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Contracts Bulletin #107 – Construction Contracting in "Cyberspace"

Moore's Law states that computing power has and will continue to double nearly every two years. [1] This explosion in computing power has resulted in amazing technological advances in the construction industry, such as the advent of building information modeling (BIM) projects that may require terabytes[2] of information. Undertaking projects of such size would have been unthinkable even just a few years ago, but because of the rapid growth and constant change in technology, these types of projects are now realistic.

The legal system, on the other hand, is comparatively static; rarely changing and slow to address fast evolving issues. As a result, technology has far outstripped the law, and construction contracting is unsettled. This lag between technology and the law has created an uncertainty, especially when contracting electronically. Now, it is more important than ever for the contract itself to address issues arising from the use of technology.

It is essential that parties understand the contractual implications of electronic communications during the life of the project. More specifically, parties need to establish a contractual framework for defining their responsibilities and obligations when using electronic communications. This Contracts Bulletin will provide a broad overview of three distinct form contract approaches to dealing with electronic communications, indicate how they are different, and give some practical ideas on how contractors can successfully navigate construction contacting in cyberspace. [3]

Benefits and Hazards of Electronic Contracting and Communications

E–mails can result in instant and binding contracts. [4] Contracts can be made at the click of a mouse, regardless of time zones, oceans, and borders. This has made contracting quicker and more efficient. The ease of electronic communication has "flattened" the world[5] of contracting. Parties to a contract can now:

- Develop and swap designs using BIM;
- securely and quickly exchange project data;
- exchange project information while engaging in instant messaging and video or audio chat over the internet;
- share video and photographs of the project as it progresses; and
- modify project plans, blueprints, and records online.

With the ease and efficiency of electronic contracting also comes the risk that contracts may be entered into inadvertently. Parties must now pay scrupulous attention to the substance of their emails. Also, with the benefits also comes uncertainty:

- Is the electronic information safe from unilateral changes and modifications?

- What liability can stem from the transmittal of inaccurate information?
- How do parties navigate the complex technological infrastructure?
- Will all electronic communications have a binding effect on the contract?
- How should electronic communication be addressed in the contract itself?

Understanding the issues which need to be addressed and the challenges of electronic contracting is the first step in ensuring that the pitfalls of this brave new world of electronic contracting in cyberspace are avoided.

Different Approaches to Dealing with Electronic Communications

Currently, there are three industry groups developing form contract documents that attempt to address the uncertainties involved with electronic communications in construction contracts: (1) the Engineers Joint Contract Documents Committee (EJCDC); (2) the ConsensusDOCS 200.2 (2007) Electronic Communications Protocol Addendum; and (3) the American Institute of Architects' (AIA) C106–2007 Digital Data Licensing Agreement, and E201–2007 Digital Data Protocol Exhibit.

The EJCDC: A Skeptical Approach to Electronic Communications

The EJCDC takes a skeptical approach to the reliability of electronic communication. This skepticism stems from the fear of liability that may result from: (1) the use of data that was exchanged during transmittal; and/or (2) the use of data in an unintended manner. This skepticism is easily identifiable by examining the EJCDC's treatment of electronic communication.

First, under the terms of an EJCDC form contract, unless changed by the parties, the "data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies [also known as the hard copies]. . . . Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk." See Engineers Joint Contract Documents Committee, §3.06 Electric Data, Standard General Conditions of the Construction Contract, C–700 (2007). All electronic communications are for convenience purposes only, and if there is a discrepancy between the hard copy and the electronic communication, the hard copy will trump. Id.

Second, "[b]ecause data stored in electronic media format can deteriorate or be modified inadvertently . . . or without authorization, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred." Id.

Third, "when transferring data in electronic media format, the transferring party makes no representation as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator." Id.

While the EJCDC's approach may remedy any underlying skepticism involving the safety, reliability, and accuracy of electronic communication, it also acts to undermine the very benefits and efficiency provided by electronic communications.

The ConsensusDOCS Electronic Communications Protocol Addendum: A New Way of Approaching Electronic Communications

The ConsensusDOCS Electronic Communication Protocol Addendum ("ECP Addendum") utilizes a checklist in order to create an electronic communications protocol that will be used throughout the life of the project. Typically, three representatives, one designated by the owner, one by the architect, and one by the contractor, are given the primary responsibility of developing the ECP Addendum. The ECP Addendum

must, at minimum, address seven different criteria: (1) the identity of the parties; (2) the identity of the information technology administrators; (3) the system parameters to be used in the exchange of electronic information; (4) the types of contract documents to be exchanged electronically and which are to be considered binding; (5) the process for compiling and archiving project records and data; (6) version and revision control and the method for recording changes and modifications; and (7) the parties' responsibility for compliance. See Ashcroft & Hurtado, Developing Meaningful Contract Terms, 29(2) THE CONSTRUCTION LAWYER at 7−8.

An example of how a ConsensusDocs contract provision may address electronic communications may be illustrative. The new ConsensusDocs 752 contract to be used on federal government construction projects has the following provision:

> 2.3.1 ELECTRONIC DOCUMENTS If the Prime Contract requires that the Owner, Contractor and Subcontractors exchange documents and data in electronic or digital form, prior to any such exchange, the Prime Contract may contain a written protocol governing all exchanges of data, which, at a minimum, shall specify: (1) the definition of documents and data to be accepted in electronic or digital form or to be transmitted electronically or digitally; (2) management and coordination responsibilities; (3) necessary equipment, software and services; (4) acceptable formats, transmission methods and verification procedures; (5) methods for maintaining version control; (6) privacy and security requirements; and (7) storage and retrieval requirements. The Subcontractor shall provide whatever input is needed to assist the Contractor in complying with the protocol and shall be bound by the requirements of the written protocol. Except as otherwise agreed to by the Parties in writing, the Parties shall each bear their own costs as identified in the protocol. In the absence of a written protocol, use of documents and data in electronic or digital form shall be at the sole risk of the recipient.

With the ConsensusDOCS, any party can take the lead on IT management, or it can be outsourced to an IT consultant hired by any party. See ECP Addendum § 3.1. The IT management responsibilities can shift as the project progresses to the party that is best equipped to handle such responsibilities or that feels the most comfortable doing so. The ConsensusDocs also recommends the use of an IT administrator or IT coordinator to handle technology issues that occur during the life of the project. This may be especially helpful to parties who are not fully comfortable handling such technological issues themselves.

One benefit of the ConsensusDOCS approach is that it allows parties to determine which electronic communications will be considered binding (for example, e−mails acting as binding change orders), and which type of documents will be solely communicated through electronic means (for example, requests for information). Id. at § 5.0.

Thus, the ConsensusDOCS approach seemingly addresses the EJCDC's concern with the reliability of technology by allowing parties to specifically identify those actions and documents that will be binding. Furthermore, the ConsensusDOCS approach encourages the use of electronic communications by creating a waiver of liability for those parties that conform to the system parameters. Thus, if a party does not conform to the system parameters, and sends or transmits a file which corrupts the other party's system (hardware and software included), then the sending party will be liable for the harm which flows from the transaction (for example, the sending party may be responsible for the cost of replacing the other parties' corrupted system). Id. at § 8.2. Additionally, each party remains responsible for the substantive information it transmits through electronic means, regardless of whether or not they conform to the system parameters. Id. at § 8.3. If a party transmits data that is inaccurate, or defective, which harms another party, the sending party may be held liable.

The AIA Electronic Communications Documents: A Flexible Approach for the Technologically Sophisticated

The AIA electronic communication documents consist of: (1) a Digital Data Protocol Exhibit (DDPE) dealing with the transmission of electronic information[6]; and (2) a Digital Data Licensing Agreement (DDLA) dealing with intellectual property. [7] The DDPE and the DDLA are two separate, but connected, documents. The DDPE, while not granting any right to use information, lays out exactly how information should be exchanged by the parties. The key feature of the DDPE is a matrix that details, by document type, the type of communication to be used, the method of transmission to be used, who transmits the information, who should receive the information, and what the information can be used for. This matrix is meant to act as a flexible and usable go–to guide during the life of the project regarding the parameters under which electronic communications can take place. [8] The DDLA operates to preserve confidentiality, grant non–exclusive rights to use transmitted data for the project, and protects ownership of each party's created data.

The AIA approach differs from the ConsensusDOCS approach in several important ways. First, unlike the ConsensusDOCS, the AIA explicitly addresses the use of protected data, through licensing. The DDLA provides for indemnification for modification or unlicensed use of the other parties information and data. Second, unlike the ConsensusDOCS, the AIA does not force the parties to choose what kind of documents can be transmitted electronically, and which can be relied on. Rather, the AIA approach mandates that the parties decide who has the ability receive the information, and how that information can be used. Information and data can therefore be relied upon as long as it is being used for an agreed upon purpose. Third, the AIA, in contrast to the ConsensusDOCS approach, does not mandate specific IT requirements. [9]

The AIA approach gives enormous deference to the parties' own IT professionals to determine what hardware and software should be used by the parties on a specific project. If the parties have certain hardware or software they are comfortable and familiar with, the AIA provides for the flexibility for the parties to choose to use it. Thus, the AIA approach may be better suited for parties that have some level of technological sophistication.

Practical Implications

Electronic communications will differ depending on the project and the parties involved. While some parties may prefer the checklist used by ConsensusDocs to guide them through electronic communications in contracts, others may prefer the flexible approach taken by the AIA which gives more deference to IT professionals. There may also still be parties who are not at all comfortable with electronic communications, and will gravitate to the skeptical approach taken by the EJCDC. Even though best practices regarding electronic communication are still evolving, the AIA, the ConsensusDocs, and the EJCDC provide three distinct approaches to choose from depending on comfort levels and technological sophistication. Parties need to find an approach that works best for them. Contractors should not feel constrained to a specific approach, as mixing and matching certain elements of the different approaches may yield the most effective and efficient results.

Unfortunately, because of the relatively slow speed at which the law moves and develops, by the time it addresses current issues of electronic construction contracting, technology will have evolved yet again. The stark reality is that the law cannot possibly keep up with every new issue arising from advancements in technology. Therefore, it is more important than ever for contractors to establish contractual protocols for dealing with electronic communications – if not, they may find themselves lost in (cyber)space.

SMACNA wants the Contracts Bulletin to serve our members. Your feedback or topic suggestions are welcomed by Mike McCullion at 703–995–4027, or mmccullion@smacna.org.

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[1] In a 1965 article, the co–founder of Intel, Gordon E. Moore, correctly predicted a doubling of computing power every two years.

[2] One terabyte equals one thousand gigabytes or one million megabytes of data.

[3] For an in depth examination of electronic communications in construction contracting, see Howard W. Ashcroft & Kimberly A. Hurtado, Developing Meaningful Contract Terms for Electronic Communications on Construction Projects, 29(2) THE CONSTRUCTION LAWYER 5–14 (Spring 2009).

[4] See SMACNA Contracts Bulletin No. 93 – E–mail: When "You've Got Mail" Means "You've Got a Deal!"

[5] For an in–depth discussion, see T. Friedman, The World Is Flat: A Brief History of the Twenty–First Century (2007).

[6] AIA Document C106–2007, Digital Data Licensing Agreement

[7] AIA Document E201–2007, Digital Data Protocol Exhibit

[8] Commentators on this issue suggest that the "single sheet could be blown up and placed in a project trailer, provided to subcontractors or subconsultants, or kept in the principal parties' offices as an immediate reference for how electronic communications should occur." Ashcroft & Hurtado, Developing Meaningful Contract Terms, 29(2) THE CONSTRUCTION LAWYER at 13.

[9] See generally Ashcroft & Hurtado, Developing Meaningful Contract Terms, 29(2) THE CONSTRUCTION LAWYER at 11–13.

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