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## IEEE-SA Submission in response to the European Commission consultation on Patents and Standards

The IEEE Standards Association (IEEE-SA) appreciates the opportunity to provide these comments in response to the European Commission's consultation on patents and standards.

IEEE is the world's largest professional organization dedicated to advancing technological innovation and excellence for the benefit of humanity. IEEE has played a role in developing technical standards for over 120 years.

Standards activities in IEEE are organized under the IEEE-SA. Currently the IEEE-SA has a portfolio of over 1100 active standards; the organization is developing over 500 standards through involvement of over 20,000 experts from around the world. Examples of IEEE standards include IEEE 802.3 (Ethernet), IEEE 802.11 (WiFi), IEEE 11073 (Health Informatics), and IEEE 2030 (Smart Grid Interoperability). The IEEE-SA adheres to the World Trade Organization Principles for International Standardization,<sup>1</sup> and it supports the Open Standard Principles.<sup>2</sup>

The IEEE-SA has allowed patented technology to be included in standards it develops for many years and therefore has experience dealing with the intersection of patents and standards. The IEEE-SA has a patent policy that has been occasionally updated. It was revised in 2007, and an update has just been approved this month. The recent update<sup>3</sup> is the result of a two-year process and was approved by the Patent Committee of the IEEE-SA Standards Board, by the IEEE-SA Standards Board, by the IEEE-SA Board of Governors, and by the IEEE Board of Directors. The IEEE also sought<sup>4</sup> and received a business review letter<sup>5</sup> from the United States Department of Justice, which stated, in part:

The Department concludes that the Update has the potential to benefit competition and consumers by facilitating licensing negotiations, mitigating hold up and royalty stacking, and promoting competition among technologies for inclusion in standards. The Department cannot conclude that the Update is likely to harm competition. Further, to the extent that there are any potential competitive harms, the Department concludes that

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<sup>1</sup> See <https://standards.ieee.org/develop/intl/ieeewto.pdf>

<sup>2</sup> See <http://open-stand.org/about-us/principles/>

<sup>3</sup> See <http://standards.ieee.org/develop/policies/bylaws/approved-changes.pdf>

<sup>4</sup> See <http://www.justice.gov/atr/public/busreview/request-letters/311483.pdf>

<sup>5</sup> See [http://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/02/02/ieee\\_business\\_review\\_letter.pdf](http://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/02/02/ieee_business_review_letter.pdf)

the Update's potential procompetitive benefits likely outweigh those harms. Accordingly, the Department has no present intention to take antitrust enforcement action against the conduct you have described.

The approved policy update is scheduled to become effective in the first quarter of 2015.

The current and updated IEEE-SA patent policies are available on IEEE's website.<sup>6</sup> Information from the update process, including drafts, comments, and FAQs, is also available.<sup>7</sup>

1. Standardisation involving patents is common in the telecommunication industry and in the consumer electronics industry. Which **other fields of standardisation** comprise patent-protected technologies or are likely to do so in the future?

The issue of standardization involving patents is broader than telecom and consumer electronics – it is common in the information and communication technology (ICT) area and is relevant more broadly. As ICT has become pervasive, the issue of patents and standards is increasingly common in other sectors as well. Products and services in the automotive, healthcare, energy, retail and many other sectors rely on standards that incorporate patented technology.

IEEE has received Letters of Assurance<sup>8</sup> from Submitters<sup>9</sup> for standards across a broad range of technology areas including: electrical equipment interconnection, electrical test equipment, microprocessor technology, multimedia technology, computer and peripheral equipment interconnection, wired and wireless networking, wireless transmission and measurement, efficient spectrum usage, power line communications, digital home networks, operating systems, programming languages, electronic design automation, data center design, semiconductor testing, electrical cable testing, systems engineering, electrical power supply substations, power switchgear, electrical surge protection, smart grid interoperability, utility telemetry services, cryptographic techniques, sensor networks, precision time protocols, vehicular wireless technology, vehicular data collection, battery technology, health informatics, and hardcopy device security (reference Q 1.1.1).

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<sup>6</sup> The current policy is available at <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html>. Additional patent materials are available at <http://standards.ieee.org/about/sasb/patcom/materials.html>. The approved policy update is available at <http://standards.ieee.org/develop/policies/bylaws/approved-changes.pdf>

<sup>7</sup> See [http://grouper.ieee.org/groups/pp-dialog/drafts\\_comments/index.html](http://grouper.ieee.org/groups/pp-dialog/drafts_comments/index.html)

<sup>8</sup> A "Letter of Assurance" or "LOA" is a document stating the Submitter's position regarding ownership, enforcement, or licensing of Essential Patent Claims for a specifically referenced IEEE Standard.

<sup>9</sup> A "Submitter" is an individual or an organization that provides a completed Letter of Assurance.

Standards play an important role in enabling innovation and in making innovation available to humanity, and it is clear that standardization involving patents contributes significantly to innovation. One of the most important innovations of the last several decades that relies on standards is the internet. Standards, such as those that comprise the internet, play a fundamental role in connecting the world; technology neutral standards cannot achieve this result of global interoperability and connectivity. The largest number of Accepted Letters of Assurance are in the area of wired and wireless networking, for IEEE standards that are used at the foundation of the internet (reference Q 1.1.4).

Regarding questions (reference Q1.2.2 and Q1.2.3) about other links between standards and patent-protected technologies, recognizing the important contributions that patented technology can make to standards, IEEE has allowed for the inclusion of patented technology in standards it develops for many years. The decisions on which technologies to include in an IEEE standard (whether patented or not) are made by technical experts and materially interested parties who participate in the IEEE standards development process, using decision criteria of their choosing consistent with IEEE-SA policies.

Individuals participating in the IEEE standards development process have specific obligations to notify IEEE of the identity of a holder of any potential Essential Patent Claims.<sup>10</sup> IEEE requests licensing assurance for all disclosed potentially Essential Patent Claims from the patent holder or patent applicant. An Accepted Letter of Assurance, or lack of one, may influence the Working Group's decision regarding whether to include a technical contribution in a draft standard.

If IEEE is aware of an asserted potential Essential Patent Claim and no corresponding Letter of Assurance has been received, the matter will be referred to the IEEE-SA Standards Board Patent Committee through the Patent Committee Administrator. The IEEE-SA Standards Board Patent Committee will review the circumstances and make a recommendation to the IEEE-SA Standards Board.

2. A variety of **rules and practices** govern standardisation involving patents. Which elements of these rules and practices are working well and should be kept and/or expanded? Which elements on the other hand can be improved?

SDO patent policies are an important part of "rules and practices" (reference Q 2.1.1). As mentioned above, the IEEE-SA has had a patent policy for many years, and in the last 2 years it has identified reasons to update the patent policy. Those reasons include suggestions from competition authorities in Europe and in the United States, comments from participants in the IEEE standards process, and

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<sup>10</sup> An "Essential Patent Claim" is any Patent Claim the practice of which was necessary to implement either a mandatory or optional portion of a normative clause of the IEEE Standard when, at the time of the IEEE Standard's approval, there was no commercially and technically feasible non-infringing alternative implementation method for such mandatory or optional portion of the normative clause.

comments from other stakeholders. Key points in the updated policy include greater clarity on:

- 1) the meaning of “Reasonable Rate”;
- 2) nondiscrimination (through definition of “Compliant Implementation”);
- 3) the availability of Prohibitive Orders; and
- 4) permissible demands for reciprocal licenses.

3. **Patent transparency** seems particularly important to achieve efficient licensing and to prevent abusive behaviour. How can patent transparency in standardization be maintained/increased? What specific changes to the patent declaration systems of standard setting organizations would improve transparency regarding standard essential patents at a reasonable cost?

The IEEE-SA patent policy allows for, but does not require, disclosure of potentially Essential Patent Claims. Greater emphasis is placed on licensing assurance than on disclosure of specific patent information. Disclosure has not been a recent focus in discussions to update the patent policy.

The IEEE-SA patent policy requires that individuals participating in the standards development process inform IEEE (or cause IEEE to be informed) of the holder of any potential Essential Patent Claims of which they are personally aware and that are not already the subject of an existing Letter of Assurance, owned or controlled by the participant or the entity that the participant is from, employed by or otherwise represents. The policy further states that those individuals should inform IEEE (or cause IEEE to be informed) of any other holders of such potential Essential Patent Claims that are not already the subject of an existing Letter of Assurance (reference Q 3.2.1). The obligation on individuals participating in the standards development process is the same regardless of whether the individual makes a contribution or not (reference Q 3.2.2). The policy states that “nothing in this policy shall be interpreted as giving rise to a duty to conduct a patent search.”

Consistent with a greater emphasis on licensing assurance than on patent disclosure, the IEEE-SA patent policy allows submission of Letters of Assurance that provide blanket licensing commitments where identification of individual patents is not necessary (reference Q 3.2.5). In an effort to encourage use of blanket licensing commitments, the policy allows, under certain conditions, specific, identified patents to be excluded from the blanket licensing commitment.

IEEE requires the use of a Letter of Assurance (LOA) form<sup>11</sup> for all patent disclosures and licensing assurance commitments. Where individual patents are identified, the LOA form requests a patent/application/docket number. A description and information on specific claims is optional (reference Q 3.2.6).

IEEE Letters of Assurance, once accepted by IEEE, are irrevocable. A party may submit additional Letters of Assurance with new or additional information, or with revised licensing terms (reference Q 3.3.2). When multiple LOAs have been

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<sup>11</sup> See <https://development.standards.ieee.org/myproject/Public/mytools/mob/loa.pdf>

accepted, prospective licensees have an option to choose among them. An Accepted Letter of Assurance is a contract between IEEE and the Submitter, but implementers are intended beneficiaries of the contract. Users and implementers may seek to enforce the terms of any Accepted Letter of Assurance. In certain circumstances and at its sole discretion, IEEE may also seek to enforce the terms of an Accepted Letter of Assurance.

IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of those Patent Claims, or for determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory (reference Q 3.3.3).

Accepted Letters of Assurance are made available to the public at no charge on IEEE's website<sup>12</sup> (reference Q 3.4.1 and Q 3.4.2).

4. Patents on technologies that are comprised in a standard are sometimes **transferred** to new owners. What problems arise due to these transfers? What can be done to prevent that such transfers undermine the effectiveness of the rules and practices that govern standardisation involving patents?

Transfer of patents on technologies included in a standard is an important issue. If the new owner of a patent is not obligated to abide by the commitments made by a previous owner to an SDO, then the system will break down. If there is no provision to ensure durability of a patent licensing commitment, SEP owners could circumvent patent policy rules through transfer of ownership. The level of risk depends in part on the patent policy rules of a particular standards setting organization (reference Q 4.2.1).

IEEE addressed this issue in a 2007 update to the IEEE-SA's patent policy (reference Q 4.2.2). The policy states:

The Submitter and all Affiliates (other than those Affiliates excluded in a Letter of Assurance) shall not assign or otherwise transfer any rights in any Essential Patent Claims that are the subject of such Letter of Assurance that they hold, control, or have the ability to license with the intent of circumventing or negating any of the representations and commitments made in such Letter of Assurance.

The Submitter of a Letter of Assurance shall agree (a) to provide notice of a Letter of Assurance either through a Statement of Encumbrance or by binding any assignee or transferee to the terms of such Letter of Assurance; and (b) to require its assignee or transferee to (i) agree to similarly provide such notice and (ii) to bind its assignees or transferees to agree to provide such notice as described in (a) and (b).

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<sup>12</sup> See <http://standards.ieee.org/about/sasb/patcom/patents.html>

The IEEE-SA patent policy places an obligation on a Submitter to bind its assignees or transferees to the terms of a submitted Letter of Assurance and to require its assignees or transferees to bind its assignees or transferees (reference Q 4.2.3).

6. Many standard setting organizations require that patents on technologies included in their standards are licensed on "**fair**", "**reasonable**" and "**non-discriminatory**" (FRAND) terms, without however defining these concepts in detail. What principles and methods do you find useful in order to apply these terms in practice?

After considering suggestions from competition authorities and stakeholders that more clarity is needed, and after observing wide variation in interpretations of "reasonable rate" as referenced in the existing IEEE-SA patent policy, IEEE has included a definition and three recommended, non-mandatory considerations for "reasonable rate" in the IEEE-SA's updated patent policy (reference Q 6.1.1 and Q 6.5.3). The updated policy states:

*"Reasonable Rate"* shall mean appropriate compensation to the patent holder for the practice of an Essential Patent Claim excluding the value, if any, resulting from the inclusion of that Essential Patent Claim's technology in the IEEE Standard. In addition, determination of such Reasonable Rates should include, but need not be limited to, the consideration of:

- The value that the functionality of the claimed invention or inventive feature within the Essential Patent Claim contributes to the value of the relevant functionality of the smallest saleable Compliant Implementation that practices the Essential Patent Claim.
- The value that the Essential Patent Claim contributes to the smallest saleable Compliant Implementation that practices that claim, in light of the value contributed by all Essential Patent Claims for the same IEEE Standard practiced in that Compliant Implementation.
- Existing licenses covering use of the Essential Patent Claim, where such licenses were not obtained under the explicit or implicit threat of a Prohibitive Order,<sup>13</sup> and where the circumstances and resulting licenses are otherwise sufficiently comparable to the circumstances of the contemplated license.

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<sup>13</sup> A "*Prohibitive Order*" is an interim or permanent injunction, exclusion order, or similar adjudicative directive that limits or prevents making, having made, using, selling, offering to sell, or importing a Compliant Implementation.

Because some parties have expressed uncertainty over which products receive the benefit of a licensing assurance (reference Q 6.5.3), IEEE addressed the issue of non-discrimination by including a definition of “compliant implementation.” The updated policy states:

*“Compliant Implementation”* shall mean any product (e.g., component, sub-assembly, or end-product) or service that conforms to any mandatory or optional portion of a normative clause of an IEEE Standard.

In updates to the patent policy in 2007, the IEEE-SA added an option to allow for voluntary ex ante disclosure of a not to exceed licensing fee or rate commitment (reference Q 6.2.2). That option is perceived to have value, but it has not been widely used in LOAs submitted to IEEE. Relative costs of implementation for different proposed technical approaches in comparison with the relative technical performance increases or decreases of those proposals is a legitimate topic for discussion and a legitimate basis for decision-making in the standards development process.<sup>14</sup>

Regarding cross-licensing, the IEEE-SA has included a definition of “reciprocal licensing” in the updated patent policy (reference Q 6.3.3). The definition and policy would prevent a Submitter from, as a condition of granting a license to an Essential Patent Claim, requiring a prospective licensee to grant licenses to patent claims that are not Essential Patent Claims for the referenced IEEE standard, or to take a license for any of the Submitter’s Patent Claims that are not Essential Patent Claims for the referenced IEEE standard. The IEEE-SA patent policy however, does not prevent parties from mutually and voluntarily agreeing to a cross license covering any patents (e.g., a portfolio license).

8. How can holders of standard essential patents **effectively protect** themselves against implementers who refuse to pay royalties or unreasonably delay such payment? How can it be ensured that **injunctive** based on standard essential patents are not used to (a) either exclude companies from implementing a standard or (b) to extract unreasonable, unfair or discriminatory royalties?

The IEEE-SA has included in its policy a provision for good faith negotiations (reference Q 8.1). The updated policy states:

The Submitter and the Applicant<sup>15</sup> should engage in good faith negotiations (if sought by either party) without unreasonable delay or may litigate or, with the parties’ mutual agreement, arbitrate: over patent validity, enforceability, essentiality, or infringement; Reasonable Rates or other

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<sup>14</sup> The IEEE-SA provides information on its antitrust and competition policy at <http://standards.ieee.org/develop/policies/antitrust.pdf>

<sup>15</sup> An “Applicant” is any prospective licensee for Essential Patent Claims.



reasonable licensing terms and conditions; compensation for unpaid past royalties or a future royalty rate; any defenses or counterclaims; or any other related issues.

The updated policy also describes the circumstances in which patent holders who submit Letters of Assurance to IEEE agree not to seek injunctions (reference Q 8.2):

The Submitter of an Accepted LOA who has committed to make available a license for one or more Essential Patent Claims agrees that it shall neither seek nor seek to enforce a Prohibitive Order based on such Essential Patent Claim(s) in a jurisdiction unless the implementer fails to participate in, or to comply with the outcome of, an adjudication, including an affirming first-level appellate review, if sought by any party within applicable deadlines, in that jurisdiction by one or more courts that have the authority to: determine Reasonable Rates and other reasonable terms and conditions; adjudicate patent validity, enforceability, essentiality, and infringement; award monetary damages; and resolve any defenses and counterclaims. In jurisdictions where the failure to request a Prohibitive Order in a pleading waives the right to seek a Prohibitive Order at a later time, a Submitter may conditionally plead the right to seek a Prohibitive Order to preserve its right to do so later, if and when this policy's conditions for seeking, or seeking to enforce, a Prohibitive Order are met.

In conclusion, standards setting organizations have an important role in addressing issues relating to the intersection of patents and standards. The IEEE has accepted responsibility for addressing such issues that are appropriate for action by standards setting organizations. Some of the issues raised in this consultation are addressed in the current IEEE-SA patent policy (e.g., patent transfer). For other issues (e.g., clarity on "fair, reasonable and non-discriminatory"), IEEE has addressed them in the recent update of the IEEE-SA's patent policy. IEEE is actively engaged in responding to suggestions from competition authorities and to comments from a wide range of participants and stakeholders regarding the interplay of patents and standards.