

Interface Between FRAND Licensing of Standard Essential Patents (SEPS) and Competition Law: Issues and Challenges

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Abstract

Standards play a very important role in our day-to-day lives. Technically, standards are technical specifications that seek to provide a common design for a product or process. Globalisation and the increase in economic transactions between different countries have made it imperative to develop certain international standards for technology manufactured by industries. Patents and standards serve the same purpose, and that is fostering innovation in technology. However, the implementation of these standards through the licensing system must be such that it mutually benefits the patent holder as well as the company that uses the patent and the royalties must be paid on fair and reasonable terms. There is no legislative definition that exists for SEPs and there have been a significant rise in litigation involving SEPs in India, with most of the disputes pertaining to granting of injunction as a result of their infringement.

The present article highlights the conflict of availability of SEPs on FRAND terms without affecting the Competition law and also presents solutions and suggestions for enhanced transparency and accessibility to patented technology that cover standards and the proper functioning of the licensing system on fair and reasonable terms.

Thus, the researcher in the present article highlights the following:

- (a) The various problems that exist in licensing of Standard Essential Patents over Fair, Reasonable and Non-Discriminatory terms*
- (b) The need and method of regulating the obligations of Standard Essential Patent holders and their licenses in return of reasonable royalties*
- (c) The position in various jurisdictions and drawing a comparison with suggestions for solving problems like patent holdups, patent pools, patent stocking, etc.*
- (d) The judicial approach with respect to SEPs and obligations of SEP holders.*

Keywords: *Globalisation, Competition Law, SEPS and FRAND*

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I. Introduction

In our day-to-day activities, we try to sculpt our needs as per certain benchmarks to achieve our desired results. Similarly, in sectors such as Information and Communication Technologies (ICT), every product requires certain targets to abide by in order to facilitate an irreplaceable position in the market. To put it technically, standards are technical specifications that seek to provide a common design for a product or process.² Ensuring that the products conform to standards facilitates almost definite reliability, quality, stability, when purchasing the product and subsequently, an increase in their demand. To lay it down simply, ‘a standard is a document that exhibits certain requisites for a particular product, element, system or service or elaborately describes a specific method’.

Technical Regulations has been defined under the Agreement on Technical Barriers to Trade as follows:

“Document which lays down product characteristics as their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labeling requirements as they apply to a product, process or production method.”³

Some common examples of these standards are the 3G/4G/5G standard for mobile communication technologies and the Blu-ray standard for optical disk storage devices.

The Intellectual Property issues that arise with respect to technical standards are concerned with patents because the subject-matter of patents comprises of these technical standards. Any invention that involves the usage of these technical standards could be blocked by the patent holder of that technical standard. Thus,

²Government of India, Discussion Paper on Standard Essential Patents and Their Availability on FRAND Terms (Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, 2016) *available on*: <https://cis-india.org/a2k/blogs/discussion-paper-on-standard-essential-patents-and-their-availability-on-frand-terms> (last visited October 10, 2019)

³ Agreement on Technical Barriers to Trade, Annexure I, *available at* https://www.wto.org/english/docs_e/legal_e/17-tbt.pdf (Visited on October 10, 2019); *Ibid*

licenses have to be granted by the patent holders on fair and reasonable terms to avoid any conflicts with competition law.⁴ The patents, that involve technical standards as their subject matter and have to be licensed on fair and reasonable terms are called Standard Essential Patents (SEPs).

The Washington District Court in *Microsoft Corp. v. Motorola Mobility Inc and Gen. Instrument Corp.*⁵ defined SEP in the following words:

“A given patent is ‘essential’ to a standard if use of the standard requires infringement of the patent, even if acceptable alternatives of that patent could have been written into the standard.” A patent is also essential *“if the patent only reads onto an optical portion of the standard.”*

Thus, it is impossible to manufacture standard-compliant products without using technologies covered by one or more SEPs.

Formal standards are declared by Standard Setting Organisations (SSOs) and include establishments such as the European Telecommunications Standards Institute (ETSI), Institute for Electrical and Electronics Engineers (IEEE) and various other *ad hoc* informal organisations.⁶ SSOs play a vital role in the interaction between standards and intellectual property rights. The patent-holders, who already enjoy regular exclusionary rights over the patented technologies, have an added advantage by virtue of their technologies being essential to standards. This is because a large number of industry players want to sell standard compliant products and will therefore license SEPs giving the SEP holders a competitive advantage over others. Thus, SSOs are seen implementing IPR Policies that require members to disclose all their IPR and to license their SEPs under FRAND i.e. Fair, Reasonable and Non-discriminatory Terms. However, the varied interpretation of ‘FRAND Terms’ across jurisdictions has

⁴Nicholas Fox (ed.), *Intellectual Property in Electronics and Software* (Globe Law and Business, 2013)

⁵ 104 U.S.P.Q.2d 2000

⁶DIPAK RAO AND NISHI SHABANA, *STANDARD ESSENTIAL PATENTS*, Singhanian & Partners, available at:

<http://www.singhanian.in/wp-content/uploads/2016/04/Standard-Essential-Patents.pdf>
(Visited October 10, 2019)

led to expensive litigation world over. India too has seen a recent rush of SEP litigations.⁷

Patent Hold-ups and Patent Pools

‘Patent hold-up’ can occur when the owner of a patented technology fails to disclose its patent to an SSO and then later asserts that patent, when access to its patented technology is required to implement the standard. This conduct may provide the patent owner with market power that is derived from its technology being necessary to assess the standard rather than its ex-ante value to buyers. In *Microsoft Corp. v. Motorola Mobility*⁸, the Court explained that the “ability of a holder of a SEP to demand more than the value of its patented technology and to attempt to capture the value of the standard itself is referred to as patent ‘hold-up’.”

‘Patent pools’ can be defined as an agreement between two or more patent owners to license one or more of their patents to one another or to third parties. Often, patent pools are associated with complex technologies that require complementary patents in order to provide efficient technical solutions. Generally, these patent pools cover mature technologies. Pools, also frequently represent the basis for industry standards that supply firms with the necessary technologies to develop compatible products and services. In that case, they rather concern technologies that are yet to be fully developed.⁹

In general, it is well established that Anti-trust regime does not intervene with the exclusionary Intellectual Property Rights (IPR). While innovation is important for amplified competition, once an enterprise secures IPR protection over its innovated technology, competition laws does not cast a ‘duty to deal’

⁷ROHINI LAKSHANE AND SHWETA MOHANDAS, *Joining the dots in India’s Big-Ticket Mobile Phone SEP Litigation*, Centre for Internet and Society, *available at*: file:///C:/Users/ANMOL_~1/AppData/Local/Temp/SSRN-id3120364.pdf (Visited October 10, 2019)

⁸ 696 F.3d 872

⁹WORLD INTELLECTUAL PROPERTY ORGANISATION (WIPO), *PATENT POOLS AND ANTITRUST – A COMPARATIVE ANALYSIS* (March 2014) *available on*:

https://www.wipo.int/export/sites/www/ip-competition/en/studies/patent_pools_report.pdf (Visited October 10, 2019)

With SEPs bringing a digital wave that swept the globe has revolutionised the technology that is being used by various industrial sectors. The communication between people around the world has become faster, better and more secure than ever due to the wireless network technology. This transformative digital evolution has drastically affected a wide range of industries, whether it is infrastructure, healthcare, agriculture or industry, etc. These networks run on numerous technical standards. At the epicenter of this lies the patent system which facilitates technological innovation by providing incentive of exclusive negative patent rights. Also there are competition issues playing a key role because the companies would want to implement the best technical standard currently available in the market and therefore will have to utilize the patented technology. This would require them to acquire licenses from the patent owners of such SEPs. A crucial requirement for many products in this industry which are entrenched with such cutting edge and innovative technologies is that they work without any errors across various users. This requirement is called “interoperability” and it has seen a significant rise of demand because of the rapid innovation in communication technology and introduction of a large variety of mobile phones and smart phones.¹⁰ The setting of such technical standard would not have been possible without numerous organizations that exist for the same purpose and for providing access to such SEPs at fair and reasonable royalties in exchange of licenses to various companies i.e. users of such technology. These organizations are the Standard Setting Organizations (SSOs).

II. Evolving Global Legal Perspective of Standard Essential Patents

There are two ways in which technical standards can be formed: *de jure* and *de facto*. De facto setting of standards can be construed as the standard setting without any involvement of regulatory bodies or institutions. Instead the market players decide mutually to consider certain technology as a technical standard and therefore, these standards emerge in the market spontaneously.

¹⁰ASHISH BHARADWAJ, VISHWAS H DEVAIAH AND INDRANATH GUPTA (eds.), *Multi-dimensional Approaches Towards New Technology: Insights on Innovation, Patents and Competition* (Springer Open, 2018)

The other way in which standards can be developed or facilitated by the SSO is known as De jure standard setting. These SSOs have been classified further into three types namely, formal, quasi-formal and informal SSOs by the European Union.¹¹

ii. Setting of Standards and SSOs

Formal SSOs

These SSOs develop and formulate standards through institutionalized and consensual formal procedures that takes interests of all major stakeholders involved in the process of standard setting, these could be the technology provider, licensee and the customers who will be the end users of such technology. Following are some of the examples of Formal SSOs:

- International SSO like the International Organization for Standards (ISO)
- European Standard Organization (ESOs) like the European Telecommunications Standardization Institution (ETSI) that develops and facilitate standard setting for the ICT industry in Europe.

Formal SSOs have membership in huge amounts that contribute towards development of technical standards, such as ETSI alone has about 700 members who facilitate and cooperate with the SSO for setting of Technical Standards in the ICT Industry.¹²

Quasi-Formal SSOs

These types of SSOs are actually quite similar to the Formal ones with respect to certain features such as, huge membership and well-organized structures. However, they have not been officially recognized by the governments, such as,

¹¹ Technical Standards, Standards Setting Organisations and Intellectual Property: A Survey of the Literature”, Jorge L. Contreras, Research Handbook on the Economics of Intellectual Property Law, Vol. 2- Analytical Methods (2019) *available at*

<http://ssrn.com/abstract=2900540> (Visited October 11, 2019)

¹²Nicholas Fox (ed.), Intellectual Property in Electronics and Software (Globe Law and Business, 2013)

the IEEE Standards Association and the Internet Engineering Task Force (IETF).

Informal Standardization Consortia

These SSOs are basically small and privately organized bodies.

The SSOs that are established in USA can be properly placed under the Quasi-Formal SSO category because these SSOs mainly look into the enablement of interoperability of products among all people using such technology. Their significance is that they help in accelerating innovation and also informed customer choices. The American National Standards Institution operates at both national and international level. It basically functions towards strategizing the policies for creation of national SSOs based on American National Standards.

Various companies like Ericsson, Huawei, Qualcomm, ALU, Nokia, etc. have majorly contributed towards the standardization of essential technologies through active collaboration with the Standards Development Organizations. They have voluntarily allowed their standard patented technology to be made available for licensing over FRAND terms, which in turn has created vast number of employments in USA and also led to the development of millions of mobile applications all over the world.

ii. Brief Overview of Various SSOs

International Organization for Standards (ISO)

In 1946, representatives from 25 countries gathered and conducted a meeting at the Institute of Civil Engineers in London for the purpose of “facilitation of the international coordination and unification of industrial standards”. As a result, in 1947, ISO was set up and commenced its operations. It is headquartered in Geneva, Switzerland. The International Organization for Standards (ISO) is an international body for setting of standards and is leading in the world. It is a non-governmental international organization that has members who are the leading standard setting organizations of more than 160 nations. Individuals or companies are not eligible to be a member of ISO and therefore only the national SSOs can be the members of ISO. The functioning of ISO entails the

development and facilitation of standards that are relevant in the international market through mutual and voluntary participation of the members.¹³ The governing structure of ISO consists of the General Assembly, the ISO Council and a Technical Management Board (TMB).¹⁴

- The General Assembly is the organ that has the top and final authority in the organization
- The ISO Council is the governing body and is responsible for the administration of functions of ISO. It constitutes of a Presidential Committed that advises on the decisions made by the Council and further other sub committees that advise on various aspects, such as, commercial matters, customer related issues, information technology issues, advice on developing countries, etc.
- The Technical Management Board or the TMB looks into the management of entire technical work and is responsible for the functioning of the technical committees that assist and contribute towards development and facilitation of Standards.¹⁵

European Technical Standardization Institution (ETSI)

ETSI is basically a Standard Setting Organization that deals with the facilitation of technical standards for the Information and Communication Technology industry. This industry consists of technologies that provide devices connected over networks including but not limited to mobiles, broadcasting technologies, internet connectivity, etc. In 1988, a conference was held called the European Conference of Postal and Telecommunications Administrations and the same led to the establishment of ETSI. It is a very popular standardization body that has been officially recognized by the European Union. The members of ETSI include organisations as well as corporates that are dealing with the production and development of innovative technologies and are substantially focused on

¹³ International Organization for Standardisation, *available at*:
<https://www.iso.org/what-we-do.html> (last visited on October 25, 2019)

¹⁴ International Organization for Standardisation, *available at*:
<https://www.iso.org/structure.html> (last visited October 25, 2019)

¹⁵ *Ibid*

research and development of such technologies.¹⁶ It can also be called a Standard Development Organization because it is not only concerned in solving interoperability issues but also in development of new technology solutions.

The process of making standards at ETSI is systematic and, one can call a diplomatic at the same time. Firstly, the task of creating of development of new standard is proposed and agreed upon through mutual consensus of the members of the institution, which means that they can either vote in favour of the proposal or raise their objections against it with valid reasons. Such proposals for the standards are made by members of the institution or the European Union and tis would decide the type of proposal.¹⁷ Either the committees that are concerned to or related with the proposals would then decide on its acceptance or it shall be decided by all the members of ETSI. The minimum number of members required for the acceptance of such proposals is four.¹⁸

The Institute of Electrical and Electronics Engineers Standards Association (IEEE-SA)

The IEEE is the parent organization of which IEEE-SA is a part that is specifically been established for the purpose of setting standards. The IEEE-SA sets standards for products in numerous industries and is now limited to “power and energy, biomedical and health care, information technology and robotics, telecommunication and home automation, transportation nanotechnology, information assurance, etc”.¹⁹ Therefore, the basic function and objective of IEEE-SA is to mutually decide and develop standards recognized globally, by bringing together individuals and organizations from all over the world who have experience and specialized knowledge base of various technological areas. Their mission and goal are to provide for a “high-quality standardisation

¹⁶ European Technical Standardization Institution, *availableat*: <https://etsi.org/standards> (last visited October 25, 2019)

¹⁷ Government of India, *Discussion Paper on Standard Essential Patents and Their Availability on FRAND Terms* (Department of Industrial Policy and Promotion, Ministry of Industry and Commerce, 2016) *availableat*: <https://cis-india.org/a2k/blogs/discussion-paper-on-standard-essential-patents-and-their-availability-on-frand-terms> (last visited October 25, 2019)

¹⁸*Ibid* n-5

¹⁹*Ibid* n-21

environment” and “open, inclusive and transparent environment for market relevant, voluntary consensus standardisation”.²⁰

The government structure of IEEE-SA includes the Board of Governors which may also be called ‘The Standards Board’ (SASB) and its main function is “to encourage and coordinate the development of standards and their revision”.²¹ The SASB is also given the authority to give its final decision on whether a particular standard is to be approved or not. This decision is to be made before the publication of such standards and the appeals to such publication are also taken care by SASB. It therefore can be said that the SASB provides for the commencement of the standard setting process and also sees that there is “consensus, due process, openness, and balance”²²,n throughout the standard setting procedure of IEEE-SA.

The procedure of standard setting in IEEE-SA is such that firstly, an idea is submitted for the process of project approval. The working groups would then create a draft of the standards. The ballot for its approval will be sponsored before the SASB. If the same is approved then it would move forward for publishing. If the SASB allows the standards with few revisions then, such revision is made. If the standards are rejected then they are sent to be archived for future referencing.²³

American National Standards Institute (ANSI)

In 1918, five engineering organizations including the IEEE and three federal agencies got together to form the American Engineering Standards Committee (AESC) which was basically a public-private partnership. The industrialization era in 1920s in USA led AESC to create a standards system that helped

²⁰ Institute of Electrical and Electronics Engineers Standards Association, *available at:* <https://standards.ieee.org/about/strategy.html> (last visited October 25, 2019)

²¹ Institute of Electrical and Electronics Engineers Standards Association, *available at:* <https://standards.ieee.org/about/sasb/index.html> (last visited October 25, 2019)

²² *Ibid*

²³ Government of India, *Discussion Paper on Standard Essential Patents and Their Availability on FRAND Terms*(Department of Industrial Policy and Promotion, Ministry of Industry and Commerce, 2016) *available at:* <https://cis-india.org/a2k/blogs/discussion-paper-on-standard-essential-patents-and-their-availability-on-frand-terms> (last visited October 25, 2019)

modernize the US industry, develop infrastructure and improve the safety of industrial workers. In 1928, the AESC restructured to become the American Standards Association (ASA). Despite the Great Depression of 1930s, ASA continued to grow and focused on standards in household electronic devices. It also became internationally affiliated to US National Committee of the IEC (International Electrotechnical Commission). ASA further played an active role throughout the historical events such as the world wars and the boom of internet technology as well as the development of computers. It paved the way for standardization in the information band internet age. The ASA was further reorganized and became the ANSI in 1970s. The 80s saw the rise of globalization and free trade agreements, making standardization more vital than ever as new foreign markets opened up. The globalization trend only accelerated in the 90s, while domestically the National Technology Transfer and Advancement Act of 1995 mandated that all federal agencies rely upon voluntary consensus standards whenever possible.²⁴ The ANSI thus moved focus on working with government agencies. It broadened its accreditation services offering to serve even more customers such greenhouse gas validation bodies as focus shifted towards climate change. As the new information technologies have entered the market and radically changed our lives. ANSI works closely and is leading in areas such as nanotechnology, 3D Printing and drone technology. ANSI endeavors to continue the setting of technical standards as the new technologies take over the globe. The ANSI has a Board of Directors and various committees as well as sub-committees such as the National Policy Committee, the IPR Committee, the International Policy Committee, etc.

III. Intellectual Property Policies of SSOs

As already mentioned in the foregoing sections, a technical standard is bound to be protected by a patent right. These patents are essential to be implemented and therefore are termed as Standard Essential Patents. For avoidance of infringement, SEPs are licensed by the patent-holders. However, since SEPs are of enormous importance and their demand as well as market value is relatively

²⁴ Through History with Standards, *available at*:
https://www.ansi.org/consumer_affairs/history_standards (last visited October 25, 2019)

high, this fact gives the owner of such SEP exponential power which can be misused leading to anti-competitive market practices.

It is necessary to first understand that patents and standards have similarities as well as distinctiveness in few crucial aspects. While both of them share common objectives of encouraging and incentivizing innovation, patents provide exclusive rights to patent holders, whereas standardization is the enhancement of value and commercial exploitation of such patents due to the wide range of standards. In practicality, the conflict between the two occurs mainly because of two situations. One, where the patent owner of SEP and the licensee who will implement the SEP standards are not able to reach to a mutual agreement because of exorbitant license fees or royalties charged by the patent owner, this situation is called “Patent Holdup”. On the other hand, a situation occurs when the patent holder and the licensee are not able to reach a consensus because of insufficient royalties offered by the licensee for implementation of the standards, and this situation is called “Patent Holdout”.²⁵ Similarly, there are further concepts and issues associated with patents and standards such as “patent pools”, “patent thickets”, etc.

Particularly, the conflict has been aggravated in the ICT industry and in turn the SSOs have certain disclosure and IPR policies and licensing on FRAND terms.

FRAND denotes an acronym for Fair, Reasonable and Non-Discriminatory terms on which the patents are expected to be licensed by the patent holders to the implementers of the standards. As already stated, in order to deal with the threat of patent holdups/holdouts the SSOs have developed their own policies to ensure transparency and avoidance of disputes. These policies entail either disclosure of essential patents or making sure that the patent holders grant licenses to the vendors over FRAND terms so that the exponential market power

²⁵ Interplay between Patents and Standards in the Information and Communication Technology (ICT) Sector and its Relevance to the Implementation of the WTO Agreements, Wu Xiaoping, WTO Working Paper 2017, *available at*: https://www.wto.org/english/res_e/reser_e/ersd201708_e.htm (last visited October 25, 2019)

held by patent holder is not abused and thus anti-competitive practices are avoided.²⁶

The need for implementing IPR policies by SSOs arises chiefly because:

- (1) SSOs engage with intellectual property for two reasons:-
 - (a) standards will be inoperable or won't be implemented if the patent rights over those standards are blocked by patent holders, and
 - (b) the competition law implications of standard essential patents.

Therefore, the SSOs encourage the disclosure of patents that are essential or potentially essential to certain standards and licensing of such patents on fair, reasonable and non-discriminatory terms.²⁷

The requirement for disclosure of patent information can be taken from the Common Patent Policy of three organisations namely “International Telecommunication Union – Radio communication Sector (ITU-R) and Standardisation Sector (ITU-T). International Organization for Standardisation (ISO) and International Electrotechnical Commission (IEC)”. The members or the committees that are involved in the process of standard setting have the obligation to disclose the information on patents or patent applications that are relevant to the proposed standards, so that no patented standards are implemented, thus avoiding patent infringement. VITA standards organisation is the only organization having an “ex-ante” disclosure requirement wherein all the information related to licensing terms and conditions of the standards and including the value of royalty fees to be paid by the licensee is disclosed before the patent is fused along with the standards. This ensures an even more transparent and secure procedure for standard setting; however, it might

²⁶ A Brief History of FRAND: Analyzing Current Debates in Standard Setting and Antitrust Through a Historical Lens, Jorge L. Contreras, 80 Antitrust Law Journal 39 (2015) *available at*:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2374983 (last visited October 25, 2019)

²⁷ Nicholas Fox (ed.), *Intellectual Property in Electronics and Software* (Globe Law and Business, 2013)

unnecessarily delay the procedure and also undermine the incentivisation objective of the standard setting process for the industry.²⁸

i. Open Standards and Patent Pools

Open Standards

The concept of open standards was developed by the governments to face the problems patent holdups and holdouts and for mitigation of the risk of the same. Open standards deal with technologies that are open source, or in other words made available to the public at large. Based on mutual agreement and consensus of the parties involved in the process of standard setting, it is then evaluated whether the open source technology is capable of becoming a standard. They are also made available on FRAND terms; however, it is not required from the patent holder. Nevertheless, they are encouraged to make available such technologies without charging any royalties to further ensure that standards are implemented in multitudes reducing the inoperability of products in markets. If the standards are available free of cost, then it automatically reduces or removes the risk of patent holdups and holdouts. The problem with this concept is that it fails to incentivize innovation of new technologies.²⁹

Patent Pools

A patent pool includes the involvement of multiple parties who agree to ‘pool’ their technologies and license them to each other or to third parties. Holders of essential patents enter into patent pool agreements or cross licensing agreements when both the parties have the same negotiating powers or when they are owners of such technologies that is useful to both the parties. These types of agreements also help in the reduction of risks of patent holdups and patent

²⁸ Interplay between Patents and Standards in the Information and Communication Technology (ICT) Sector and its Relevance to the Implementation of the WTO Agreements, Wu Xiaoping, WTO Working Paper 2017, *available at*: https://www.wto.org/english/res_e/reser_e/ersd201708_e.htm (last visited October 25, 2019)

²⁹ *Ibid*, n-32

holdouts because there can be a single royalty for all SEPs which would lead to substantial reduction of costs, thereby benefitting both the parties.³⁰

An SEP holder willing to enter into such agreements may appoint an individual authority as an administrator who shall be responsible for systematic conduction of such agreements. The role of such an authority would include but not be limited to analyzing the essentiality of patents, identification of a market for such licenses, collection of royalties and their fair distribution among the parties to such agreements. While patent pools might seem to be an appropriate solution, they will only be possible when there is existence of a bilateral agreement involving benefits for both the parties, otherwise these agreements would be non-incentivising and uneconomical at the same time. There is also competition law implication with respect to such agreements, which can lead to a monopoly in the markets as the technologies are then only limited to the parties who have entered into such agreements.

ii. The Intellectual Property Policies of ETSI and IEEE-SA

ETSI and IEEE-SA have comprehensive IPR policies set-up to ensure transparent and systematic standard setting process. They have developed these policies over a period of time taking into consideration the relevant factors and issues pertinent to the process of standard setting.

i. ETSI IPR Policy

ETSI is not just an SSO, but is also involved in the development of new technology standards and thus can also be called a Standard Developing Organization. Therefore, the focus and directive of ETSI was not just gaining a consensus over which already existing technology is to be accepted as standards in the market, but it was to develop new technological solutions that will be made as standards and are also patent protected. ETSI worked closely on

³⁰ Nicholas Fox (ed.), *Intellectual Property in Electronics and Software* (Globe Law and Business, 2013)

extracting technical standards from new innovations and technological solutions that were protected under patents or other IPRs.³¹

The ETSI General Assembly was held in 1993 and the first ETSI IPR Policy was drafted. The policy basically focused on mitigating the risk of setting such technical standards that are covered under essential patents and can be exploited by the patent holder through charge of exorbitant royalties. The members concluded the following in the 1993 General Assembly, “investment in the preparation, adoption and applications of standards could be wasted as a result of an Essential IPR for a standard being unavailable”.³² Thus, the ETSI IPR Policy makes sure that access to the technical standards covered under such essential patents are available on FRAND terms and at the same time it ensures that the patent owners are fairly and justly incentivized for their innovations and collaboration with ETSI.

The ETSI IPR Policy works in such a way that makes it mandatory for the members of the organisation to provide all information regarding the essential IPRs or those that have the potential to become essential, by submitting ‘licensing declarations’.³³ These licensing declarations are termed as such because they not only include the information on relevant essential IPRs but also a declaration from the patent holders stating whether they are ready to cooperate and put forward their patent for licensing on FRAND terms. Such declarations result in valid contractual agreements under the French law, which can therefore be enforced by ETSI against the IPR holders, on violation of any terms or not allowing the access to their IPRs to licensees over FRAND terms.³⁴ Such declarations or undertakings are therefore considered to be irrevocable and they could also be enforceable or have some effect at least even if found that the patents are not essential. However, there is not much clarity provided over the

³¹ ASHISH BHARADWAJ, VISHWAS H DEVAIAH AND INDRANATH GUPTA (eds.), *MULTI-DIMENSIONAL APPROACHES TOWARDS NEW TECHNOLOGY: INSIGHTS ON INNOVATION, PATENTS AND COMPETITION* (Springer Open, 2018) pg. 73-75

³² *Ibid*

³³ Why the ETSI IPR Policy Does Not and Has Never Required Compulsory ‘License to All’: A Rebuttal to Karl Heinz Rosenbrock, Bertram Huber, University of Tuebingen – Faculty of Law (2017) *available at*:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3038447 (last visited on October 25, 2019)

³⁴ *Ibid*

issue as Paragraph 3.2.2 of ETSI's Guide on Intellectual Property Rights allows for removal of IPR disclosures by the IPR holders, which means that such declarations are actually revocable.³⁵

Another important characteristic of the ETSI IPR Policy which is noteworthy can be traced in its Clause 6.1 which states that:

“the scope of the license that the IPR owner should be prepared to grant on FRAND terms and conditions includes the rights to:

- MANUFACTURE, including the right to make or have made customized components and sub-systems to the licensee's own design for use in MANUFACTURE;
- Sell, lease, or otherwise dispose of EQUIPMENT so MANUFACTURES;
- Repair, use or operate EQUIPMENT; and
- Use METHODS.”

It is pertinent to note that the term Manufacture is defined as “production of equipment” and the Equipment is defined as “any system, or device fully conforming to as standard”. This clearly construes that the IPR Policy of ETSI is only applicable to the final end products and not to components of such products.

Another crucial feature of ETSI IPR policy is the fact that though it provides for the essential patents to be licensed by the patent holders on FRAND terms, however, this does not mean that licenses shall be made available to all individual companies. It is upon the patent holder to decide that to whom they would want to grant license. ETSI's core objective is to generate new and innovative technical standards, but with respect to making those standards available for implementation, ETSI only requires that the essential patent holders grant licenses on FRAND terms and that the essential patent is accessible.

It is thereby clarified that the ETSI IPR Policy never had the object of making the licenses available on FRAND terms even for the parts of end products, but

³⁵ASHISH BHARADWAJ, VISHWAS H DEVAIAH AND INDRANATH GUPTA (eds.), *MULTI-DIMENSIONAL APPROACHES TOWARDS NEW TECHNOLOGY: INSIGHTS ON INNOVATION, PATENTS AND COMPETITION* (Springer Open, 2018)

for the end products only. Also, ETSI is only concerned with providing access to the essential patent, irrespective of which level (levels mean the production levels or stages of production) of licensees is chosen by the patent holder. ETSI IPR Policy has managed to achieve its goals of ensuring the implementation of standards and thus making standard compliant products available to the end users and thereby removing inoperability issues.

iii. IEEE-SA IPR Policy

The IPR Policy of IEEE-SA was amended in 2015 in order to strongly combat the risk of patent holdups. The new policy has impacted various aspects of the standard setting process of IEEE-SA, since the maximum amount of intellectual property or more specifically patent related technical work goes into the setting of networking standards or more popularly called “the WiFi standard”. To be more precise, the WiFi standard is “*set of specifications for WiFi chipset that enables interoperability of electronics connected via wireless network can also be referred as IEEE 802.11 WLAN standard*”.³⁶

The new policy however, has faced flak from a multitude of industrialists and reputed academics such as Gregory Sidak and Katznelson. Sidak has commented that the new policy is a stark departure from the standardisation or standard setting procedure of IEEE-SA which included approval of the proposal, ballot voting, due process, etc. According to his analysis shows that an *ad-hoc* committee was formulated for drafting of the IPR policy and that most of the members that were companies and, in the industry, had given their negative feedback over the same. Katznelson has commented on the decrease of LoA (Letters of Assurance) after the publication of new rules. Basically, the opinion of the industry or the patent owners is such that the new policy is biased towards favoring the licensees and has lost its focus on incentivisation of the Companies, which could in turn result in the non-cooperation from their side.³⁷

³⁶*Ibid* n-39, pg. 97

³⁷KIRTI GUPTA AND OTHERS, *HIGHLIGHTS AND ECONOMIC ANALYSIS, IP LEADERSHIP*, Brussels, 2017 available at:

<https://www.competitionpolicyinternational.com/wp-content/uploads/2017/11/CPI-Gupta-Wong-Conigho-Naegele.pdf>

In summary, the crucial changes that were incorporated into IEEE-SA's IPR Policy included broad scope of FRAND terms and made it a significant to the policy. One of the important changes made in the policy was the waiver of essential patent holder's right of seeking injunction until successful completion of litigation for infringement against the said implementer of the standard. Secondly, there were changes made in the method of valuation of royalties based on smallest saleable unit or components of the end product which was in stark differentiation from ETSI's IPR Policy. Therefore, these changes have been highly disputed by the companies involved in developing innovative technologies and that involve technical standards as the new policy seems to be biased and highly beneficial to the licensees or the implementers, thereby undermining the rights of SEP owners.

IV. Competition Law Issues and FRAND Licensing of SEPs

The basic concepts that underlie Intellectual Property Rights (IPR) and Competition law seem to be at conflict with each other. IPR includes patents, trademarks and copyrights and other IP rights that basically grant its owners, exclusive rights or negative rights, which entail the creation of a monopoly in the market, whereas, competition law treats such creation of monopolies as a violation of its principle and against fair trade practices. However, it is still questionable whether such conflict does exist or IP rights are justified incentives for boosting an innovative environment and giving rise to new technologies, as even though the conflict between the objectives of these two systems of law may be well apparent to be at odds against each other, they were formulated to ensure the growth of welfare in economy. Between the conflict of IPR and Competition law lays the concept of Standard Essential Patents (SEPs).

The popular belief that exists in society is that needs of people lead to innovation. However, Joseph Schumpeter, a renowned economist has given a theory on the process of innovation, and in his theory, he has specifically highlighted the crucial role played by the inventor in the process of innovation and not just consumer needs. Therefore, he was of the view that innovation is a process that develops as a result of active role played by the inventor instead of consumer demand. He then goes on to define the various aspects of innovation as follows:

“(1) the standardisations of a new good – that is one with which consumers are not yet familiar – or of a new quality of a good (2) The introduction of a new method of production, that is one not yet tested by experience in the branch of manufacture concerned, which need by no means be founded upon a discovery scientifically new, and can also exist in a new way of handling a commodity commercially. (3) The opening of a new market that is a market into which the particular branch of manufacture of the country in question has not previously entered, whether or not this market has existed before. (4) The conquest of a new source of supply of raw materials or half-manufactured goods, again irrespective of whether this source already exists or whether it has first to be created. (5) The carrying out of the new organization of any industry.”³⁸

As a result of the active role played by the inventor or more broadly stated, the entrepreneur, the need to incentivize and encourage them and also provide them with economic benefits is very apparent. This is where the role of intellectual property rights becomes pertinent. Following are some of the popular theories that elaborate on the same concept, which is importance of and the reason behind grant of such rights.

- The **Utilitarian** theory
- The **Reward** theory
- The **Incentive** theory

The above three theories are considered the most commonly accepted economic theories underlying the concept of intellectual property rights. The term ‘property rights’ has only been recently used and the same does not mean that such rights enjoy absolute exclusivity and are completely immune to competition law implications. Intellectual property, first of all, cannot be considered and treated as ‘physical property’ and there are certain distinct characteristics between the two kinds of property that need to be clearly highlighted.

Among the different types of intellectual properties, patent hold an important and significant place. Patents are exclusive rights that are granted to inventors

³⁸Lianos & V. Korah with P. Siciliani, *Competition Law: Analysis, Cases and Materials* (forth. Hart Pub. 2017)

for their inventions for a limited period of time, provided the inventions meet certain criteria of patentability. Patent rights provide the owners exclusive rights “to prevent third parties not having the owner’s consent from the acts of making, using, offering for sale, selling, or importing for these purposes that product, if this is a patent on a product, or in case the patent’s subject matter is a process, to prevent third parties not having the owner’s consent from the act of using the process, and from the acts of using, offering for sale, selling, or importing for these purposes at least the product obtained directly by that process.”³⁹

However, SEPs and their licensing can attract some unique implications of competition law. In order to avoid infringement of SEPs and subsequent process of endless litigation, which is economically and financially harmful to both the parties involved in such litigation, the SEP holders and its implementers enter into licensing agreements and these agreements are supposed to be on FRAND terms i.e. Fair, Reasonable, and Non-Discriminatory terms, or else they tend to attract the violation of competition laws, such as Section 1 of the Sherman Act in USA and Article 101 of TFEU in European Union. Apart from these legislations, certain international instruments also discuss the interplay between patent law and competition law like the WTO-TRIPS Agreement, the TBT Agreement.

V. Judicial Pronouncements of FRAND Terms in Certain Jurisdictions

i. USA

In USA, the authorities have found it to be beneficial for both the parties involved in a licensing agreement of essential patent, that the license must incorporate FRAND terms. When the licenses are made available on FRAND terms, the problems of patent holdups are somewhat mitigated. The vagueness of FRAND terms and their description in the relevant regulations, makes it difficult for the licensing parties to comply with the same. Nevertheless, the judicial pronouncements in USA have tried to clarify this vagueness to some extent.

³⁹ Article 27-31, WTO-TRIPS Agreement, 1995 and Article 4, Paris Convention for the Protection of Industrial Property, 1883

In USA, the *Unwired Planet v. Huawei*⁴⁰ is a classic example of the many smart phone wars that have taken place between huge companies dealing with this technology, merely on SEPs and their licensing related issues. The Court firstly focused on the meaning of FRAND. FRAND means “a worldwide license rate” and it was stated “...that a worldwide license would not be contrary to competition law. Willing and reasonable parties would agree on a worldwide license. It is the FRAND License for a portfolio like Unwired Planet’s and an implementer like Huawei. Therefore, Unwired Planet are entitled to insist on it...”⁴¹ Another point of discussion was whether FRAND is a rate or a range. Generally, this is calculated using the “top down” approach, that is firstly calculating the entire value of essential patent and then the patentee’s share in it. However, in this case neither parties seem to have been able to accurately decide on the rates, the court has stated that “there is a range in which one can establish a FRAND rate”. This does not mean that the FRAND is a range, what it means that FRAND is a rate belonging to a particular range based on the valuation. This gives flexibility in deciding the rates to both the parties. Apart from the “top down analysis” method, the other method suggested by the court is “comparable licenses” method, wherein the rates of royalties are to be set in comparison with other licenses. However, the same is not a very feasible method because of no reason other than that the licenses are confidential and data will not be available.

ii. China

Similar to USA, patent holdups and holdouts have created several problems with respect to licensing of SEPs in China. In China, the Supreme People’s Court has provided certain interpretations on issues concerning the “Application of Law in the Trial of Patent Infringement Dispute Cases” in 2016. Article 24 states that “in an SEP licensing negotiation process, if the SEP holder deliberately avoids its FRAND obligations, causing failure to reach licensing agreement, and the accused infringer has no apparent fault for that failure, the court shall not uphold an injunction claim. This means that during the SEP licensing process, both

⁴⁰ 2017 EWHC 711 (Pat)

⁴¹ *Ibid*

parties have to act in good faith and the injunctive relief is unavailable for an unwilling licensor against a willing licensee”.⁴²

iii. Japan

Similar to China, Japan also in 2018 published a guide to provide clarification in dealing with SEP and FRAND licensing issues. With respect to SEP negotiations, the guide provides for a “...comprehensive analysis of SEP and FRAND issues and how courts around the world have addressed them... provides both SEP owners and implementers with a structured framework and an action plan for negotiating SEP licenses”.⁴³ The licensing negotiation steps are also provided in a structured manner for ease of implementation by both the licensor and licensee.

iv. South Korea

As regards Korea is concerned, the two Qualcomm cases in Korea before the Korean Financial Trade Commission (KTTC) provides for the major aspects of SEP and FRAND licensing litigation scenario of Korea. These two cases related to Qualcomm are crucial because the commission has targeted and reviewed the business model of Qualcomm. Qualcomm has a ‘patent licensing’ division and a ‘chipset manufacturing’ division. The first Qualcomm case was decided in 2009, and herein the Court only made observations related to calculation method of FRAND royalties to avoid discrimination. The second Qualcomm case, which was decided in 2016, was the one where the commission investigated into the business model.

v. India

Ever since the ‘Digital India’ campaign of India’s present Prime Minister Mr. Narendra Modi started growing in 2014-15, with the objective to make India’s economy digitally well equipped, this has resulted in many foreign mobile and

⁴² Ashish Bharadwaj, Vishwas H. Devaiah and Indranath Gupta (eds.), Multi-dimensional Approaches Towards New Technology: Insights on Innovation, Patents and Competition (Springer Open, 2018) pg. 148-150

⁴³ Worldwide activities on licensing issues relating to standard essential patents, Doris Johnson Hines and Ming-Tao-Yang, WIPO Magazine (February 2019) *available at*: https://www.wipo.int/wipo_magazine/en/2019/01/article_0003.html (last visited October 26, 2019)

telecommunications companies entering into licensing contracts with local manufacturers.

Indian Government has also introduced a discussion paper⁴⁴ on SEP and FRAND commitments that seem to be raising questions to the companies and policy makers regarding their view points on the subject-matter. However, this paper seems to be more in favor of implementers rather than the patent holders and has raised several concerns over competition law violation in India.

Coming to the regulatory point of view, most of the SEP cases in India have revolved around the following provisions from Competition Act, 2002:

- **Section 4:** “An enterprise in dominant position performs any of the following acts:
 - a. directly or indirectly, imposes unfair or discriminatory practices
 - b. limits or restricts production of goods or provision of any services in any form
 - c. indulges in practice or practices resulting I denial of market access
 - d. makes conclusion of contracts subject to acceptance by other parties of supplementary obligations which have no connection with the subject of such contracts; or
 - e. uses its dominant position in one relevant market to enter into, or protect, other relevant market.”

“Dominant Position” has been defined as a position enjoyed by an enterprise whereby enables it to

- a. operate independently of competitive forces prevailing in the relevant market; or
- b. affect its competitors or consumers or the relevant market in its favor.”⁴⁵

The first case related to competition and SEP was *Micromax v. Ericsson*⁴⁶ where the Delhi High Court decided upon the jurisdiction of CCI, stating that since the

⁴⁴ Government of India, *Discussion Paper on Standard Essential Patents and Their Availability on FRAND Terms* (Department of Industrial Policy and Promotion, Ministry of Industry and Commerce, 2016) available at:

<https://cis-india.org/a2k/blogs/discussion-paper-on-standard-essential-patents-and-their-availability-on-frand-terms> (last visited October 26, 2019)

⁴⁵ Section 4, Competition Act, 2002

⁴⁶ Case No. 50 of 2015, Competition Commission of India (November 12, 2013)

subject-matter was patent infringement covered under the provisions of the Patents Act, the jurisdiction shall be with the Civil Court.

Recently, in *Koninklijke Philips Electronics N.V. (Philips)*⁴⁷ the Court discussed crucial subject matters like “essentiality” of the patent, “international exhaustion” and “royalties”.

- “essentiality”: On validating whether the given SEP actually was essential or not, the Court refrained from going into any in depth analysis for the same. In the European and American cases, it could be seen that these cases had separate technical trials for determining the technical issues. However, the Delhi High Court did not consider it important to appoint a technical committee having the right expertise in deciding the matter, and instead, only asked Philips to produce the Essentiality certificates issued for its US and EU patents.
- “International Exhaustion”: The principle of international exhaustion states that the first sale of the patented products invalidates any further rights over the products. The same has been incorporated in Section 107⁴⁸ of the patents Act.
- “Royalties”: The Court placed the burden on the defendants to prove that the royalties charged by plaintiff weren’t as per FRAND terms.

The above judgment seems flawed on the above points and does not seem to provide any good precedent for such cases in the future.

VI. Conclusion

The Standard Setting Organizations and their IPR Policies are focused on establishing a framework wherein there can be smooth licensing of essential patents and implementation of standards so that inoperability is removed and customers are able to use the standard products available in market. The IPR

⁴⁷*Koninklijke Philips Electronics N.V. (Philips)* [Post Trial Judgment, 2019] *available at:*

<https://spicyip.com/2018/07/philips-sep-judgement-indias-first-post-trial-sep-judgement-has-serious-flaws.html> (last visited October 26, 2019)

⁴⁸ Section 107, Patents Act, 1970

policies require the patent holders to declare their commitment to FRAND terms for licenses of their patents. However, problems like patent holdups and holdouts, patent thickets, royalty stacking and other conflicts with the competition law have hindered the smooth licensing process.

FRAND terms are not defined but have been interpreted in numerous case laws and judgments and the ultimate conclusion is that, the established principle with respect to all the major international case laws suggest, that FRAND is a rate between a range, and that rate is reasonable and fair and provides for a balance of interests between the patent holders and licensees.

SSOs such as ETSI, IEEE-SA, ANSI, etc. have laid down their guidelines and have evolved to ensure that there is innovation through establishment of pure technical standards and the use of same is done in such a way that the customers are benefitted and so are other market players, along with the inventor. However, on study of various IPR policies of the abovementioned SSOs, most of them leave it to the parties to decide mutually the FRAND terms and therefore the valuation of same becomes subjective. This further creates problems for the courts or the adjudicating bodies to provide a rate that shall meet the FRAND commitment and also be mutually agreeable. Several methods have thereby been developed by the judges to calculate the FRAND royalties and also to determine if there was any violation of competition law. The courts have established a sound mechanism for determining when the injunctions would lead to violation of Competition law, as the same can be seen in case laws from USA and EU, China, Japan and Korea have also been largely influenced by the European and American Courts' decisions and have implemented the same in their judgments.

Now, coming to India and implications of the growing jurisprudence and understanding, worldwide on SEP and FRAND litigation, from the available information it seems that the concept may no longer be new, but Indian courts and authorities are taking time to developing sound principles for good precedential value that would help in adjudication of such case laws. However, the lack of understanding among the legal practitioners and among market players is something that needs to be rectified. The discussion paper by the Government of India has not seem to provide any material answers to the questions it had posed. One such question was that whether any separate regulatory authority must be there to adjudicate SEP cases in India.

Thus, it can be concluded that there might not be a need for separate regulatory body, but the manner in which regulation takes place must be reviewed. There must be separate technical trials for matters related to essentiality of patents or patentability, and separate trials for determining the Competition Law and FRAND rate issues. In these cases FRAND arbitration and mediation may be of help to the parties and might be a better option, but for India at present, the lack of jurisdiction calls for case laws with judgments that hold good precedential value.

Organizations can be developed to make sure that the administration of SEP licensing policy process goes on smoothly and on FRAND terms. These organizations can play a huge role in decreasing the amount of litigation and injunctions which resulted in smart phone wars throughout the world. With new technologies like Internet of Things (IoT), AI and Blockchains coming in and developing fast, the electronics and communication industry is only going to be in need of large amount of standard setting operations, and also licensing of the same. Some concrete rules and regulations might help in developing a better mechanism, however the existing rules if followed in a sound manner by the parties, through the help of independent and unbiased administrators, before the matter reaches to any dispute, would be really helpful and fruitful to the entire SEP licensing scenario.