IPO in its decision-making.[1]

We wish to address the following: To what extent would the proposed regulation achieve its goal of fostering a balanced, smooth, efficient, sustainable, and predictable framework for solving SEP licensing disputes that continues to promote innovation and balances the interests of both SEP licensors and licensees?[2] To what extent is it necessary? What are its likely and potential impacts?

We raise the following points for UK IPO's consideration:

1. By attempting to regulate technology prices, the proposed regulatory framework would devalue SEPs and increase commercial uncertainty. Thus, it would curtail incentives to invest in innovation and would harm consumers while undermining the international competitiveness of the UK economy.

[1] This work is an adaptation of our comments on the European Commission's proposal for a regulation on Standard Essential Patents (SEPs) and FRAND Licenses.
[2] https://www.gov.uk/government/consultations/consultation-on-standard-essential-patents-seps/consultation-on-standard-essential-patents

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2. The proposed rate determining framework would task the UK's Intellectual Property Enterprise Court (IPEC) with more responsibilities and increase costs.
3. The proposed regulatory framework punishes British inventors to the benefit of the geopolitical and strategic objectives of the UK's competitors, including the People's Republic of China.
4. The proposed regulatory framework for SEP dispute resolution is likely to harm consumers and innovation if implemented, and it is not needed.

THE PROPOSED REGULATORY FRAMEWORK GOVERNING SEPs IS UNNECCESARY AND HARMS INNOVATION

Standardization fosters the widescale, global uptake of foundational technologies as firms coordinate behavior by agreeing upon interoperability standards that let complementary innovations interact seamlessly.[3] Standardization also provides the commercial incentive necessary for private parties to invest substantial resources into researching and developing these technologies in the first place. Providing legally enforceable protections for SEPs – patents that cover the technology that is needed to practice a standard – is vital for maintaining these incentives. Once a patent is found to be an SEP, a commitment to licensing the patent on fair, reasonable, and nondiscriminatory (FRAND) terms is desirable for efficient widescale adoption of a standard that still affords SEP holders the incentive to produce future inventions.

Hence, negotiations around pricing for SEP licenses are highly complicated. They are characterized by complex incentives, typically involve technologically and commercially sophisticated parties, and can be dramatically and adversely affected by even minor shifts in policy. It is thus submitted that limitations or shifts in policy with regard to SEP licensing should be based on empirical data and a critical appraisal of the likely and potential consequences for global patent markets and innovation-driven industries.

Theoretical claims have been made that the current SEP regime lets holders "hold up" innovation and reduce new technology uptake by levying excessive fees above the incremental contribution of their innovation to finished products.[4] Such claims are premised on the notion that manufacturing firms that have made the large investments necessary to comply with and implement an accepted technological standard are at an inferior bargaining position to SEP holders, who can extract value from the implementers on the basis of the necessity of incorporating the SEP for compliance with the standard rather than on the basis of the actual economic contribution of the individual incorporated SEP to the end product. Thus, protections for SEP holders would slow innovation and ultimately hurt

[3] See Stanley M. Besen and Joseph Farrell, "Choosing How to Compete: Strategies and Tactics in Standardization," *Journal of Economic Perspectives* 8, no. 2 (1994): 117, 121; Dong-Hee Shin, Hongbum Kim, and Junseok Hwang, "Standardization Revisited: A Critical Literature Review on Standards and Innovation," *Computer Standards and Interfaces 38* (2015): 152, 154; Paul Belleflamme, "Coordination on Formal vs. De Facto Standards: A Dynamic Approach," *European Journal of Political Economy* 18 (2002):153, 158.

[4] Carl Shapiro, "Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting," in Innovation Policy and the Economy, eds. Adam Jaffe, Josh Lerner, and Scott Stern (Cambridge, MA: MIT Press, 2001); Daniel G. Swanson and William J. Baumol, "Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power," Antitrust Law Journal 73, no. 1 (2005): 1–58; Joseph Farrell et al., "Standard Setting, Patents, and Hold-Up," Antitrust Law Journal 74, no. 3 (2007): 603–70; Mark A. Lemley and Carl Shapiro, "Patent Holdup and Royalty Stacking," Texas Law Review 85 (2007): 1991–2049; Joseph S. Miller, "Standard Setting, Patents, and Access Lock-In: RAND Licensing and the Theory of the Firm," Indiana Law Review 40, no. 2 (2007): 351–95. A comprehensive survey of the literature can be found in Edward J. Egan and David J. Teece, "Untangling the Patent Thicket Literature" (Working Paper No. 7, University of California, Berkeley, Tusher Center for Management of Intellectual Capital, 2015).

consumers.[5] These negative impacts are exacerbated when multiple complementary SEPs that each require a royalty payment to the relevant SEP holder must be licensed by implementers of new technologies.[6]

Empirical research provides little support for this hypothesis. SEP-dependent industries in the United States experience the most rapid quality-adjusted price decreases in the economy relative to other industries—thus indicating that these industries are at least as efficient, and are not imbalanced, relative to others.[7] The aforementioned study also found no evidence that court judgments reducing SEP holder power increase innovation. Other research specific to SEP-reliant industries finds that SEP holders in these fields are not capturing supranormal rents. For instance, "the profit margins of top mobile device manufacturers (one of the most important SEP-reliant industries) typically range from twenty to forty percent, which implies that their quasi-rents are not being captured."[8] Another study finds that SEP holders under the status quo routinely sacrifice short-run profit maximizing returns from their monopoly over the SEP by offering lower royalty rates to obtain long-term gain from greater or rapid uptake of the technology by implementers.[9] Indeed, "royalty stacking" (whereby holders compound the fees they levy for implementing new technologies by charging an excessive royalty for each complementary patent necessary to deploy the new technology) may be a suboptimal and nonprofit maximizing strategy for SEP holders. This is because it reduces the profitability of the new technology and the incentive to implement it.[10] This proposition is supported by empirical evidence from the cumulative royalty rates earned by SEP holders in the SEP-intensive mobile device industry, which fall within the 3 to 5 percent range— significantly lower than what would be predicted under royalty stacking.[11] Research also shows that royalty rates for patents are decreasing as more patents are licensed, possibly reflecting the impact of technological change on making inventions obsolete.[12] Scholars also observe that existing negotiations between SEP holders and implementers seeking to license the SEP produce an incentive for holders to offer non-excessive royalty rates. This reflects the fact that holders and implementers may agree to royalties equivalent to a share in the implementers' profits, which are likely to be reduced if the rates offered by the SEP holders are excessive.[13]

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[5] Alexander Galetovic, Stephen Haber, and Ross Levine, "An Empirical Examination of Patent Holdup," Journal of Competition Law and Economics 11, no. 3 (2015): 549–78.

[6] This phenomenon is known as "royalty stacking." See Dirk Auer and Julian Morris, "Governing the Patent Commons," Cardozo Arts and Entertainment Law Journal 38, no. 2 (2020): 291–358.

[7] Galetovic, Haber, and Levine, "An Empirical Examination of Patent Holdup."

[8] Auer and Morris, "Governing the Patent Commons," 313. See also Kirti Gupta, "The Patent Policy Debate in the High-Tech World," Journal of Competition Law and Economics 9 (2013): 827, 845.

[9] Jonathan M. Barnett, "The Host's Dilemma: Strategic Forfeiture in Platform Markets for Informational Foods," Harvard Law Review 124, no. 8 (2010): 1861, 1883.

[10] 9 Benjamin Klein, Robert G. Crawford, and Armen A. Alchian, "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process," Journal of Law and Economics 21, no. 2 (1978): 297, 301. See also Auer and Morris, "Governing the Patent Commons," 309. "Royalty stacking may cause SEP holders to earn profits that are markedly below the monopoly benchmark (because double marginalization reduces each firm's profits) and may lead to the dissipation of implementers' quasi-rents (their rents are extracted by upstream firms). When this occurs, it drastically reduces output, investments, and innovation."

[11] See Alexander Galetovic, Stephen Haber, and Lew Zaretzki, "An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results," Telecommunications Policy 42, no. 3 (2018): 263, 271; J. Gregory Sidak, "What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents," Criterion Journal on Innovation 1 (2016): 701.

[12] Mariko Sakakibara, "An Empirical Analysis of Pricing in Patent Licensing Contracts," Industrial and Corporate Change 19, no. 3 (2010): 933

[13] Daniel F. Spulber, The Case for Patents (Hackensack, NJ: World Scientific Publishing, 2021), 240.

Conversely, regulatory and judicial interventions that undermine the negotiating power of SEP holders could increase incentives for innovation "holdout" by implementers. This occurs when implementers disregard patent-licensing requirements and fees because the cost increases to SEP holders for enforcing their patent rights (due to regulatory interventions that increase the complexity and requirements for securing judgments that punish infringement) make it less likely that they will undertake litigation.[14] This phenomenon reduces innovation and harms consumers by discouraging the asset-specific investment needed to develop new SEPs.

THE PROPOSED RATE DETERMINATION FRAMEWORK IS LIKELY TO UNDERMINE SEP PRICE NEGOTIATIONS AND TO INCREASE UNCERTAINTY AND THE RISK OF HOLDUP AND HOLDOUT

The top-down approach to producing a single recommended aggregate royalty rate for SEPs disregards the flexibility and adaptability enabled by private negotiation, whereby the chance of holdup through royalty stacking is averted through tailored contract mechanisms, such as reducing the royalty rate if the licensed SEP is combined with another SEP held by the same owner. This is especially suitable when "a licensed product is later combined [i.e. 'bundled'] into a single saleable unit with another product that is not covered by the patented technology."[15] Other potential flexible mechanisms left unaccounted for by the top-down royalty estimation and recommendation approach include running royalties, lump-sum license fees, payments dependent on milestones achieved by the licensee, payments as a share of profits, and payment through equity in the licensee's firm.[16] These mechanisms address important compensation questions that a singly aggregate royalty rate fails to account for. The mechanisms are tailored by parties based not only on the individual product or technology involved, but also the industry dynamics at the time. For instance, an inventor may consider a combination of running royalties and lump-sum royalties where the downstream industry in question is characterized by imperfect competition.[17] Royalty estimates and recommendations that do not adequately take the presence of bundling into account, for instance, are likely to be higher. If such recommendations are adopted, they could place upward pressure on prices for consumers because of increasing implementation costs.[18] Tailored royalty structures increase the incentives of implementers (licensees) to efficiently invest in deploying the invention and to share information about the invention's use with the SEP holder or inventor.[19]

With regards to the proposal for a government-run essentiality determination opinion service, the sampling tests to be used for essentiality determinations also raise concerns. Some studies suggest that to avoid significant margins of error, sample sizes need to be large—including thousands of patents—rather than the 100 patent-size sample pools from each SEP holder or underlying standard that the proposed regulatory framework contemplates.[20] Without a single, widely accepted method for

[14] See Colleen V. Chien, "Holding Up and Holding Out," Michigan Telecommunications and Technology Law Review 21, no. 1 (2014): 20.
[15] Thomas R. Varner, "An Economic Perspective on Patent Licensing Structure and Provisions," Business Economics 46, no. 4 (2011): 229, 235.
[16] Deepak Hegde, "Tacit Knowledge and the structure of License Contracts: Evidence from the Biomedical Industry," Journal of Economics and Management Strategy 23, no. 3 (2014): 568, 569; Varner, "An Economic Perspective on Patent Licensing Structure and Provisions," 234.
[17] Daniel F. Spulber, "Competing Inventors and the Incentive to Invent," Industrial and Corporate Change 22, no. 1 (2013): 33–72.
[18] Spulber, The Case for Patents, 219.
[19] Mariko Sakakibara, "An Empirical Analysis of Pricing in Patent Licensing Contracts," Industrial and Corporate Change 19, no. 3 (2010): 941.
[20] 8 Keith Mallinson, "Essentiality Checks Might Foster SEP Licensing, but Do Not Stop Over-Declarations from Inflating Patent Counts and Making Them Unreliable Measures" (WiseHarbor, Boston, November 16, 2022).

conducting such determinations around large patent portfolios, the determinations are likely to be unreliable and imprecise even if the proposed framework requires that the method used produce results that are statistically valid. The essentiality determinations are thus likely to delay rather than facilitate negotiations while introducing further complications, confusion, and opportunities for parties to engage in holdup and holdout. They will also further raise costs in both resources and time for SEP holders.[21] Given that the IPEC and its appointed evaluators would be faced with making essentiality determinations across thousands of standards, these costs may render the task impractical or unadministrable. The task would also be duplicative and redundant in many cases, since Standards Setting Organizations for SEPs already maintain databases of SEPs for various technology standards and choose SEPs to adopt and standardize on the basis of the patented invention's underlying contribution to the technology's value.[22] Determinations about whether an SEP is essential to an underlying standard also leave unanswered questions about whether an SEP is valid,[23] whether a specific product infringes an SEP,[24] and the degree of importance or relative contribution of the specific SEP to the underlying technology and the value of the SEP.[25] Therefore, essentiality determinations are unlikely to significantly reduce the scope for expensive litigation even if parties accept the rate determinations.

THE PROPOSED REGULATORY FRAMEWORK UNDERMINES EUROPEAN AND WESTERN INNOVATION, PROPERTY RIGHTS, SEP VALUES, AND INTERNATIONAL COMPETITIVENESS WHILE BENEFITING THE GEOPOLITICAL AND ECONOMIC OBJECTIVES OF RIVAL ECONOMIES AND JURISDICTIONS LIKE CHINA

The UK's proposal to intervene in private SEP royalty and essentiality negotiations between implementers and inventors of new technologies sends encouraging signals to foreign jurisdictions that are contemplating similar reforms. For instance, the Chinese government and its courts have long sought to favor the interests of Chinese implementers, especially when it comes to foreign- or UK- and US-owned SEPs.[26] They have attempted to overrule global FRAND royalty rate disputes to favor their own implementer firms. In many cases, these firms (for example, Huawei) have close links to the Chinese government and benefit from substantial government subsidies that allow them to undercut foreign competitors for critical and often politically sensitive infrastructure projects in other nations.[27]

The proposal is also likely to embolden U.S. legislators and regulators who are contemplating similar ideas, especially if they have incentives to retaliate with similar policies should the UK

[21] 9 An EC pilot study of essentiality determinations by patent pools found that such determinations cost up to €10,000 per pool under processes that took two to three days to carry out. See Rudi Bekkers et al., Pilot Study for Essentiality Assessment of Standard Essential Patents (EUR 30111 EN, Publications Office of the European Union, Luxembourg, 2020).

[22] Daniel F. Spulber, "Standard Setting Organisations and Standard Essential Patents: Voting and Markets," The Economic Journal 129 (2019): 1477–509.

[23] For instance, a UK dispute involving four patents found that two out of four were essential, valid, and infringed, but that the other two were invalid and their essentiality and whether they were infringed were thus irrelevant questions. See Unwired Planet International Ltd. v. Huawei Technologies Co. Ltd. & Ors EWHC 94 (Pat) (2016).

[24] For instance, a study of SEP litigation in the United States found that specific products did not infringe the SEP that was the subject of the dispute in nearly 70 percent of cases. See Mark A. Lemley and Timothy Simcoe, "How Essential Are StandardEssential Patents?," Cornell Law Review 104 (2018): 607–42.

[25] See Little, "A Year at the EUIPO."

[26] Wei Huang et al., "A Review of the Development of SEP-Related Disputes in China and Outlook for the Future Trend," Competition Policy International, November 15, 2022.

[27] 5 Michael Shoebridge, "Chinese Cyber Espionage and the National Security Risks Huawei Poses to 5G Networks," MacdonaldLaurier Institute for Public Policy, November 2018.

regulatory framework undermine the value of US-owned SEPs. For instance, U.S. legislators have already proposed the Standard Essential Royalty Act (SERA),[28] which would overrule the FRAND rate determinations of overseas jurisdictions that pertain to US patents.

The net effect is likely to be the undermining of SEP values, rights, investment, and innovation across western nations. Adoption of the proposal would also encourage politicized oversight and may favor state-owned or subsidized firms in the countries that implement regulations instituting top-down calculation or limitation of FRAND royalty rates for SEP licenses. Importantly, rival jurisdictions to the UK, such as China, may resort to similar reforms that impose binding royalty rates for British SEPs. This would underminine British innovation and property rights to an even greater degree while raising the relative competitive position of state-backed foreign firms.

EUROPEAN COMMISSION SEP REGULATION

In 2023, the European Commission (EC) contemplated a similar regulatory proposal, which would have allowed the European Union Intellectual Property Office (EUIPO) to intervene in commercial licensing negotiations over SEPs through establishing a "competence center" at the EUIPO that would have maintained a register of SEPs, conducted "essentiality checks" of patents registered with the EUIPO as SEPs, and made recommendations on FRAND royalty rates for SEPs.[29] In 2025, the EC decided to withdraw the proposal, citing difficulties in reaching an agreement, after their own research did not support the need for such a regulation. [30]As noted in their report, "it does not appear that the observed challenges in SEP licensing are sufficiently severe as to systematically … discourage potential implementers from creating products that use technology standards subject to potential SEPs."[31]

CONCLUSION

Industries with above average use of intellectual property rights account for more than 50 percent of total goods export value and are responsible for nearly 20 percent of total employment in the UK.[32] The proposed draft regulatory framework concerning SEPs and royalty determinations would threaten and undermine this value creation ecosystem as it:

- Would increase rather than reduce incentives for anti-innovation and anti-consumer holdup and holdout
- Would introduce unnecessary delays, complexity, and commercial uncertainty into SEP royalty negotiations
- Would significantly increase bureaucratic costs and costs to SEP investors in such disputes
- Would override competencies of existing courts
- Would undermine innovation, investment, output, and the value of and ability to enforce intellectual property rights in the United Kingdom and western countries

[28] Jorge L. Contreras, "National FRAND Rate-Setting Legislation: A Cure for International Jurisdictional Competition in Standards-Essential Patent Litigation?," Competition Policy International, Antitrust Chronicles, July 2022.
[29] Eileen McDermott, "IP Stakeholders Cheer Withdrawal of EU SEP Proposal" IP Watchdog, 12 February 2025. https://ipwatchdog.com/2025/02/12/ip-stakeholders-cheer-withdrawal-eu-sep-proposal/id=186010/
[30] Ibid.
[31] Justus Baron, Pere Arque-Castells, Amandine Leonard, Tim Pohlmann, & Eric Sergheraert. "Empirical assessment of potential challenges in sep licensing." (2023). https://www.lexisnexisip.com/wp-content/uploads/2023/09/Empirical-Assessment-of-Potential-Challenges-in-SEP-Licensing.pdf
[32] Intellectual Property Office, *Use of Intellectual Property rights across UK industries 2017 to 2019,* June 2022.

- Would undermine the UK's geopolitical and trade policy objectives with regard to rival jurisdictions such as China

For these reasons, there is no need to implement the proposed regulatory framework. It would likely harm consumers and deter innovation if implemented.