

**Chapter – 5**  
**Disclosure Policy of SSOs**

## 5.0. Introduction

Intellectual Property policies of SSOs have been a topic of interest in the recent times and a scientific study of the disclosure policies of SSOs and comparing them would provide insights into differences and similarities of the disclosure policies. A study on how these differences, similarities, and ambiguities, especially related to timing of disclosure and level of disclosure, would impact the SSO, SEP holder, and the SEP implementer will be of great relevance. Generally, disclosure policies provide directions to the participants on “how” (i.e., manner in which disclosure is to be made), “who” (i.e., person responsible for making the disclosure), “when” (i.e., timing of disclosure) and “what” (i.e., level of disclosure) they must disclose to the SSO and other participants (or members) in the SSO that they own IP or know that someone else owns IP that may be infringed by a standard.

To answer the “how”, “who”, “when”, and “what” portions, a study of the IPR policy of several SSOs was carried out and the table (Table- 5.1) below provides an overview of such a study.

SSO	“How”?	“Who”, “based on what”, and “When”	“What”
ITU/ISO/IEC	Patent Statement and Licensing Declaration <sup>1</sup>	<ul style="list-style-type: none"> <li>- <b><i>By Parties participating (based on information known to the participating party) in the meetings.</i></b></li> <li>- <b><i>“From the outset”</i></b> (meaning as early as possible during development of the Recommendation   Deliverable). <i>(ambiguous)</i></li> <li>- Disclosure to be made in <b><i>“Good faith” and “Best efforts”</i></b></li> </ul>	<ul style="list-style-type: none"> <li>• Granted Patents and Pending patent applications.</li> <li>• Patent Family.</li> <li>• No need to Search.</li> <li>• Their own and others too.</li> <li>• Specific and Blanket</li> </ul>
ETSI	IPR Information Statement and Licensing	<ul style="list-style-type: none"> <li>- <b><i>By Members.</i></b></li> <li>- <b><i>“Reasonable endeavours”</i></b></li> </ul>	<ul style="list-style-type: none"> <li>• Granted Patents and</li> </ul>

<sup>1</sup> Patent Statement and Licensing Declaration Forms – available at <http://www.itu.int/oth/T0404000002/en>, last visited on 17 April, 2016.

	Declaration Form <sup>2</sup>	during the development of STANDARD and to inform ETSI of Essential IPRs in a <b>“timely fashion”</b> . - <b>Timely fashion includes</b> - <b>on formal submission of a technical specification.</b> - <b>on completion of first draft</b> - <b>on WG approval of the draft standard.</b> - <b>on TB approval of a draft stadard</b>	Pending patent applications. <ul style="list-style-type: none"> <li>• Patent Family.</li> <li>• No need to Search.</li> <li>• Their own and others too.</li> <li>• Specific Disclosures only with General Declarations.</li> </ul>
IEEE	Letter of Assurance <sup>3</sup>	- By Individuals participating in IEEE meetings - By Organizations. Based on <b>“personally aware”</b> - Individuals are <b>obligated</b> to disclose their own IP during the meetings ( <b>during Call for patents</b> ). They are <b>encouraged</b> to disclose third parties IP. - Organizations should use LOA to disclose essential patents in (i) response to a request letter from IEEE, or (ii) Voluntarily ( <b>not clear</b> ). - Disclosures should be made in <b>“Good Faith” and “Best Efforts”</b>	<ul style="list-style-type: none"> <li>• Granted Patents and Pending patent applications.</li> <li>• Patent Family.</li> <li>• No need to Search.</li> <li>• Specific and Blanket disclosures possible.</li> </ul>
JEDEC	License Assurance/ Disclosure Form <sup>4</sup>	- By a Representative participating in Meetings. - Representative <b>should</b> disclose their own Essential Patents <b>as early as reasonably</b>	<ul style="list-style-type: none"> <li>• Granted Patents and Pending patent applications</li> </ul>

<sup>2</sup> Intellectual Property Rights (IPRs), Disclosing essential IPRs to ETSI – available at: <http://www.etsi.org/about/how-we-work/intellectual-property-rights-iprs>, last visited 17 April, 2016.

<sup>3</sup> Letter of Assurance – available at <https://development.standards.ieee.org/myproject/Public/mytools/mob/loa.pdf>, last visited 17 April, 2016.

<sup>4</sup> Letter of Assurance/Declaration Form - available at [http://www.jedec.org/sites/default/files/License\\_Assurance-Disclosure\\_Form\\_20150710.pdf](http://www.jedec.org/sites/default/files/License_Assurance-Disclosure_Form_20150710.pdf), last visited on 17<sup>th</sup> April, 2016.

		<p><b>possible potentially essential to that committee.</b> A call to disclose patents is made at each committee meeting.</p> <ul style="list-style-type: none"> <li>- Representative <b>is encouraged to</b> disclose their own potentially Essential Patents <b>to other committees.</b></li> <li>. Representative <b>is encouraged to</b> disclose potentially Essential Patents of <b>other committee members or third parties.</b></li> </ul>	<p>(both published and unpublished).</p> <ul style="list-style-type: none"> <li>• Patent Family.</li> <li>• No need to Search.</li> <li>• Specific and Blanket disclosures possible.</li> </ul>
ANSI	Left to accredited SSOs	<p>Disclosure is not obligated by ANSI itself. However, ANSI-credited organizations can frame and implement a rule of their own.</p>	Not Applicable.
IETF	Intellectual Property Rights Disclosure <sup>5</sup> See RFC 3979	<ul style="list-style-type: none"> <li>-By Contributors</li> <li>-By Participants</li> <li>-<b>Contributors are obliged to</b> make disclosures (<b>based on reasonably and personally know to the contributor</b>) of their own IPR or their company's IPR covered by their contribution. Disclosure has to be <b>made as soon as possible after the contribution is published or at least as soon as contributor becomes aware.</b></li> <li>- <b>Participants are obliged to</b> make IPR disclosures of their own or their company's IPR covered by their standards ('contributions by others'). Disclosure has to be <b>made as soon as possible after the contribution is published or at least as soon as contributor becomes aware.</b></li> <li>-<b>Participants are encouraged to</b> disclose essential IPR by third parties. <b>Timing specifically</b></li> </ul>	<ul style="list-style-type: none"> <li>• Granted Patents and Pending published patent applications.</li> <li>• Patent Family.</li> <li>• No need to Search.</li> <li>• Specific and Generic disclosures possible.</li> </ul>

<sup>5</sup> Intellectual Property Rights Disclosure – available at <https://datatracker.ietf.org/ipr/>, last visited on 17 April, 2016.

		<b>not defined.</b>	
NFC	Submission of Technology Form <sup>6</sup>	<ul style="list-style-type: none"> <li>- By Members.</li> <li>- Disclosure is linked to making licensing commitments.</li> <li>-All members need to make licesnsing comitments, whether or not they own their essentail IPR.</li> <li>- Members need to disclose patents Royalty bearing patents.</li> </ul>	<ul style="list-style-type: none"> <li>• Granted Patents and Pending published patent applications.</li> <li>• Patent Family.</li> <li>• No need to Search.</li> <li>• Specific disclosures only.</li> </ul>
OASIS	Feedback Licnese <sup>7</sup>	<ul style="list-style-type: none"> <li>- By Technical Committee (TC) Participants</li> <li>- A TC Participant has a <b>disclosure obligation</b> concerning (a) its <b>patents owned by its organization</b>; (b) <b>third party</b></li> </ul>	<ul style="list-style-type: none"> <li>• Granted Patents and Pending published patent applications.</li> <li>• Patent Family.</li> <li>• No need to Search.</li> <li>• Specific disclosures only.</li> </ul>
HDMI <sup>8</sup>	No disclsoure element	No Disclosure element in the Policy	No Disclosure element in the Policy
W3C	Disclosure status document <sup>9</sup>	<ul style="list-style-type: none"> <li>- Disclosure request is made by W3C.</li> <li>- Disclosure is made by an individual (<b>based on his knowledge</b>) in a member organization in response to receiving a request and if the individua has the actual knowledge of a patent, which he belives to be an essential claim.</li> <li>- Disclosure may be made by</li> </ul>	<ul style="list-style-type: none"> <li>• Granted Patents and Pending published and unpublished patent applications (<i>if a W3C Member includes claims in a</i></li> </ul>

<sup>6</sup> NFC Forum, Submission of Technology Form – available at <http://nfc-forum.org/wp-content/uploads/2013/11/NFC-Forum-IPR-Policy.pdf>, last visited o 17 April, 2016.

<sup>7</sup> Intellectual Property Rights (IPR) Policy–available at <https://www.oasis-open.org/policies-guidelines/ipr>, last visited on 17 April 2016.

<sup>8</sup> HDMI Forum – available at <http://www.hdmiforum.org/default.aspx>, last visited on 17 April 2016.

<sup>9</sup> W3C Patent Policy – available at <http://www.w3.org/Consortium/Patent-Policy-20040205/>, last visited on 17 April 2016.

		<p>any party in response to receiving a request from W3C.</p> <p>- The <b>disclosure obligation is an ongoing obligation that begins with the Call for Participation. Full satisfaction of the disclosure obligation may not be possible until later in the process when the design is more complete.</b> In any case, <b>disclosure as soon as practically possible is required.</b></p>	<p>patent application and such claims were developed based on information from a W3C Working Group or W3C document, the Member must disclose the existence of such pending unpublished applications).</p> <ul style="list-style-type: none"> <li>• Patent Family.</li> <li>• No need to Search.</li> <li>• Specific disclosures only.</li> </ul>
VITA	VSO Policies and Procedures <sup>10</sup>	<ul style="list-style-type: none"> <li>- Any Member</li> <li>- Disclosure must be made by any member proposing to initiate new proceeding by proposing a specification for development prior to formation of a Working Group (WG).</li> <li>- Upon WG formation, All WG members must make the disclosure within 60 days.</li> <li>- All members must make the disclosures (to the extent not previously made) no later than 15 days after the publication of the draft.</li> <li>- All members in the WG meetings must make disclosures at the meeting (orally) as well as by declaration form within 30</li> </ul>	<ul style="list-style-type: none"> <li>- Granted Patents and Pending published and unpublished patent applications and as reasonably practicable portions of the WG's Draft VSO specification.</li> <li>- Patent Family.</li> <li>- No need to Search.</li> <li>- Specific disclosures only.</li> </ul>

<sup>10</sup> VITA's Patent Policy – available at <http://www.vita.com/resources/Documents/Policies/vso-pp-r2d8.pdf>, last visited on 17 April, 2016.

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**TABLE 5.1: Comparison of Disclosure policy of SSOs**

Generally, there are two types of patent disclosures available to participants of the SSOs - a *specific* disclosure, which requires disclosure of all relevant patents, pending patent application, and some times unpublished patent applications as well that the participant (or discloser) believes to include essential claims; and a *generic* or *blanket* disclosure, which requires disclosure that the discloser believes that he/she (or the organizations) holds patent assets, which the discloser believes to include essential claims and does not disclose the actual numbers helpful in uniquely identifying the patent assets. Blanket disclosures are definitely less costly for patent holders, however, some SSOs believe that disclosure of patent assets is important to promote “transparency” to enable the SEP implementers to have a clear picture of which patent assets are required to practice a standard. However, blanket disclosures are to followed with a licencing declarations or commitments. The members can disclose these patent assets information during two time windows – (1) a “*first time window*”, during the work group (WG) or technical committee (TC) meetings in response to a “call for patents” declaration. At this point in time, it is sufficient to disclose the existence of patent assets, which may be essential to the standard and the work groups (WGs) or the technical committees (TCs) will not insist on complete disclosure and the disclosure made to WGs or TCs is not available publicly; and (2) a “*second time window*”, a more formal and complete disclosure, and in the specific disclosure the members are expected to disclose (please see the last column of table 5.1) the granted patents, pending patent applications (mostly published and in some cases unpublished as well), and members of the patent families are to be disclosed.. Further, members are expected to make these disclosures under “good faith and reasonable duty” requirements and the SSO’s do not require its members to conduct patent searches. At least theoretically, SEP implementers would like to evaluate the scope and value of a SEP holders’ declared essential patents and SSOs may want to evaluate the essentiality, merit, cost, and availability of such essential patents and that of alternatives as

well. However, in practice, it is rare that SEP implementers would, actually, evaluate the scope and value of the essential patents in a normal course of making standards compliant products as it would require complex claim chart analysis and SEP implementers would be unwilling to make that effort. As discussed earlier, SSOs will not guarantee the essentiality or validity of the declared patent assets SSOs and it may only use the patent assets to consider availability of alternative technologies. Generally, most SSOs do not have an intention to keep the patented technology out of the standard unless the member declines to license the essential patents on FRAND terms, Many SSOs, studied above, usually include patented technology into their Standard specification and that itself is an indication that it is hardly possible to create a Standard without patented technology included in it. Furthermore, a data point to support this inference is that NBER patent citation data file includes 752 US patents, which have been declared<sup>11</sup> essential to W-CDMA technology. Thus, it is almost imperative that a technology standard cannot be created without including patented technology into the technology standard.

Different SSOs adopt different approaches to disclosure specificity. ETSI requires specific disclosures, which may include patent and patent application identifiers, filing countries, and status of such patent assets. Another variation is IETF requires specific disclosure and generic disclosure is allowed only if such generic disclosures are accompanied by a royalty-free licensing commitment. Many SSOs studied here “allow” or “encourage” specific disclosures, but also permit blanket statements (see Table 5.1). SSO IPR policies, which require or encourage specific disclosure are applicable to patent assets that an SSO participant believes to be *essential or mandatory for implementing a standard* and a standards compliant product cannot be made without infringing such patent assets. However, SSO participants are not obligated to disclose patent

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<sup>11</sup> Rudi Bekkers et al (2011), An empirical study on the determinants of essential patent claims in compatibility standards - available at <http://www.sciencedirect.com/science/article/pii/S0048733311000692>, last visited on 18 April, 2016.

assets required to implement *non-mandatory* portions of the standard and such non-mandatory portions may help cost reductions or quality improvements.

Timing of disclosure of patent assets is a complex issue. Generally, SSOs encourage early disclosure of SEPs, however, IPR policies of SSOs have fallen short of specifying the actual time point at which disclosures have to be made. ETSI seeks disclosures in a “timely fashion” and the ANSI IPR Policy Guidelines (2009) encourage “early disclosure.” As an exception, few SSOs such as VITA provide specific time points or time window for disclosure and are more deterministic or unambiguous as compared to “timely fashion” and “early disclosure”, which seem to be ambiguous.

An early reference to disclosure of patents in an SSO meeting arises at an initial “call for patents” and a later time point a formal disclosure may be made. Most SSOs’ technical committee or work group meetings start with a “call for patents” and the participants in such meetings are obligated to mention “in good faith and best of their knowledge” of existence of any patent assets related to their proposals and the participants are also encouraged to draw attention to third party patents of which the participants may have knowledge. During the “call for patents”, the participants may not have all the knowledge to make a specific disclosure and the participants may merely acknowledge or submit (orally) that they have knowledge of the patent assets, which may be essential to a standard. At a later point in time during the creation of a standard or sometime after creating a standard, the SSO participants have to make a formal disclosure or declaration (in writing using the specific forms or statements prescribed by the SSOs) disclosing the details of essential patents for a specific standard or draft.

Disclosure process of patent assets may focus on granted patents and the SEP holders propose inclusion of such granted patents into a standard. Formal disclosure of granted patents may be made even during the “call for patents” stage. In other scenarios, the SEP holder provides a formal declaration during

the second time window (i.e., sometime after the publication of a draft standard, but before the final specification is approved). The disclosure of a pending patent application may be, informally, made just after the patent application is filed, however, as there is no specific timing mentioned for the formal disclosure, the discloser may wait until the standard is formally approved to provide a written disclosure. Written disclosures can provide a detailed information but, the SSOs, most likely, may receive such written disclosures only after key decision on patent's essentiality is made.

Most SSOs provide disclaimers with respect to disclosed data. These disclaimers tend (1) to disown SSOs responsibility on the completeness and correctness of the disclosed data; (2) to shift the responsibility of identifying the essential patents to members and such identification process should be based on exercise of reasonable endeavors while not burdening the SEP holders with an obligation to perform patent searches, (3) to distance themselves from negotiations between the SEP holders and SEP implementers, (4) not to assure that the submitted patent assets are valid and essential, (5) distance away from handling disputes.

Further, the disclosure complexities increase with an increase in the number of essential patent assets disclosed to SSOs. In fact, there has been an unprecedented increase in the number of essential patents disclosed to SSOs and the reasons for such increase may be attributed to (a) importance, relevance, and adaption of ICT technology; (b) number of amendments made to IPR policy, of SSOs, to enable transparency in disclosure and enforcement; (c) increase in the number of standards bodies; and (d) increase in the number of standards/specifications created by these Standards bodies.

Especially on point (b) above, from 1990, many SSOs started focusing on enhancing the disclosure transparency and enforcement by amending their IPR policies. These amendments were a result of several court cases. Some of the

court cases, which may have been caused due to insufficient clarity in the disclosure policies are analysed below. To name a few, in 1993, Mitsubishi prevailed in a suit against Wang Labs, who had claimed infringement of two patents that were not disclosed to an SSO. *Wang Laboratories, Inc. v. Mitsubishi Electronics America, Inc.*, the court looked into alleged misconduct by Wang Labs in an SSO<sup>12</sup>. With an intention to avoid an alternative memory technology becoming a standard, Wang Labs (Wang) introduced a memory module known as "Single In-line Memory Modules" (SIMMs) required by the computing industry. Wang made a statement to the effect that ***it was not seeking patent rights in the SIMM*** and no licensing agreements were entered into between Wang and the companies interested in to make SIMMs, and that SIMM makers could sell their products to third parties. Later, ***Wang filed several patent applications directed to the SIMM format and influenced Joint Electronic Device Council ("JEDEC", a SSO) to adopt the format as the standard. However, Wang did not disclose its ongoing pursuit of patent rights to the JEDEC.*** There were other issues such as implied license in this case but, there was also issues related to disclosure of essential patents. In particular, an important point to note here is that it appears Wang Labs had an intention not to disclose and was attempting to silently have its technology included into the standard even without disclosing it to JEDEC and others, clearly violating the disclosure requirements.

The Federal Trade Commission (FTC)<sup>13</sup> handed out a consent order to Dell Computer Corporation (Dell) in a matter in which Dell failed to disclose its essential patents to Video Electronics Standard Association (VESA). According to the consent order, Dell Computers had to waive of certain rights and in particular, Dell was prohibited from enforcing its patent rights against computer manufacturers using VESA Local Bus (VL-Bus), a mechanism supporting transfer of data and instructions between the CPU and its peripherals such as

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<sup>12</sup> See *Wang Labs., Inc. v. Mitsubishi Elecs. Am. Inc.*, 103 F.3d 1571, 1573-74 (Fed. Cir. 1997).

<sup>13</sup> FTC's decisions in the matter of Dell Computer Corporation, *Docket C-3658*, available at - <https://www.ftc.gov/system/files/documents/cases/960617dellconsentorder.pdf>, last visited on April 18, 2016.

hard-disk drive (HDD), a video display terminal, or a modem. In 1992, Dell's representative was a member of the committee which approved preliminary proposal on VL-Bus and then was a part of the committee which accorded the final approval and in both the instances, Dell's representative declared in writing that to the best of his knowledge "this proposal does not infringe any trademarks, copyrights, or patents" that Dell possessed. However, Dell was granted a US patent 5036481 in July 1991. Later within 8 months after the approval of the final standard, 1.4 million computers including VL-Bus was sold. Dell then started informing certain VESA members that "implementation of VL-Bus was in violation of Dell's exclusive rights". The FTC, for the first time, took action against a company for acting through a SSO to unilaterally seek to impose costs on its rivals through abuse of the standard-setting process, according to William J. Baer<sup>14</sup>, Director of the FTC's Bureau of Competition.

*"Voluntary standard-setting in high tech industries results in greater compatibility among products, which in turn gives consumers a broader range of choices," said Baer. "Open, industry-wide standards also benefit consumers because they can be used by everyone without cost. This settlement makes it clear that firms cannot commit to an open standard, and then, after it becomes successful, assert patent rights in an effort to block use of the design or drive up the price through royalty payments. In this case, Dell's certification to the Association led the industry to believe the standard was truly open. If Dell had informed the Association of its patent claims during the standard-setting process, the Association could have adopted a different standard that would not have conflicted with the patent," he said.*

The FTC charged that Dell's actions were unfair and that they unreasonably restrained competition in the following ways, according to the complaint:

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<sup>14</sup> Dell Computer Settles FTC Charges, available at <https://www.ftc.gov/news-events/press-releases/1995/11/dell-computer-settles-ftc-charges>, last visited on May 10, 2016.

- industry acceptance of the VESA VL-bus standard was hindered pending a resolution of the patent issue;
- companies avoided using systems incorporating the VL-bus design because they were concerned that the patent issue would chill its acceptance as the industry standard;
- uncertainty about acceptance of the design standard raised the cost of implementing the VL-bus design and the costs of developing competing bus designs; and
- willingness to participate in industry standard-setting efforts has been chilled.

To settle the charges, Dell has agreed not to enforce its patent against computer manufacturers incorporating the VL-bus design in their products. In addition, Dell would be prohibited from enforcing any of its patent rights that it intentionally fails to disclose upon request of any standard-setting organization during the standard-setting process. The settlement also contains various reporting requirements that would assist the FTC in ensuring Dell's compliance.

The Commission's vote to accept the proposed settlement for public comment was 4-1, with Commissioner Mary L. Azcuenaga dissenting. In her dissenting statement, Commissioner Azcuenaga said, "Because the complaint does not allege and the evidence does not support a violation of Section 5 of the FTC Act under any established theory of law, and because under any novel theory the competitive implications of the conduct alleged remain unclear, I dissent...One antitrust theory might be that Dell intentionally misled VESA regarding the scope of its patent rights; that VESA, relying on Dell's misrepresentations, adopted a standard that conflicted with Dell's rights; and that as a result of the standard, Dell acquired market power. No evidence supports a finding of such intentional conduct...Another Section 5 theory might be that by participating in a private trade association's standard-setting activities, a firm assumes an affirmative duty to identify the boundaries of its intellectual property

rights and to warn the association of any potential conflicts...Adoption of this novel theory of liability may affect a range of standard-setting organizations. In creating a new antitrust-based duty of care for participants in the voluntary standard-setting process, a host of questions needs to be resolved. I welcome public comment on the appropriate nature and scope of any such duty, and I look forward to reassessing the case at the end of the comment period."

In the Analysis to Aid Public Comment<sup>15</sup>, the FTC seems to suggest that DELL had committed a *per se* antitrust violation: "If a company misrepresents its patent rights to SSO...the company's later efforts to take advantage of market power resulting from the standard, rather than from some inherent value of the patent, constitutes a violation of Section 5 of the Sherman – Clayton Act.

The most referred case on the issue of disclosure is the Rambus case, which raises many difficult questions about when a member comes under the obligation to disclose essential patents. Rambus was a member of the JEDEC when it adopted a standard for synchronous dynamic random access memory (SDRAM). During its membership in the JEDEC, Rambus disclosed its '898 patent, but the disclosed patents allegedly did not include claims that covered the SDRAM standard. Subsequently, Rambus withdrew from the JEDEC and filed several other patent applications that were substantially identical to the disclosed IPR, but included claims that allegedly covered the SDRAM standard. After Rambus withdrew, the JEDEC adopted a standard for double data rate-SDRAM (DDR-SDRAM), which was allegedly covered by the claims in Rambus's later-filed patents. Rambus sued Infineon (another JEDEC member) for infringement. Infineon alleged that Rambus committed fraud by failing to disclose its IPR to the JEDEC.

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<sup>15</sup> Federal Trade Commission [File No. 931-0097]; Dell computer Corp.; Consent Agreement With Analysis to Aid Public Comment available at <https://www.ftc.gov/system/files/documents/cases/951122dellcomputer.pdf>, last visited on May 10, 2016.

A jury and District Court found merits in Infineon's arguments, however, the DC's judgement was appealed to the Federal Circuit. In *Rambus, Inc. v. Infineon Technologies AG*<sup>16</sup> the Federal Circuit highlights the importance of clearly defining IPR policies. In *Rambus*, the Federal Circuit considered whether Rambus breached its duty to disclose information about its patents to the JEDEC as required by JEDEC's IPR policy. First, the Federal Circuit determined what duty, if any, Rambus owed to JEDEC. In defining the duty, the Court reviewed both the language of the written JEDEC IPR policies, and how other JEDEC members interpreted or treated that clauses in the JEDEC IPR policy. Ultimately, the Federal Circuit concluded that while the written IPR policies did not expressly require disclosure of IPR information, Rambus had a duty to disclose the information because the JEDEC members interpreted or treated the clauses of the policy as imposing such a duty. Furthermore, the Court held that Rambus's duty to disclose extended only to "claims in patents or applications that reasonably might be necessary to practice the standard." Stated another way, the disclosure duty operated when there was a "reasonable expectation that a license is needed to implement the standard." Based on this, the Federal court arrived at a conclusion that Rambus had not breached its duty and as as per JEDEC's IPR policy Rambus had to disclose claims that are "covered by" the standard. As per Federal Court, JEDEC's SDRAM standards were not "covered by" the claims in '898 patent and Rambus had exited JEDEC even before the DDR-DRAM standards were finalized and the question of disclosure did not arise. Here, the Federal Circuit found that Rambus had not committed fraud under Virginia law. Specifically, Rambus had not violated its disclosure duty because the undisclosed claims of the originally filed applications would not have been infringed by the standard, and, thus, the claims were not reasonably necessary to practice the standard. Furthermore, Rambus did not violate its disclosure duty by failing to disclose its later-filed applications because Rambus

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<sup>16</sup> *Rambus Inc vs. Infineon Techs AG* - available at <http://caselaw.findlaw.com/us-federal-circuit/1361689.html>, last visited on April 18, 2016.

had already withdrawn from the JEDEC before the formal consideration of the DDR-SDRAM standard. The Federal Court disagreed with the "fraud" allegations made by Infineon.

However, the Federal Circuit did note the importance of having clearer IPR policies. In particular, the Court stated that a **"policy that does not define clearly what, when, how, and to whom the members must disclose does not provide a firm basis for the disclosure duty necessary for a fraud verdict.** Without a clear policy, members form vaguely defined expectations as to what they believe the policy requires-whether the policy in fact so requires or not." Here, the Court noted that the "JEDEC could have drafted a patent policy with a broader disclosure duty. It could have drafted a policy broad enough to capture a member's failed attempts to mine a disclosed specification for broader undisclosed claims. It could have. It simply did not." The Federal Circuit strongly advised the SSOs that their IP policies are to be non-ambiguous and it should clearly articulate "who" should disclose, "how" should the disclosure happen, "when" should the disclosure happen, "what" should be disclosed, and to "whom".

In another related case, *Rambus, Inc. v. the Federal Trade Commission*<sup>17</sup>, the Federal Trade Commission asserted that Rambus engaged in unfair methods of competition and unfair or deceptive practices by allegedly failing to disclose its patent interests to the JEDEC while participating in the standard-setting process. According to the Commission, this prevented the JEDEC either from adopting a non-proprietary standard or from extracting a license under RAND terms. The Commission ultimately held that Rambus's omission constituted unlawful monopolization under Section 2 of the Sherman Act and unfair competition under Section 5 of the Federal Trade Commission Act.

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<sup>17</sup> Rambus Incorporated Vs. Federal Trade Commission (FTC), No. 07-1086, US Court of Appeals for DC of Columbia circuit- available at <https://www.ftc.gov/sites/default/files/documents/cases/2008/04/080422appealscourtopinion.pdf>, last visited on 18<sup>th</sup> April, 2016.

Rambus approached the District Court of Columbia Circuit (DC), which disagreed with FTC's decision, noting that it had serious concerns about the strength of the evidence relied upon by FTC to arrive at a conclusion that Rambus's act constituted unlawful monopolization u/s 2 of Sherman Act. According to DC, FTC had failed to provide sufficient evidence that the JEDEC would not have adopted the standard **but for** the alleged misrepresentation or omission by JEDEC. FTC had left open the possibility that the JEDEC would have standardized Rambus's technologies even if Rambus had disclosed its patents.

With respect to FTC's finding that the JEDEC had been prevented from securing a RAND commitment, the SC noted that the loss of such a commitment is not a harm to competition. Indeed, the court stated that "an otherwise lawful monopolist's use of deception simply to obtain higher prices normally has no particular tendency to exclude rivals and thus to diminish competition." Here, if the JEDEC had limited Rambus to reasonable royalties there would have been less competition because, according to the court, charging higher license fees tends to bring competitors to the marketplace.

*In Stambler v. Diebold, Inc.*,<sup>18</sup> the Court addressed whether an SSO member can assert its patent rights even if he has failed to disclose those rights to an SSO. The courts looked at the conduct of Stambler and came to a conclusion that Stambler's conduct was misleading and therefore, Stambler was estopped from enforcing his enforce its patent rights. In *Stambler*, the court held that equitable estoppel applies when an SSO participant does not disclose its patented technology, even in the absence of an explicit policy requiring disclosure. Stambler participated in the ANSI standards committee and, after determining that the proposed standards infringed his patent, left the committee without notifying it of the alleged infringement. Later, Stambler sued Diebold for

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<sup>18</sup> *Stambler v. Diebold Inc.*, 1998 WL 95479, 11 U.S.P.Q.2d 1709 (E D N Y 1988), *aff'd*, 878 F. 2d 1445(Fed. Cir. 1989).

infringement of the concealed patent. The court determined that Stambler had a duty to speak out and call attention to his patent, and his failure to do so was affirmatively misleading. Accordingly, the court held that Stambler was estopped from asserting his patent against Diebold and Diebold's detrimental reliance.

*In Qualcomm, Inc. v. Broadcom Corp.*,<sup>19</sup> it is alleged that Qualcomm, which was a member of the Joint Video Team (JVT), an SSO, had concealed disclosing its patents essential to the Standard set by JVT. Based on the approach laid out in the *Rambus* case, the Federal Circuit analyzed the IPR policy of JVT and noted that the JVT IPR policies did not expressly require disclosure by all participants in all circumstances, but it did require the participant to disclose information that reasonably might be necessary on a "best effort basis." The Court found that Qualcomm had not put in "best efforts" to disclose the patents. Further, the Court relied on the rules of the JVT's parent organization that required disclosure. Then the Federal Circuit held that the JVT IPR policies expressly required a duty to disclose and the members were obligated to disclose such essential patents to JVT. Further, the Federal Circuit noted that Qualcomm was required to disclose its patents to the JVT as other JVT participants treated the IPR policy as imposing a duty to disclose. Thus, the Federal Circuit found that Qualcomm had failed to disclose its essential patents to JVT and had therefore failed in fulfilling its duty to disclose. Under the doctrine of implied waiver, the Federal Circuit therefore held that Qualcomm cannot enforce its essential patents against those who practiced the standard.

The plethora of cases related to failure in the duty of disclosure may have triggered the members to adopt over-disclosure to secure their royalties. As may be readily seen from the above cases, fraud, unfulfilled duty of disclosure (due to possible under-disclosure) may have been grounds that the Courts have relied on to order the patent holders not to enforce their essential patents. When the

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<sup>19</sup> US court of Appeals for the 3<sup>rd</sup> Circuit, no. -06, 4942, *Broadcom v. Qualcomm*, available at: <http://www2.ca3.uscourts.gov/opinarch/064292p.pdf>, last visited on 28<sup>th</sup> April 2016.

SEP holders do not seek royalties for their SEPs, the incoming royalties decrease drastically and such ***“royalty erosion” may be referred to as “Shrink-effect” hereafter.*** Under-disclosure leads to the result that patents that are in fact essential are not disclosed. Disclosure obligations on SSO members are not absolute i.e., disclosure is required only from individual SSO participants with actual personal knowledge of relevant patents and the member organizations are expressly exempted from having to conduct patent searches. Patent owners who may have essential claims but are not SSO members, including the “Non-Practicing Entities” (NPEs) or “trolls” are not obligated by the disclosure rules. As many potential SEP holders are not obligated to disclose, the actual value and reliance on the SSO patent disclosure database is weakened as (a) many of the disclosed patents are not in fact essential; and (b) important essential patents may not appear in the SSO’s database.

To overcome the shrink-effect associated with under-disclosure many SSO participants or members have adopted over-disclosure option. However, the principal goal of disclosure policies is to give standards developers an opportunity to decide what technologies (based on merit, cost, feasibility, availability) to include in a standard, and to give an opportunity to the standards implementers to be aware of the SEPs, which may help in a licensing project with the SEP holder. Contrary to such an objective, many studies have illustrated that only a small percentage of the declared patents are essential or actually essential to a standard. Fairfield Research<sup>20</sup> concluded that only 28% (i.e., 529) patents were actually essential against a total of 1,889 patent families that were declared essential to WCDMA standards. Fairfield<sup>21</sup> concluded that only 27% (i.e., 158) patent families were actually essential against a total of 561 patent families declared as essential for GSM. Another organization, Cyber Creative Institute

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<sup>20</sup> Fairfield Resources International, “Review of Patents Declared as Essential to WCDMA Through December, 2008” (Jan. 6, 2009). Available at <http://www.frlicense.com/wcdma1.pdf>, last visited on April 18, 2016.

<sup>21</sup> Fairfield Resources International, “Analysis of Patents Declared as Essential to GSM as of June 6, 2007” (Dec. 31, 2007). Available at [http://frlicense.com/GSM\\_FINAL.pdf](http://frlicense.com/GSM_FINAL.pdf), last visited on April 18, 2016.

Co. Ltd<sup>22</sup> concluded that 56% of the patents declared as essential were actually essential to LTE standards. Similarly, RPX<sup>23</sup> identified that out of the 573 declared SEPs that were asserted in litigation only 70 (i.e., dismally low 12%) resulted in a successful summary judgment order and only 17 (3%) resulted in a final verdict of infringement. Jurata and Smith<sup>24</sup> examined a set of 58 declared SEPs that went to judgment in litigation since 2009 and found that only 7 (12%) had been found valid and infringed, with the remainder found invalid (18), not infringed (17), withdrawn by the SEP holder (14), or otherwise dismissed (2)). The FOSS Patents blog<sup>25</sup> examined two high-profile multi-jurisdiction patent battles involving declared SEPs and noted: “Google (Motorola Mobility) had a hit rate of only 1 out of 10 with its SEP assertions against Apple, and Samsung only 3 (2 of them in its own country, 1 in the Netherlands) out of 24.”

The key point is that as a general rule, the number of patents that are declared as essential in SSOs dramatically exceeds the number of patents that are actually essential for the implementation of the relevant standards. The over-disclosure may cause issues such as (a) increase in the royalties, which need to be paid out due by the standard implementers as there is an increase in the number of SEPs in the portfolio stack; (b) determination of validity and essentiality becomes even more cumbersome due to increase number of so called declared essential patents; and (c) increase in SEP litigation as an outcome of mere likelihood of disagreements may increase with the increase in the number of “so called SEPs” and SEP holders may enforce these “so called SEPs” to extract higher royalties and the SEP implementers will then vigorously challenge the validity and essentiality of the “so called SEPs” caused due to

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<sup>22</sup> Cyber Creative Institute Co. Ltd., “Evaluation of LTE essential patents declared to ETSI” (ver. 3.0, June 2013). Available at <http://cybersoken.com/research/pdf/lte03EN.pdf>, last visited on April 18, 2016.

<sup>23</sup> RPX Corporation, “Standard Essential Patents: How Do They Fare?” (2014).- Available at <http://www.rpxcorp.com/wp-content/uploads/2014/01/Standard-Essential-Patents-How-Do-They-Fare.pdf>, last visited on April 18, 2016.

<sup>24</sup> J. Jurata, Jr. and D. Smith, “Turning the Page: The Next Chapter of Disputes Involving Standard Essential Patents,” CPI Antitrust Chronicle (Oct. 2013).

<sup>25</sup> FOSS Patents (blog), “Apple to FTC: Samsung and Google lose most of their cases over declared-essential patents” (February 25, 2013). Available at <http://www.fosspatents.com/2013/02/apple-to-ftc-samsung-and-google-lose.html>.

over-disclosure. This over-disclosure effect may be hereafter referred to as ***“Bulge effect”***.

The problems associated with under-disclosure (“shrink-effect”) and over-disclosure (“Bulge-effect”) are of a serious concern to SSOs and have legal consequences for its participants.

## **5.1. Impact of Disclosure Policy**

### **5.1.1. Impact of timing of Disclosure on**

#### ***(i) SSOs and Adaptation of Standards***

***“when”*** actually in the standards development process should the participants disclose their essential patents or others essential patents is an important question. Unfortunately, the “timing question” is not addressed satisfactorily by majority of the SSOs. As discussed earlier, usually, the disclosures happen during the first and the second time window. If disclosure is made late in the process, SSOs will not have an opportunity to make an informed decision on whether to include a patented invention into the standard and there may be an undesired potential for over-disclosure, which in turn may lead to ***“bulge effect”***. On the other hand, earlier disclosures may not provide a solution either. If the disclosure is made very early in the process, the standard or technical specification may still be at a nascent stage or the standard under development may still be immature and it will be difficult or almost impossible for the members to determine the essentiality of certain patented technologies to the standard. This can significantly reduce disclosure quality including hampering disclosure of any meaningful information. Disclosure of information of pending patent applications related to a standard will further add to the uncertainty as the scope of the granted claims can be different from the scope of the pending patent applications. In such cases, early disclosure can lead to false positives (i.e., disclosed patent applications that are eventually not essential). All these factors related to early disclosure may lead to under-disclosure,

which in turn may lead to “*shrink-effect*”. Either a “shrink –effect” or a “bulge-effect” is undesirable for an SSO. However, finding an “ideal timing window” which minimizes the impact of the shrink and bulge effects is hard to arrive at and it appears that determining the “ideal timing window” has been a challenge for SSOs for many years. Further, when the SEP holders and SEP implementers move the courts to defend their rights, the courts would invariably interpret the IPR policies of SSOs and may strongly suggest modifying the IPR policies to bring about more transparency, fairness, and balance between access to SEPs and reasonable compensation. Modifying the IPR policies is a rigorous exercise and time consuming, however, the effort may be worth the time as the amendments to the patent policies is aimed to bring in more transparency, fairness, and balance between the rights of SEP holders and SEP implementers and to the standards body itself that in turn will be an advantage to a consumer. IEEE took about 2 years to modify its patent policy and the Department of Justice (DoJ) approved (through a business review letter<sup>26</sup>) the IEEE amendments to its patent policy and at the end the present IEEE patent policy is much more fair and balanced, especially, when it comes to appropriateness of Injunctive Relief, determination of reasonable royalties, reciprocity and conditions for FRAND licensing.

**(ii) SEP holders (SEP licensors)**

As mentioned above, unfortunately, the “timing question” is not addressed satisfactorily by majority of the SSOs and as discussed above there is quite a bit of ambiguity in the patent policies. As a result, everybody involved in the SSO gets affected. Patent-level analyses performed<sup>27</sup> by Bekkers *et al* indicates how litigation outcomes may vary

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<sup>26</sup> Renata B. Hesse’s (Acting Assistant General Counsel, US DoJ, Antitrust division) letter dated Feb 2, 2015- available at <https://www.justice.gov/file/338591/download>, last visited on April 18, 2016.

<sup>27</sup> Rudi Bekkers, Christain Catalini, Arianna Martinelli, and Timothy Simcoe, “Intellectual Property Disclosure in Standards Development”-available at [http://home.ieis.tue.nl/rbekkers/bekkers\\_et\\_al\\_\(2012\)\\_nber\\_conf.pdf](http://home.ieis.tue.nl/rbekkers/bekkers_et_al_(2012)_nber_conf.pdf), last visited April 18, 2016.

with the timing of disclosure. A gap between the date of filing a patent application and its disclosure to a SSO is analyzed and patents applications that are declared essential immediately after filing of the patent application (and before the issue of a patent) are likely, motivated by the ongoing standards process. It appears to be speculative of what solutions could be made a standard as the proposed standards are less apparent and this may lead to many patent assets not being actually "essential" to a standard. However, the patent assets, which are declared later in the standards process are more likely to cover technologies and it appears to be less speculative (or more essential) as the proposed standard only becomes apparent over time.

Therefore, it may be inferred that in the litigation related to patent assets disclosed early in the process, the questions in front of the courts may be related to "essentiality" of such patent assets to standards, thus, the infringement analysis may be of most importance in such litigation of such patent assets. On the other hand, in the litigation of patent assets that are declared later in the standards process, the questions in front of the courts may be related to abuse of SEPs and its effect on competition and validity of such SEPs. Further, for patent assets disclosed late in the process, determination of royalty rates may be an important issue.

Also, another dimension or view is that if disclosure is not made early enough, the SEP holder may be accused of alleged misconduct or misleading the SSO and its members. Actually, at that point in time, the SEP holders may not even know what portions (i.e., patents and patent applications) of its patent portfolio would be relevant to the standard being developed. In the absence of such clarity it is almost impossible to identify the patent assets for disclosure. On the other hand, earlier disclosures may not provide a solution either. If the disclosure is made very early in the process, the standard or technical specification may still be at a nascent stage or the standard under development may still be immature

and it will be difficult or almost impossible for the members to determine the essentiality of certain patented technologies to the standard. This can significantly reduce disclosure quality including hampering disclosure of any meaningful information. Disclosure of information of pending patent applications related to a standard will further add to the uncertainty as the scope of the granted claims can be different from the scope of the pending patent applications. In such cases, early disclosure can lead to false positives (i.e., disclosed patent applications that are eventually not essential). However, if the disclosure is made late in the standardization process, the SEP holders tend to over-disclose. The effects of under and over disclosure are already discussed above.

Also, courts have come down heavily on the SEP holders who have not disclosed their SEPs and then later on have used patents to sue the implementers. In such cases of misconduct or abuse of SEPs, as discussed above, the courts may pronounce that the SEP holders should not enforce their patents and in some circumstances the SEP holders may be subject to compliance audits. These actions in turn will affect - the royalty revenues; the reputation and brand of the SEP holder; the stock price of the SEP holder company<sup>28</sup>; humungous litigation costs; and erosion of the inventive value of the SEPs. It is evident from what the case of Rambus, where it lost its credibility, substantially and the entire focus of the company; which was once purely technology and business, turned to litigation. Such distractions may be detrimental to organizations. Over-disclosure may cause other set of issues such as (a) increase in the royalties, which need to be paid out due by the standard implementers as there is an increase in the number of SEPs in the portfolio stack; (b) determination of validity and essentiality becomes even more cumbersome due to increase number of so called declared essential

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<sup>28</sup> Rambus loses Antitrust Law Suit, Shares plunge – available at <http://www.reuters.com/article/us-rambus-micron-verdict-idUSTRE7AF1XL20111116>, last visited April 18, 2016.

patents; and (c) increase in SEP litigation as the likelihood of disagreements between the SEP holders and standards implementers may increase with the increase in the number of "so called SEPs" and SEP holders may use the swelling in the size of portfolio to enforce their SEP pool, which includes "actual SEPs" and these "so called SEPs" to extract higher royalties and the SEP implementers will then vigorously challenge the validity and essentiality of the "so called SEPs" caused due to over-disclosure.

***(iii) SEP implementers (SEP licensees)***

The SEP implementers do not seem to have notably major issues regarding the timing of disclosure, except that they may have difficulties with (a) under-disclosure (caused by early disclosure); (b) over-disclosure caused by late disclosure. Like SSOs implementers also may not have an opportunity to assess the impact of the patent encumbrance on the standards. In case of over-disclosure, since the SEP holders do not have an obligation to conduct patent searches, the burden of checking the essentiality of patents to standards appears to be shifted to implementers and it is resource and time consuming task for an SEP implementer.

**5.1.2. Impact of level of Disclosure on**

***(i) SSOs and Adaptation of Standards***

*"what"* need to be disclosed to the SSOs is an important question and most of the SSOs and through their patent policies clearly indicate the level of disclosure expected. Before, the analysis it may be worthwhile to recall the fundamental objectives of the SSO's IPR policy, which is (a) everybody interested in a securing a license to SEPs should get an access to SEPs; and (b) the SEP holder should be compensated with reasonable royalties. In an attempt to achieve this objective, most of the SSOs allow both specific and blanket disclosures.

The initial disclosure to WGs or TCs during the first time window is merely a "yes" or "no" type answer i.e., the member would either disclose

that he has essential patents or he would say “no”. The initial disclosure does not provide any useful data to evaluate whether such a patent asset is essential, but it binds the member to a duty to disclose, which the member is estopped from denying the disclosure or his obligation to disclose. A formal disclosure only happens late in the process and typically after a draft standard is ready for comments. As the draft specification is already available the possibility that the SSOs use the patent assets information declared during the second time to modify the draft standards appears to be very low. The blanket disclosures do not provide any information at all and a blanket disclosure merely discloses that the member believes to have SEPs and he would license those SEPs on FRAND terms. Thus, the initial disclosures or blanket disclosures do not serve the objective of evaluating the “essentiality” of the disclosed patent asset and the final disclosure is not also very helpful from the angle of providing transparency as the draft specification is already ready. However, a realistic view of the timing of disclosures and the level of disclosure, provide enough indications that the SSOs or the standards have not benefited much from the disclosure. The burden on the SEP holders, SSOs, and the other members seem to be very high and disproportionate to the goal of transparency. Further, fulfilling the disclosure obligations is becoming even more burdensome on the members and the SSOs, especially, with an increase in the number of SEP disclosures in ICT sector.

***(ii) SEP holders (SEP licensors)***

Even though the members are not obligated to conduct patent searches, they still have to disclose information to the SSOs. Many members of the SSOs have huge patent portfolios and identifying the patents and patent families (even without being obligated to search) is a critical requirement and the information the patent holders declare as being essential to the standard is believed to be relied upon by SSOs to

arrive at important decisions. Further, some SSOs require disclosure of information about patents and patent families. Fortunately, none of the SSOs appear to obligate the patent holder to conduct a patent search or conduct an essentiality test or validity test or infringement test. SEP holders are not obliged to prepare and provide claim charts to highlight the essentiality of a SEP to a standard. Further, the members are allowed to make blanket disclosures, which turns out to be an even simpler process to comply with the disclosure obligations. As long as more information is not required by the SSOs and as long as the SEP holders are not put under a duty to disclose more information, the motivation for SEP holders (or members) to participate in the SSOs will remain high and will continue to participate in SSOs and focus on creating a standard. An important and problematic issue is based on the timing of disclosure, the actual information disclosed by the SEP holders and SSO members may lead to either under-disclosure or over-disclosure and the results of under-disclosure and over-disclosure are discussed above. Also, as the trends depict, the SEP holders tend to over-disclose and they can use their portfolios (actual SEPs + so-called SEPs) to extract higher royalties and may even move the courts to enforce their SEP portfolio to extract higher royalty and usually SEP holders may inappropriately seek injunctions as a means to extract higher royalties. This trend may result in an increased number of SEP/FRAND litigations.

***(iii) SEP implementers (SEP licensees)***

As discussed above, the studies have shown that only a small percentage of the patents that are declared essential are actually essential. As discussed above, over-disclosure may cause an increase in the royalties to be paid. The SEP implementers will, naturally, look for opportunities to (a) invalidate a SEP (adjudication done by patent appellate boards, usually); (b) prove that "so-called SEPs" are not "essential" to implement a standard (adjudication done by courts, usually); (c) raise complaints seeking to remedy the anti-competitive

effects of misuse or abuse of SEPs (adjudication body - anti-trust agencies or competition authorities). Thus, the number of litigations are deemed to increase as an effect of over-disclosure.

## **5.2. New Paradigms in Disclosure<sup>29</sup>**

A statement by ANSI<sup>30</sup> describes the policy goals behind this disclosure model:

“Experience has indicated that early disclosure of essential patents or essential patent claims is likely to enhance the efficiency of the process used to finalize and approve standards. Early disclosure permits notice of such patent claims to the standards developer and ANSI in a timely manner, provides participants the greatest opportunity to evaluate the propriety of standardizing the patented technology, and allows patent holders and prospective licensees ample time to negotiate the terms and conditions of licenses outside the standards development process itself.”

The problems with disclosure are real and the disclosure approaches practiced so far by the SSOs do not seem to meet the goals that they were set to meet. Please see Table 5.1 and it is evident that the disclosure is to be made based on the “knowledge” of the participants and there was no need for a patent search. “how would a participant disclose based on his knowledge and how would he get this knowledge if no patent searches are carried out? Most of the participants in the SSOs are technically qualified rather than legally trained to have a knowledge of patent assets that belong to an organization. Practically, it is impossible to fulfill the duty to identify all applicable SEPs and it may be demotivating for companies with large portfolios to join the SSOs. In the absence of such innovative companies, the SSO will have very little to offer as a standard, which would be compelling enough to practice.

Further, SSO policies apply to SSO participants and non-participants are not under an obligation to comply with disclosure rules and SSO disclosure

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<sup>30</sup> American National Standards Institute, Guidelines for Implementation of the ANSI Patent Policy, revised 2015

databases will generally not include SEPs of non- participants. SEP-related litigations involve so-called non-practicing entities or NPEs. CSIRO, Wyncomm LLC, Innovative Wireless Solutions LLC (IWS) and Innovatio separately filed many dozens of lawsuits alleging infringement of various purported SEPs that read on IEEE specifications. Only CSIRO has made a direct disclosure to IEEE and the other entities in the list above have not and therefore the standard implementers did not have the information to approach SEP holders to seek licenses. It appears that the disclosure policy has not worked well and appears to not have met the goal.

Compliance to disclosure policy is difficult and complicated and there are many ambiguities in SSO disclosure policies. SSO disclosure policies differ over issues such as who must disclose, when disclosures must happen, whether disclosures are suggestive or mandatory, definitions of "essential," the content of disclosures, and more. Parties participating in multiple standards bodies must thus develop custom compliance process for different organizations, which increases compliance costs.

Disclosure based approaches are not an effective tool to solve issues such as patent hold-up or patent stacking in the SSO context, the present disclosure approaches impose more more cost than benefit. More than all these, the disclosure policy has provided a potential ground for litigations. A better solution is to abandon the broken disclosure model, and focus instead on licensing commitments, coupled with an enhanced and more holistic understanding of what Fair, Reasonable and Non -discriminatory (FRAND) licensing means. SSOs can clarify that participation in a standards development process comes with an obligation to license those relevant SEPs owned by the participant on FRAND terms, without requiring that the participant specifically disclose the SEPs.

## **Conclusion**

The disclosure policies have commonalities and differences. All 12 SSOs require their participants to declare granted patents, pending patent applications and patent families based on the knowledge of the participants and none of these

SSOs require patent searches to be done by the participants. However, the 3 SSOs use patent statement and licensing declarations forms to allow participants to declare their SEPs and the timing is based on “from the outset” and these 3 SSOs allow specific and blanket disclosures as well and the disclosure has to be made on “good faith and best efforts”. One of the SSOs uses IPR information and licensing declaration statement and timing is based on “timely fashion” and allows only specific disclosure. Two SSOs use letter of Assurance to allow participants to disclose and license their SEPs based on “as early as possible” standard, allows specific and blanket disclosures and are expected make such disclosures in good faith and best efforts. One SSO uses request for comments as a means to receive disclosures and allows specific and blanket disclosures. One more SSO uses “feedback license” to receive disclosures and licensing statements and allows only for specific disclosure. Two more SSOs do not have disclosure provisions at all in their patent policies.

The disclosure policies of SSOs does not seem to be working well in meeting its objectives. The cost of adhering to the disclosure policy appears to be much costlier than the benefits the disclosure policies can provide. The disclosure policies itself may be used as a potential ground for litigation and the litigation rigor may cause the litigants to focus away from the original goals of the organization, it is distracting. To overcome the issues with under disclosure (7 cases out of 34 cases related to standards are related to timing and level of disclosure), SEP holders have declared more patents to SSOs as essential to standards. Out of the 12 SSOs studied here, all the SSOs have seen at least 30% increase in the number of SEPs declared to standards. The over-disclosure problem has also led to proportional increase in the quantum of royalty sought. It seems to be much a better approach to focus on and perfect the licensing model rather than focusing on an impractical and unrealistic disclosure policy.