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The Case for a New Kind of Lawyer: The Technology Construction Lawyer

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ABSTRACT

Two worlds, one project: Construction firms have "construction lawyers." Software companies have "computer lawyers." Because automation and manufacturing professionals deal in both worlds, a new type of lawyer—the "technology construction lawyer"—is needed who understands all of these areas. *Intellectual property:* Technology construction lawyers can assist automation and manufacturing professionals in how to best protect their intellectual property throughout a project and what to do if and when a project has problems. *Warranties:* Promises and statements made by automation and manufacturing professionals during marketing can lead to the creation of warranties, even if not specifically included in the contract. Technology companies should know how to recognize, preserve or avoid such warranties. *Specifications:* A unique problem in technology construction is deciding what a

system should do and then deciding when to STOP the decision-making process. *Changes and claims:* Both integrators—and end users—need to be ever vigilant in realizing when there has been a compensable change and how to preserve their right to a claim.

PAPER

I. INTRODUCTION -- WHAT IS TECHNOLOGY CONSTRUCTION LAW AND WHAT IS A TECHNOLOGY CONSTRUCTION LAWYER?

Companies that deal solely in the "sticks and bricks" of construction (e.g., builders, general contractors, developers, subcontractors, suppliers of materials) have "construction lawyers." These lawyers know about the various intricacies of construction law and can advise clients concerning issues that arise before, during, and after a traditional construction project. Likewise, computer software companies have "computer lawyers" who are familiar with the unique aspects of the law that relate to computers and computer programs (and usually with some knowledge of intellectual property issues).

Automation and manufacturing professionals, however, work in a realm that straddles the two worlds. A typical project involves "construction" in the traditional sense, but also significant aspects of technology and computers. As a consequence, there tends to be a void in the adequacy of the legal expertise that is available for both end users and automation integrators alike. In other words, as legal advice is sought, it is often the case that a traditional construction lawyer may be available, or a computer software lawyer, but rarely a lawyer with expertise in both areas. Perhaps the best reflection of this void is the way lawyers see themselves. The American Bar Association has divided its thousands of lawyers into multiple sections, including a Forum on the Construction Industry (traditional construction) and a Section of Science & Technology Law (which includes computer law), and each of these two sections is, in turn, subdivided into multiple "committees" devoted to subspecialties with ever-growing diversity. However, in neither section is there a committee or group that purports to address the unique legal needs of manufacturing and automation companies arising before, during or following a construction project.¹

The thesis of this paper is that a new type of lawyer—the "technology construction lawyer"—is needed to fill that void. Such a new legal discipline would combine aspects of construction and computer law into a single expertise that recognizes the unique challenges and issues that can arise when technology collides with traditional construction. The "crossover" issues to be discussed in this paper are the following:

- *Intellectual property.* Intellectual property is an issue that general contractors (and their lawyers) rarely need (or choose) to address in traditional construction projects. However, technology contractors, end users and their lawyers should appreciate the importance of intellectual property issues when contracting to provide or receive certain technological and/or integration services.

¹ Perhaps the closest that the ABA has moved in this direction is a committee within a third section—the Section of Intellectual Property Law. This committee, the Committee on Industrial Designs, is oriented toward "domestic and foreign protection of industrial design." However, this represents only a fragment of the legal challenges facing automation and process companies.

- *Warranties.* The nature of contracts involving automation and technology can create problems concerning express and implied warranties that typically do not arise in the traditional "sticks and bricks" construction project. A technology construction lawyer can help a technology contractor avoid creating the type of warranties that can later give rise to a significant claim. Similarly, a technology construction lawyer can advise an end user how to best ensure that it can receive and enforce the warranties that are most important to the project.
- *Specifications.* Specifications are also an area of heightened concern for technology contractors and end users, especially since technology is ever-changing and specifications for a project accordingly shift even more than with traditional construction specs. Technology contractors and end users (and their lawyers) should pay special attention to these issues.
- *Changes.* Changes in a project are inevitable, but technology contractors can face unique challenges in recognizing (and getting paid for) changes. A technology construction lawyer can provide counsel about the change order process and how best to preserve a potential claim.

Traditional construction lawyers could, of course, also provide advice about these and other issues that arise in the course of a construction project with significant technological components. However, the fact is that these lawyers do not regularly deal with these issues and therefore may not be fully aware of how these issues differ and/or take on increased significance in a project involving technology, automation and/or integration. Recognition of the "new" field of technology construction law will improve awareness of these issues among lawyers who have clients involved in these types of projects and create a new set of lawyers who can provide better advice and counsel to technology contractors and end users.

II. INTELLECTUAL PROPERTY ISSUES

While a traditional construction project can raise some issues concerning intellectual property, these are usually confined to the realm of architectural plans. Disputes arise concerning the ownership and use of plans, which may or may not be copyrighted. This can be particularly true in situations where an owner terminates an architect after receiving relatively inexpensive, but valuable, design and estimating services. For example, in one case,² an architectural firm had been retained to assist in the design and development of an assisted living facility. The original owner sold the project to the defendants in the litigation, who entered into a design-build contract with a third party that retained a different architectural firm. Even though the original architect's contracts with the first owner explicitly stated that the plans were not to be used by others to complete the project, the new owner did, in fact, borrow the original architect's plans, with some amendments. The court found various defendants involved on the project liable for copyright infringement. The architect in that situation had adequately protected its copyright and was able to recover for the use of its plans by others.

Although this case did not involve software or automation issues, its lessons are highly relevant to technology contractors and end users. Technology contractors often find themselves in

² *Nelson-Salabes, Inc. v. Morningside Dev., LLC*, 284 F.3d 505 (4th Cir. 2002).

situations similar to the original architect in that case. For example, a technology contractor may be retained not only to provide customized integration or automation, but it also may be required, as part of its contract, to create the detailed specifications that describe what is to be provided. This, by itself, is a valuable service and could create a work subject to copyright protection.³ A technology contractor, like the architect described above, should take care to ensure that its work cannot be used by others to complete a project or otherwise profit from the original work. An end user, on the other hand, may want to keep its options open and should carefully consider any restrictions to using a technology contractor's end product or interim work such as specifications.

Despite the fact that intellectual property concerns are *sometimes* a consideration in traditional construction projects, the truth is that few construction lawyers are equipped to address them. Nor are traditional construction lawyers inclined to have significant knowledge or insight into patent law issues, which although frequently impacted by what the parties do *following* a construction project are seldom necessarily implicated or addressed *before or during* construction. Who controls the patent, however, is not just important—it can be the whole ball game.

Generally, without any contractual provisions that say differently, the vendor who authors and/or invents software will own the copyright and patent rights.⁴ The contract will then often be construed as granting the owner or end user an implied, non-exclusive license to use the software for its own internal business.⁵ An owner, however, may want more than just a license in software for which it pays and, in many cases, helps develop; therefore, an owner will sometimes attempt to change the default rules so that it acquires some ownership rights to the software, program and/or method that the technology contractor develops.

Thus, the desirable features of a contractual provision relating to intellectual property rights depends on whether one is viewing the contract from the point of view of the owner or the technology contractor. As one commentator has pointed out, these two parties often have "two diametrically opposed objectives: (a) the vendor wishes to protect its intellectual property rights in the software that it develops while (b) the owner tends to believe that it should own what it has paid to develop."⁶

An technology contractor's ideal contractual provision would be to grant a non-exclusive license to the owner—but only in the event the technology contractor receives complete payment. This last part is important because there is law that illustrates how a party can have an implied license to use

³ Unlike a patent, which one must apply for, copyrights can be created automatically as a matter of law.

⁴ Richard, Diana and Michael K. Murphy, "*Frequently Litigated Computer Software Contract Clauses: Contract Drafting Advice for the Computer Lawyer*," 700 Practising Law Inst./Patents, Copyrights, Trademarks, and Literary Property Course Handbook Series, 33, 57 (2002).

⁵ *Id.*

⁶ *Id.* at 50-51.

copyrighted material even in the absence of payment.⁷ An owner may have reservations about such a provision, however, because it may leave the owner in a difficult situation in the event a technology contractor is terminated, whether with or without cause. Thus, a technology contractor may have to consider some alternatives to its ideal in order to reach a final deal and secure the business. One alternative could be to grant an owner a non-exclusive license, even if a technology contractor is terminated without cause, but only if the owner pays for work already completed, plus overhead and profit on work for which the technology contractor was to perform.⁸

An end user, on the other hand, will want provisions that ensure that it will be able to use whatever the technology contractor develops, especially if the technology contractor is terminated for cause. The end user or owner should also carefully consider whether it needs more than an implied license.

The importance of intellectual property protection has become even more heightened by a recent trend in patent law permitting the issuance of increasing numbers of patents for "business methods."⁹ While software that has been developed for a customer may not always qualify for a patent based on the software itself, the business method that is achieved by the customized automation or integration, or the unique use of a SCADA application, might constitute a valuable business method that could be patented.¹⁰ Thus, a developer or provider of software could lose valuable rights by granting patent rights to an owner because it could prevent the developer from independently creating a similar system for a different owner.¹¹ By contrast, an owner may want to prevent a technology contractor from using a method or system that an owner paid to develop, especially if used for a third party competitor.

Equally important for the technology contractor and owner is ensuring that a customized integration or automation system does not infringe any patents. While it may seem unlikely, many

⁷ See *Irwin v. American Interactive Media*, 1994 WL 394979, * 4 (C.D. Cal. Apr. 14, 1994) ("Plaintiff never told Defendants that failure to pay would be viewed as copyright infringement. Even though no money ever changed hands between these parties, a license may nonetheless be implied.").

⁸ This compromise would be similar to that reached by the new AIA Design-Build Contracts. See Quatman, G. William, "The AIA's New (And Improved) Design-Build Contracts," 25 SPG CONSTLAW 37, 37 (Spring 2005) for a more detailed discussion about some of the provisions of the new contracts.

⁹ See Richard, *supra* note 3, at 52.

¹⁰ As one commentator has noted, a "precise definition for business methods is elusive." Bagby, John W., "Business Method Patent Proliferation: Convergence of Transactional Analytics and Technical Scientifics," 56 BUS. LAW. 423, 439 (Nov. 2000). Proposed H.R. 5364 would have added a statutory definition of business method to patent law, but this did not ultimately become law. See *id.* at 441-42. The proposed definition of "business method" was:

- (1) a method of –
 - (A) administering, managing, or otherwise operating an enterprise or organization, including a technique used in doing or conducting business; or
 - (B) processing financial data;
- (2) any technique in athletics, instruction, or personal skills; and
- (3) any computer-assisted implementation of a method described in paragraph (1) or a technique described in paragraph (2).

H.R. 5364, 106th Cong., § 2 (2000), quoted in *Bagby*, 442, n. 111.

¹¹ Richard, *supra* note 3, at 53.

technology contractors and owners may not be aware that a newly-created system requested by the owner could ultimately create a business method that infringes on a patent already in existence. Indeed, it is likely that few technology contractors consider conducting a patent search prior to taking on a new project.

The bottom line is that intellectual property rights and protections cannot and should not be overlooked in the project contracting process. But the traditional construction lawyer rarely considers these issues—and the more intellectual-property-savvy computer lawyer is seldom aware of some of the unique considerations that should be taken into account in a project that involves traditional construction aspects. A technology construction lawyer can provide advice for both of these worlds and help ensure that all risks relating to intellectual property are understood and minimized as much as possible.

III. PROMISES, WARRANTIES AND DISCLAIMERS— THE TRAP FOR THE UNWARY TECHNOLOGY CONTRACTOR OR OWNER

Traditional construction contractors and subcontractors (and their lawyers) often do not have to concern themselves with inadvertently creating express or implied warranties because the extent of the work they are to perform is clearly set forth in contract specifications. The scope of a technology contractor's work, on the other hand, is often more fluid and may not even be finally determined until after a contract is signed. Moreover, technology contractors tend to have more discussions and negotiations with owners about the exact scope and nature of the work prior to a contract, and in this context, can often make promises about what it is they will be able to provide. Such promises can later become the basis for a legal claim against the technology contractor. An example of this situation is demonstrated in a recent New York case involving an automation project designed to modernize a distribution process.¹² In that case, the defendant contractor had responded to a request for information by stating that its software would meet the owner's needs. The owner later used this statement as a foundation for its legal claim against the contractor when the system did not meet the owner's needs.

As this and other cases demonstrate, a technology contractor must be especially careful about statements made during its "marketing" phase. This is especially true when a contract is governed by what is known as the Uniform Commercial Code ("UCC")—a set of laws adopted in nearly all states that addresses a variety of commercial business relationships. Depending on numerous circumstances, (a discussion of which goes beyond the scope of this paper) a technology contractor's agreement to provide custom integration or automation may or may not be governed by the UCC. But when such application does occur (and this is more likely in technology construction than in traditional construction) there can be problems.

Under the UCC, an express warranty is defined as "any information of fact or promise made by the seller" that relates to the good that forms a "part of the basis for the bargain."¹³ Thus, even sales literature and marketing presentations could fall under this category and constitute an express warranty, something that is not generally a concern for the traditional construction lawyer. Adding insult to injury, certain implied warranties are automatically created under the UCC.

Owners and end users, of course, want as many enforceable warranties as possible. Likewise, an end user may rely on a technology contractor's statements made during marketing and negotiations and believe that the technology contractor will deliver what has been promised. When governed by the UCC, however, contracts can disclaim or limit both express and implied warranties, a factor about which both technology contractors and end users should be aware. To effectively disclaim implied warranties, certain requirements must be met. Moreover, when a disclaimer is inconsistent with an express warranty, the express warranty will still be given effect, despite disclaimer language in the contract.¹⁴ In other words, any language that creates some promise within the contract, or within

¹² See *CooperVision, Inc. v. Intek Integration Technologies*, 794 N.Y.S.2d 812, 814 (N.Y. Sup. Ct. 2005).

¹³ UCC § 2-313(1)(a).

¹⁴ See, e.g., *Besicorp Group, Inc. v. Thermo Electron Corp.*, 981 F.Supp. 86, 97 (N.D.N.Y. 1997) ("[t]o the extent that the express warranties are inconsistent with the disclaimer the express warranties in the Agreement must be given effect despite any overlap with the disclaimer of any implied warranties.") (internal citations omitted).

specifications that become a part of the contract, will generally be considered a warranty even if the contract contains other language that attempts to expressly disclaim such warranties.

Even a promise or representation made outside of the contract can constitute an express warranty if it is a basis for the bargain. To limit the damage that can be done by pre-contract negotiations and promises, a technology contractor should take care to ensure that any contract includes what is known as a complete merger and integration clause. In general, such a clause states that the written contract between the parties constitutes the entire agreement between the parties, thus effectively limiting any claim that promises made prior to the contract are part of the contract. An owner, on the other hand, must recognize that when such clauses are included, care should be taken to ensure that the most important warranties and promises are specifically included in the contract.

Even an integration clause, however, may not be enough to protect a technology contractor if the written contract between the parties omits essential terms of the parties' agreement. In one case, for example, the agreement between the parties stated that it constituted the "entire agreement between the parties with respect to the products and services hereunder and supersedes all prior agreement, proposals, or understandings whether written or oral."¹⁵ The court found that despite this language, the agreement did not reflect the entire agreement between the parties because it omitted significant terms such as subject matter, price, product, services, etc.¹⁶ Thus, the lesson from this and similar cases is that in order to effectively disclaim warranties that may have been inadvertently created during marketing, negotiations, or otherwise, a technology contractor must take care to ensure that any written contract includes all necessary and complete terms of the agreement between the parties. A technology construction lawyer can provide advice and counsel with respect to this very important contractual issue.

Even when a technology contractor has carefully disclaimed all warranties other than what is expressly provided in a fully integrated contract, pre-contract negotiations can still result in potential liability. An owner may allege that representations made during negotiations caused a fraud in the inducement of the contract. A merger clause does not necessarily prevent such a claim because an allegation of fraud raises issues that are outside the contract and are, therefore, not limited by the contract's language.¹⁷ To establish fraud in most states, a plaintiff must show a misrepresentation or a material fraud made with knowledge or reckless disregard of the truth that induces another to act causing injury. Thus, fraud is significantly more difficult for a plaintiff to prove than a simple breach of contract or warranty claim, but when such allegations are raised, they can, at the very least, cause a technology contractor time and expense. The best way to avoid them is to limit representations that are made prior to contract and to educate salespeople and/or other personnel who are charged with the task of bringing in the business.

Both technology contractors and end users of the technology created by the contractor should carefully consider the numerous warranty issues that can arise in a construction project with technological aspects. Lawyers who advise such parties must similarly have knowledge about such

¹⁵ *L.S. Heath & Son, Inc. v. AT & T Info. Sys., Inc.*, 9 F.3d 561, 571 (7th Cir. 1993) (all caps in original).

¹⁶ *Id.*

¹⁷ *See Richard, supra* note 3, at 79.

warranty concerns, many of which are not normally a part of traditional construction projects. The new "breed" of technology construction lawyer will be uniquely qualified to provide such advice and address these issues.

IV. THE IMPORTANCE OF SPECIFICATIONS

Another important way for a technology contractor to limit warranties, or for an end user to ensure that a contract contains all necessary terms and warranties, is to pay careful attention to a contract's specifications. Specifications are, of course, important in all construction projects. In technology construction, however, specifications take on an even more important role and often involve a collaboration between the owner and technology contractor (or subcontractor). Collaboration is necessary because an owner must convey to the technology contractor the tasks and capabilities that it wants or needs from new automation or integration equipment but must often rely on the technology contractor to provide information and details about what *can* be done. For example, the owner of a new warehouse may want to integrate the data from a number of different assembly lines into one overall and comprehensive database. This same owner, however, may not have sufficient knowledge or personnel to write specifications that are detailed enough to fully describe what the new "system" is to entail. Thus, an owner will regularly rely on the technology contractor to "fill in the gaps" and provide more detailed information and specifications.

In such cases, it is especially important for the technology contractor to understand what the owner wants and expects and for the contract, at the very least, to include a clear and concise statement of what is expected. It is equally important for an owner to provide the technology contractor with understandable expectations and to ensure that the final specifications precisely state what the owner needs and expects.

Specifications are sometimes part of the contract, but they are also often one of the first project deliverables.¹⁸ Thus, a contract may obligate a technology contractor to ascertain the exact needs and requirements of the owner.¹⁹ In situations in which the technology contractor is expected to develop the specifications, the contract should provide for a clear process by which they will be approved and should require some type of good faith on the part of the owner in giving such approvals.²⁰ Additionally, the contract should recognize an obligation on the part to of the owner to provide whatever information is necessary for the technology contractor to create the specifications.²¹

¹⁸ See Westermeier, J.T., "Software Services and Maintenance Agreements: Fundamentals," 734 PLI/Pat 645, 662 (Jan. – March 2003).

¹⁹ Such was the case in one Ohio case, in which software provider was to first interview users in order to ascertain their needs and then incorporate their comments into one final document entitled the Functional Description. *See System Automation Corp. v. Ohio Dep't of Admin. Servs.*, 2003 WL 22097970 (Ohio Ct. Cl. Aug. 20, 2003).

²⁰ In one case, the court found that the owner's "duty to approve specifications without delay clearly was implied by the computer contract, which required that [contractor] complete all software within 150 days . . ." *H/R Stone, Inc. v. Phoenix Bus. Sys., Inc.*, 660 F.Supp. 351, 359 (S.D.N.Y. 1987). Better advice, however, would be to clearly set forth the owner's duties with respect to approvals within the contract, rather than relying on implied duties.

²¹ See Westermeir, *supra* note 17, at 663.

Settling on a final specification or description can be especially difficult in projects involving technology as a significant component because “the latest and greatest technology,” by definition, changes at a rapid pace. Owners, of course, will want the state-of-the-art, and a contract that does not provide a workable system for integrating advances that are made during the project may leave an owner with an outdated system. A technology contractor which provides the system, on the other hand, could be faced with a situation where a project will never end if the owner is allowed to continuously make changes to keep up with technology advances. The trick for the technology contractor is to convince an owner to make a decision about what it wants a system to do and then to *stop* the decision-making process. Having a process whereby *final* specifications are generated and approved can at least provide some mechanism for reducing the impact of this inherent problem. Given the nature of the beast, however, it is likely impossible to prevent changes to even final specifications. Therefore, it is essential that the contract provide that changes to the final specification will not be made unless subject to a change order by which a technology contractor will be compensated for not only extra work but also for any delay caused by the changes.

Another sometimes unique aspect of technology construction projects is the owner's involvement in completing the project. For example, in one Ohio case, the owner had assumed responsibility for data conversion in order to lower the cost of the project.²² Unfortunately for the owner, neither it nor its employees were qualified to perform this task which created significant delays for the contractor. The court found, therefore, that the owner had breached its contract. The important lesson from this case is that owners must be careful about assuming certain technological responsibilities and should ensure that they have the required capabilities when they do assume such responsibilities. For technology contractors, it is important that the various responsibilities for tasks necessary for completing a project be clearly outlined, especially when the owner is going to have significant responsibilities that could affect the technology contractor's work.

Because of the unique process by which final specifications are often completed, many traditional construction lawyers may not be aware of some of the issues that can arise concerning specifications in a construction project involving technology. A technology construction lawyer, however, can provide the best recommendations and advice about contractual provisions concerning specifications, particularly provisions that outline how final specifications are to be determined, who is responsible for various tasks, and how changes are to be made.

V. GETTING PAID FOR CHANGES.

Assuming that there is an orderly change order process (which there should be), manufacturers and the technology contractors that service them must still be vigilant in realizing when there has been a compensable change and how to follow the guidelines for addressing a prospective change order claim. In many construction contracts, the change order process can often be a trap for those unaware of what are often strict and short time limits. For example, in the general conditions of a typical American Institute of Architects (AIA) contract, the time limit for making a claim is 21 days and they must usually be made in writing. Often, a technology subcontractor will be bound by such general conditions and must be ever aware of these and other time limits.

²² *System Automation, supra* note 18, at *5.

The most difficult challenge for a technology contractor in meeting the time requirement is recognizing when there is a change that entitles a contractor to compensation. In a traditional construction project, changes are often not difficult to recognize, such as when an owner wants to add an extra room, extra lights, or upgrade the type of flooring to be used. When construction involves technology, however, the changes can often be less than clear. For example, the ever-changing nature of technology can create changes and extra costs that may not even be recognized until the project is completed. A programmer for a technology contractor may be asked by an owner to make a number of small changes or tweaks to a system that may not seem significant at the time. But, when these changes accumulate over time, a technology contractor may end a project wondering why the hours spent were so much more than originally planned. The key is to train employees who are actually doing the work to recognize when a request constitutes a compensable change and the process for making a request for a change order—an educational element in which the input of the technology construction lawyer can be key.

VI. CONCLUSION

Over the past century and into the current one, large construction projects have represented an ever-growing universe of legal complexity. In the second half of the 20th Century, the moment was reached where a specialized type of practitioner—the “construction lawyer”—separated herself from her commercial lawyer and contract-writing kin. Today, based on necessity, yet another division may be underway. As chemical, power, pharmaceutical and manufacturing facilities of all kinds are constructed with increasingly sophisticated technological components, a new kind of sub-specialty is beginning to emerge—the technology construction lawyer—representing a marriage of the “sticks and bricks” practicality of the construction lawyer with the scientific expertise of other legal disciplines.