IP Disputes and Nanotechnology Company Bankruptcies

Reed L. Christiansen[*], Stephen B. Maebius[**], Leon Radomsky[***], and J. Steven Rutt[****]

ABSTRACT

Recent news stories relate examples of nanotechnology companies seeking bankruptcy protection as a result of intellectual property litigation. This article describes practices a potential defendant might use to limit exposure in patent or trade secret litigation, or even prevent such litigation. In the case of patent disputes, the use of *inter partes* reexamination to invalidate competitors' patents is an alternative that has features benefiting potential defendants. For the case of trade secret battles, incorporating key provisions in nondisclosure and joint development agreements may forestall litigation.

I. Introduction

Two nanotechnology companies recently filed for bankruptcy as a result of costs associated with intellectual property (IP) litigation. Evident Technologies, Inc., one of New York State's first

[*] Dr. Christiansen is an IP associate with Foley & Lardner LLP in the firm's Milwaukee, Wisconsin office and is a member of the firm's nanotechnology industry team.

[**] Mr. Maebius is an IP partner with Foley & Lardner LLP in the firm's Washington, D.C. and Tokyo offices and is co-chair of the firm's life sciences industry team.

[***] Mr. Radomsky is an IP partner with Foley & Lardner LLP in the firm's Washington office and is chair of the firm's nanotechnology industry team.

[****] Dr. Rutt is an IP partner with Foley & Lardner LLP in the firm's Washington office and is vice-chair of the firm's nanotechnology industry team. Acknowledgement: The authors would like to thank Matthew A. Smith of Foley & Lardner LLP for helpful discussions regarding *inter partes* reexamination.

nanotechnology companies, filed for Chapter 11 bankruptcy protection after being sued for patent infringement, citing mounting legal fees associated with its defense.[1] It had amassed nearly $1 million in legal fees—significant compared to its $3.8 million in assets.[2] Luna Innovations, Inc., a Virginia-based nanomaterial company, also filed for Chapter 11 bankruptcy protection after facing a jury verdict of $36 million in damages in a trade secret case—almost double its $20 million in assets.[3] A third company, UK-based Nanoco Technologies, has exited the U.S. core-shell quantum dot market after settling a lawsuit alleging infringement of five patents.[4]

This article discusses several strategies a potential defendant might use to limit exposure in patent or trade secret litigation, while recognizing that the decision to seek bankruptcy protection can be a complicated decision involving many factors besides patents and trade secrets. In Part II, we examine the use of administrative patent reexamination procedures to limit or defer patent litigation costs. Part III explores trade secret pitfalls in joint development and describes practices to limit exposure to litigation.

II. Reexamination to Limit Defendant's Patent Litigation Exposure

A potential defendant in patent litigation might employ one of the U.S. Patent and Trademark Office's administrative patent reexamination procedures to attempt to invalidate one or more claims of a problem patent, subject to the opinion of litigation counsel on the particular merits of the case. There are two such procedures: *ex parte* reexamination and *inter partes* reexamination.

1. Ex Parte and Inter Partes Reexamination

Ex parte reexamination, first authorized by Congress in 1980, allows a patent owner, the patent office, or a third party to challenge the validity of a patent based on patents or printed publications.[5] If the patent office determines that there exists a substantial new question of patentability, the patent will be reexamined.[6]

Inter partes reexamination, first authorized by Congress in 1999, allows a third party to challenge the validity of a patent based on patents or printed publications.[7] If the patent office determines that there exists a substantial new question of patentability, the patent will be reexamined.[8] It differs from the older *ex parte* reexamination process in several ways:

Third-party participation. Under the *inter partes* procedure, the third-party requester has the opportunity to submit written comments addressing each substantive office action and patent

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[1] Brian Baxter, *The Bankruptcy Files*, THE AMLAW DAILY, July 8, 2009, http://amlawdaily.typepad.com/amlawdaily/2009/07/the-backruptcy-files-1.html; Adam Sichko, *Evident Technologies Files Chapter 11 Bankruptcy Petition*, BUS. REV., July 6, 2009, http://albany.bizjournals.com/albany/stories/2009/07/06/daily3.html.

[2] Larry Rulison, *Bankruptcy Protection for Evident*, TIMES UNION (Albany, N.Y.), July 7, 2009, *available at http://www.timesunion.com/ASPStories/story.asp?StoryID=817334*.

[3] Zusha Elinson, *Morrison & Foerster Wins $36 Million in Trade Secrets Trial*, RECORDER, Apr. 22, 2009, www.law.com/jsp/article.jsp?id=1202430099782.

[4] *Nanosys, Nanoco Resolve QD Patent Spat*, SMALL TIMES, July 23, 2009, www.smalltimes.com/articles/stm_print_screen.cfm?ARTICLE_ID=366780.

[5] 35 U.S.C. §§ 302-303 (2006).

[6] *Id.* § 304.

[7] *Id.* § 311.

[8] *Id.* § 313.

owner response.[9] By contrast, the *ex parte* process limits third-party participation to submitting a single reply to the patent owner's optional initial response to an order for reexamination.[10]

Lack of anonymity. The party requesting an *inter partes* reexamination must reveal the identity of the real party of interest.[11]

Limitation on Examiner interviews. Interviews on the merits between the Examiner and the patent owner are limited in *inter partes* reexamination proceedings.[12]

Estoppel. There are a number of complex estoppel provisions relating to *inter* partes reexamination. Generally speaking, the requesting party may not file subsequent *inter partes* reexamination requests or subsequently litigate issues that were raised or that could have been raised in the *inter partes* procedure.[13]

Third Party Right of Appeal. A requester has a right to appeal or to be a party in the patent owner's appeal of an *inter partes* reexamination.[14] Appeal may be taken administratively to the Patent Office Board of Appeals, and then to the Court of Appeals for the Federal Circuit.

Cost. The cost of participating in an *inter partes* appeal will generally be higher than the cost of requesting an *ex parte* reexamination. Not only is the initial filing fee higher, but the nature of the *inter partes* process requires that any comments that the third-party requester may wish to make be submitted within 30 days after the date of service of a patent owner's response to each substantive office action.[15]

On balance, these differences would appear to make the *inter partes* process more advantageous for a patent challenger than the *ex parte* process. The patent office's statistics appear to bear this out. Over the lifetimes of both administrative procedures, 60% of *inter partes* reexamination certificates cancelled all claims, compared to only 13% for *ex parte* reexaminations requested by third parties.[16]

2. Inter Partes Reexamination to Limit Patent Litigation Exposure

There are several features of the *inter partes* reexamination procedure that could benefit a potential patent litigation defendant:

Staying Patent Litigation. A district court may, at its discretion, stay litigation pending the conclusion of an *inter partes* reexamination. A stay has been granted in roughly half of the district court cases where defendants have made such a motion.[17] Because of the average 36-month

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9 *Id.* § 314.

10 37 C.F.R. § 1.535 (2008).

11 35 U.S.C. § 311 (2006).

12 37 C.F.R. § 1.955 (2008).

13 35 U.S.C. §§ 315, 317 (2006).

14 *Id.* § 315.

15 37 C.F.R § 1.20 (2008); 35 U.S.C. § 314 (2006).

16 COMM'R PATENTS, U.S. PATENT AND TRADEMARK OFFICE, INTER PARTES FILING DATA – JUNE 30, 2009 (2009), *as* www.uspto.gov/web/patents/documents/inter_partes.pdf; COMM'R PATENTS, U.S. PATENT AND TRADEMARK OFFICE, EX PARTE FILING DATA – JUNE 30, 2009 (2009), *at* www.uspto.gov/web/patents/documents/ex_parte.pdf.

17 MATTHEW A. SMITH, *INTER PARTES* REEXAMINATION, 232-233 (1E ed. 2009).

pendency of *inter partes* reexaminations, costly litigation expenses might be deferred for several years.

Broadest Possible Claim Construction. During reexamination, the patent office construes unexpired patent claims by giving them their broadest possible construction.[18] In contrast, a court construes patent claims in light of the specification and prosecution history.[19] It is therefore more likely that a patent or publication may be found to invalidate an unexpired claim in reexamination than in litigation.[20]

Duty of Disclosure. During the course of reexamination, the patent owner has a duty to disclose any information material to the patentability of any pending claim.[21] This duty continues until the claim is cancelled or the reexamination certificate issues. Failure to comply with this duty can lead to charges of inequitable conduct in litigation by the defendant, which could render the patent unenforceable. No such duty applies to the third-party requester.

No Discovery. There is no discovery process in *inter partes* reexamination, as there is in litigation. Not only are the costs of complying with discovery avoided, there is no obligation to allow a patent owner access to an accused infringing device.

Expert Decisionmaker. The *inter partes* reexamination is conducted before a patent office examiner who is knowledgeable about the technical subject matter of the patent and, where possible, is not the original examiner of the patent application.[22] By contrast, decisions in patent litigation are made by judges and juries that usually have no such technical expertise and that may, by virtue of the plaintiff's strategic selection of venue, harbor bias against the defendant.

Intervening Rights. If claims are added or amended during reexamination to overcome a rejection, past damages may be extinguished and the doctrine of intervening rights may apply.[23] Stated simply, the doctrine allows a defendant to dispose of existing inventory, and gives a court power to fashion an equitable remedy, considering the extent to which the defendant relied on the originally issued patent. In some cases, the court may allow continued use of the patented invention under a compulsory license.

Favorable Decision Precludes Litigation. If the patent office issues a reexamination certificate cancelling a patent claim, that claim may not be enforced in subsequent litigation.[24]

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[18] The substantive review of prior art is the same in *inter partes* reexamination as in *ex parte* reexamination, which uses the "broadest possible construction" rule. U.S. PATENT AND TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE, §§ 2258, 2658 (8th ed., rev. 7 2008). For *ex parte* reexamination, this claim interpretation policy has been upheld by the Federal Circuit. *In re* Yamamoto, 740 F.2d 1569, 1572 (Fed. Cir. 1984).

[19] Phillips v. AWH Corp, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

[20] Compare the 60% patent "kill rate" of *inter partes* reexamination to the 33% in federal district court litigation. Kimberly A. Moore, *Judges, Juries, and Patent Cases – An Empirical Peek Inside the Black Box,* 99 MICH. L. REV. 365 (2000).

[21] 37 C.F.R. §§ 1.555, 1.933 (2008).

[22] U.S. PATENT AND TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE §§ 2636, 2655 (8th ed., rev. 7 2008). *See also* MATTHEW A. SMITH, *INTER PARTES* REEXAMINATION, 122-123 (1E ed. 2009) (describing the heightened qualifications of the examiner "supergroup" assigned to *inter partes* reexaminations since 2005 and the pre-mailing panel review process for reexamination office actions).

[23] 35 U.S.C. §§252, 316 (2006).

[24] *Id.* §§ 252, 316.

Reexamination will not resolve all patent litigations so as to make bankruptcy unnecessary, but its strategic use should be considered.

III. Practices to Limit Exposure to Trade Secret Litigation

When parties are considering joint development, there is often enormous pressure to close a deal quickly, without negotiating every detail of the relationship. Some of the perils that lurk in joint development involving trade secrets are illustrated by the *Luna Innovations* case, as reflected in publicly available court documents. A California jury found that Luna broke an agreement with Hansen Medical to help develop a robotic catheter.[25] It also found that Luna had misused trade secrets in negotiating an agreement with another company, Intuitive Surgical Inc. The jury awarded Hansen $36 million. The award consisted of $26 million in lost profits due to breach of contract, $10 million from unjust enrichment from the misappropriation of trade secrets, and $96,000 in actual damages from the breach of contract.

Court documents show that the companies signed a nondisclosure agreement (NDA) and a joint development agreement (JDA).[26] The JDA assigned intellectual property to Hansen and obligated Luna to file patent applications on technology that was developed. Technology that Luna developed prior to or independently of the agreement was excluded from the agreement. The agreement also provided Hansen a first right of refusal to an exclusive license of Luna's technology. However, the parties did not agree on what technology Luna had previously or independently developed, nor did they agree on what technology was included in the exclusive license option. In particular, the parties disagreed whether technology shared with Intuitive Surgical was developed by Luna prior to the agreement or whether it included Hansen trade secrets protected by the NDA.

Several points emerge from this case. First, the damages in this case were not limited to the actual damages of the breach of contract. The large size of the tort damages apparently was a factor that led Luna to seek bankruptcy protection. Second, lack of clarity in the terms of the NDA and JDA led to enormous liabilities from arguably routine business and technical activities of Luna's employees. The remainder of this paper reviews selected aspects of trade secret law and discusses contractual provisions and joint development practices that may reduce exposure to such liabilities.

1. Uniform Trade Secrets Act

The predominant forms of trade secret protection are state laws protecting certain types of confidential information from misappropriation.[27] Most states have adopted versions of the Uniform Trade Secrets Act (UTSA), a model law drafted by the National Conference of Commissioners on Uniform State Laws.[28] Specific provisions vary from state to state.

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[25] Verdict Form, Hansen Medical v. Luna Innovations, No. 1-07-CV-088551, 2009 WL 1226109 (Cal. Super. Ct. Apr. 21, 2009).

[26] Hansen's Trial Brief, Hansen Medical v. Luna Innovations, No. 1-07-CV-088551, 2009 WL 1346633 (Cal. Super. Ct. Apr. 21, 2009); Luna's Trial Brief, Hansen Medical v. Luna Innovations, No. 1-07-CV-088551, 2009 WL 1346639 (Cal. Super. Ct. Apr. 21, 2009).

[27] Protection is also available under the Economic Espionage Act of 1996, where violations may result in federal criminal prosecution, rather than civil litigation. 18 U.S.C. §§ 1831—1839 (2006).

[28] At this time thirty-eight states have adopted the 1985 version of the UTSA, eight have adopted the 1979 version, and two states have introduced UTSA legislation during the current session. The District of Columbia and the U.S. Virgin Islands have also adopted the 1985 UTSA. *See* Uniform Law Commissioners, A Few Facts About the Uniform Trade Secrets Act, *www.nccusl.org/Update/uniformact_factsheets/uniformacts-fs-utsa.asp* (last visited August 18, 2009). North Carolina adopted the 1979 version, but does not appear in the National Conference of Commissioners on Uniform State Laws list. *See* N.C. Gen. Stat. §§ 66-152 to 66-157 (2008).

The UTSA defines a trade secret as:

> Information, including a formula, pattern, compilation, program, device, method, technique, or process, that (i) derives independent economic value, actual or potential, from not being generally known to, and from not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy."[29]

Unlike a patent, there is no requirement that a trade secret be strictly novel or non-obvious. A trade secret need not even be technical information—it merely has to be information with economic value when maintained in secrecy.

The protection afforded by trade secret law is not absolute. If another party develops the trade secret independently, there is no protection. If the trade secret is discovered by reverse engineering, there is no protection. If reasonable efforts are not used to maintain secrecy, there is no protection.

Unlike patent or copyright law, there is no limit to the duration of protection. Protection continues for as long as the secret continues to have economic value and for as long as its secrecy continues to be maintained by reasonable efforts. Accordingly, there is not a requirement that the trade secret ever be disclosed or dedicated to the public, as there is in patent and copyright law.

The UTSA provides for both injunctive relief and award of damages to a prevailing plaintiff. A court may enjoin the use or disclosure of a trade secret or may, in exceptional circumstances, impose a compulsory license for continued use.[30] A court may also award damages for the actual loss and unjust enrichment caused by the misappropriation or may award retrospective royalties.[31] If the misappropriation is found to be willful and malicious, exemplary damages and attorney's fees may also be awarded.[32]

2. Misappropriation in Joint Development

The UTSA describes several types of activities that are actionable under the UTSA as misappropriation. The particular activity relevant to joint development is:

> disclosure or use of a trade secret of another without express or implied consent by a person who . . . at the time of disclosure or use knew or had reason to know that his knowledge of the trade secret was . . . acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use.[33]

In order to prevail, the plaintiff must show that a particular technology is a trade secret, that it was disclosed or used without consent, that the defendant had a duty to maintain its secrecy or limit its use, and that the defendant knew or should have known of this duty.

The NDA and JDA should establish the duty to maintain secrecy or limit use of a trade secret, and that the defendant knew or should have had knowledge of this duty. When drafting such agreements, several strategies may be used to limit liability:

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29 UNIF. TRADE SECRETS ACT § 1 (1985).

30 *Id.* § 2.

31 *Id.* § 3.

32 *Id.* §§ 2, 3.

33 *Id.* § 1.

Limit the Technical Field. Define the scope of technical information that is covered by the agreements. Take the time during negotiations to ensure that the field limitation is consistent with business strategy, because it might be impossible to change this after joint development has begun. For example, apparently, according to Hansen Medical, Luna Innovations attempted unsuccessfully to narrow the field covered by the NDA after the joint development had already commenced.

Limit the Personnel. Define the people that can receive technical information covered by the agreements. In some cases is might make sense to identify a single custodian through whom covered technical information must flow. Though it takes time, it is worthwhile to take steps to prevent information covered by the NDA from "poisoning" other business and technical efforts. In the *Luna Innovations* case, the same personnel apparently were working on projects with both Hansen Medical and Intuitive Surgical.

Limit Importation of Technology. Define which existing technologies are to be used and document their origins prior to commencing joint development. Define the mechanism for marking and communicating other existing or independently developed technologies that are later imported into the effort, so that their original development and their importation into the joint development are documented. Require that affirmative steps be taken in order to import technologies. In the *Luna Innovations* case, no such mechanism appears to have been in place.

Define Technology to be Developed. Define what technology is to be pursued by the joint development. Indicate in the agreement that other technology developed during the lifetime of the agreements is not part of the joint agreement, unless the agreements are modified. In the *Luna Innovations* case, for example, apparently there was not a shared understanding between the parties on how to classify contemporaneously developed technologies.

Limit the Duration. Agree on a time period or set of conditions that will terminate joint development. If further work is anticipated, be explicit about renegotiating terms for the next phase of work and ensuring that the scope of the agreements continue to be appropriate. In *Luna Innovations*, apparently, the initial agreement had no explicit endpoint, with the parties disagreeing whether it applied to work beyond an initial feasibility study.

Define Ownership and Rights at Termination. Define who will own jointly developed technology and what rights each party will have. In conjunction with a limited-term agreement, this provision allows both parties to make alternative plans should they choose to part ways.

IV. Concluding Remarks

This article presented some practices to help prevent or neutralize IP litigation that might send a company into bankruptcy. *Inter partes* examination of competitors' patents—which can be done before litigation starts or in conjunction with litigation—presents a lower cost alternative to litigation that is more favorable to a potential accused infringer. Careful negotiation of nondisclosure and joint development agreements can also reduce the exposure to crushing damage awards for trade secret misappropriation. Current news relating to nanotechnology companies suggests that these and other methods are increasingly important to business success.