

UNDERCONSTRUCTION

Despite Clear Benefits, the Construction Industry is Slow to Integrate Unmanned Aerial Vehicles into Projects

Chloe Mickel

Unmanned aerial vehicles (UAVs), commonly referred to as “drones,” are rapidly emerging as one of the most versatile technologies of the future. In a world where Amazon promises to deliver packages to your doorstep in under 30 minutes¹ and UAVs glide effortlessly across vineyards in the Sonoma Valley, inspecting the latest crop for pests,² the excitement about UAV technology is warranted.

There are numerous ways in which UAVs can be integrated into construction projects. For instance, UAVs can conduct site surveys and produce 3D models which can be used to create interactive maps of job sites.³ These interactive maps provide owners with a concrete means of measuring job progress and anticipating delays.⁴ At the sight of the new Sacramento Kings stadium in California, UAVs are utilizing cutting-edge technology developed at the University of Illinois to monitor worker progress and highlight parts of the project that may be falling behind schedule.⁵ After a project is completed, UAVs can be used to capture aerial marketing footage for use in business development materials.⁶ As UAV technology advances and gains popularity, some engineers envision a world where UAVs will work alongside people on construction sites, carrying cargo or even assisting with the simple construction tasks such as laying bricks.⁷

Despite the potential for using UAVs on construction sites, the construction industry has been slow to adapt. According to Frank Galella of Next Generation Aviation, LLC, a New Jersey based commercial UAV company, the industry is still in its infancy phase in terms of its utilization of UAV technology.⁸ Instead, many jobsites continue to be monitored by stationary cameras.⁹ These cameras do not provide a site-wide perspective, making progress documentation much more difficult.¹⁰ In addition, Galella points out that many project owners are opting to continue dangerous jobsite practices such as suspending workers from structures by harness or utilizing cranes.¹¹ It is much safer and more efficient to utilize UAVs for the inspection of vertical and hard-to-access structures.

I. A Barrier to Integration: The Uncertain State and Federal Legal Landscape

One of the barriers to integrating UAVs into construction projects is uncertainty about the laws regulating UAV use. As of November of 2015, twenty state legislatures have enacted laws which are targeted at a variety of UAV issues.¹² Some of the laws, such as Arkansas HB 1349 and California AB 856, prohibit the collection of photographic images or recordings without permission.¹³ In Louisiana, SB 183 regulates the use of UAVs in commercial agricultural operations,¹⁴ and Michigan, New Hampshire, Oregon and West Virginia prohibit the use of UAVs for hunting and

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trapping.¹⁵ None of the state laws currently enacted regulate or prohibit commercial UAV use on public or private construction sites.

In terms of federal regulation, the Federal Aviation Administration (FAA) has a series of stringent requirements for all commercial UAV operators which begin with successfully obtaining a permit to operate under Section 333 of the FAA Modernization Reform Act of 2012.¹⁶ Commercial operators are also required to obtain a Certificate of Waiver or Authorization which allows an operator to use a defined block of airspace and includes safety provisions which are unique to the proposed operation.¹⁷ The FAA also mandates that the UAV be registered and that it be commanded by a certified pilot.¹⁸

It is important to note that federal law governing UAV registration is presently in flux. Critics argue that the approval process takes too long and is too rigorous, thereby providing an unfair competitive advantage to companies that have already obtained approval. On October 22, 2015, the FAA created a task force to explore ways to streamline the registration process in order to ease the burden associated with the current requirements.¹⁹ Thus far, the task force's recommendations have focused on recreational uses, but commercial operators are hopeful that the registration process for commercial UAVs will become less burdensome in the future.

II. Case Study: Passaic Valley Water Storage Tanks

The Passaic Valley Water Commission (PVWC) is a publically owned water purveyor which owns and maintains three water reservoirs in New Jersey; Great Notch Reservoir, New Street Reservoir, and Levine Reservoir.²⁰ The PVWC supplies drinking water to approximately 800,000 people in five counties with a demand of nearly 80 million gallons per day.²¹ For local residents, the reservoirs provide more than just drinking water. They are a natural refuge for wild animals such as deer and ducks an otherwise bustling part of the state.²²

Although this sounds like a serene setting, consider the fact that each of these open reservoirs is holding "finished water." According to the United States Environmental Protection Agency (USEPA), finished water is "water that has been treated and is ready to be delivered to customers."²³ In other words, the reservoirs are holding water that has already been treated at its source and is now awaiting delivery to customers.

In 2009, the New Jersey Department of Environmental Protection (NJDEP) ordered the PVWC to bring the reservoirs into compliance with the applicable NJDEP regulations and the USEPA regulations for finished water storage.²⁴ Given the open nature of the reservoirs, the most immediate concern for the PVWC is the USEPA's Long Term 2 Enhanced Surface Water Treatment Rule (LT2 Rule).²⁵ The LT2 Rule seeks to reduce illness linked to parasites that are spread when animals such as ducks and geese defecate in water that is consumed by

humans.²⁶ To prevent the spread of disease-causing microorganisms, the LT2 Rule mandates that all uncovered finished water reservoirs be covered or treated to remove contaminants before delivery.²⁷

In response to the NJDEP's administrative order, PVWC conducted a feasibility study to determine alternatives for each reservoir site.²⁸ Many factors had to be considered in determining the various pathways to regulatory compliance, including power capabilities, minimum storage requirements, construction costs, the presence of archeological resources in the reservoirs, and the location of the reservoirs in areas designated as environmentally and historically sensitive.²⁹ Ultimately, the PVWC determined that the best option for bringing the water system into compliance with the applicable regulations was to drain all three reservoirs and construct six concrete water storage tanks.³⁰

The PVWC's plan was met with nothing short of public outrage.³¹ Residents and non-profit organizations complained about destruction of the natural landscape and wildlife safety.³² Critics also expressed concerns about the aesthetics of the water storage tanks and the resulting impact on adjacent property values.³³ The controversy-raising project continued to face major opposition and, as a result, the NJDEP relaxed its order to give the PVWC time to gather additional public input and reassess the plan to drain the reservoirs.³⁴

Enter Joseph Getz, a public outreach consultant from JGSC Group, who was hired to oversee a series of public forums and an educational campaign about the project.³⁵ With so much speculation about the aesthetic impact of the water storage tanks and whether they would be visible from surrounding homes and historic parks, Getz recognized the value that UAV's could bring to the project.³⁶

First, Getz and his team elevated orange weather balloons to the height of the proposed water storage tank at the Levine Reservoir.³⁷ Next, a camera that was calibrated to provide an image that mimicked the unaided human eye was attached to a UAV.³⁸ Then video footage was recorded at 11 different vantage points in the area surrounding the reservoir.³⁹ Finally, the UAV video footage was posted on the PVWC's educational website as part of an interactive map for residents.⁴⁰

Surprisingly, after over a year of public uproar regarding the visual impact of the water tank project, the weather balloons were only visible from 1 of the 11 locations.⁴¹ In short, the majority of the objectors who were opposed to the project based on its aesthetics would not be able to see the water storage tanks from their property or from the majority of the surrounding area.

According to Getz, the public attitude toward the project has changed remarkably as a result of the UAV video footage.⁴² As of November 24, 2015, approximately 4,700 local residents have completed an online

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It's Been Forty Years — Reach Out and Touch Someone

William M. Hill

I'll admit it, if you are reduced to reading this column, you are probably already hooked on the Forum on Construction Law. But there was once a time when you weren't.

After forty years of success, the Forum has figured out something that is eluding thousands of membership organizations around the country in a digital age: attracting and retaining loyal members. And for as long as I've been paying attention, the statistics have been pretty remarkable: the Forum is consistently the leader, or among the leaders, of the ABA's 30 or so Sections or Forums in retaining overall membership. Experts agree: in an electronic age where so much is available online, there is a declining population of "joiners." But with a combination of loyal past members and new ones, the Forum is bucking this trend. Surprised? You shouldn't be. You've helped make it happen.

Three times a year, some of the best construction lawyers in the country are getting a chance to learn from one another in fun places with fun people. Webinars on cutting edge topics are bringing CLE to construction lawyers and firms without an airline ticket. Regional meetings in cities near you bring excellent and affordable construction CLE on topics that are specifically geared to newer construction lawyers. Outstanding legal periodicals and volumes keep our readers current on developments in construction law. In the 21st century digital age, a nifty new App, a web-based membership directory, a searchable knowledge database, and a full display of Forum talent and thought leadership are all combining to keep us relevant on

things that have names that once sounded wacky: like Facebook, LinkedIn and Twitter. It would sound like science fiction to the Forum's founders. But the common Forum denominator to all these things is timeless: *Making construction lawyers better at what they do.*

Somewhere along the line, you got involved in the Forum. Do you remember how? I've heard what seems like hundreds of stories. Almost all of them start with a connection one of you made with another Forum member or a fun Forum experience that made you think: "I should give this Forum thing a try." And you did. It's also astounding how many of you are "paying it forward" by reaching out to others you may know and getting them involved in the Forum. We have hundreds of talented volunteers to show for it. They help thousands of lawyers and professionals in dozens of ways. It's simple: getting new and talented people into the Forum has been a key to our success.

I would be willing to make a bet. In your office, city or circle of professional colleagues, you know a talented construction lawyer or professional who could benefit from the Forum. And that person could help other Forum members get better -- maybe not right away, but sometime in the future. But we don't need to wait another forty years. Go ahead, make your day: reach out and touch someone. ■



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R. Thomas Dunn

The Forum's 40 year tradition of building the best construction lawyers is founded upon its fourteen divisions. The divisions provide us with opportunities to collaborate in shared areas of interest, to develop an invaluable network, and to share our expertise with the Forum's 6,000 members through its publications and programs. I have a challenge for the Chairs, Steering Committee Members, and Members of the Divisions — **submit an article for each edition of *Under Construction*!**

The three editions of *Under Construction* are published in March, August, and November. **For the August edition, submit your article(s) by May 1, 2016.** If you want to discuss article concepts or have questions,

please contact us. Be creative! Substantive articles, practice pointers, notable case summaries, and Member/Division features will all be considered. We will report the results of this challenge in an upcoming edition. As an extra incentive, the Forum posts all #ABAUnderConstruction articles on social media. Follow the Forum on social media on Twitter (@ABAConstruction), Facebook (facebook.com/ABAConstruction), and LinkedIn. ■



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Amendments to the Federal Rules of Civil Procedure and E-Discovery

B. Michael Clark Jr.

Effective December 1, 2015, Federal Rules of Civil Procedure 16, 26 and 37 were amended, effecting litigants' obligations with respect to E-Discovery. In a recent survey of Forum members conducted for purposes of this article, 80% of respondents stated that they were familiar with the amendments. A brief summary of the amendments follows:

Rule 16

The Amendment to Rule 16 provides that the preservation of electronically stored information ("ESI") may be included in the Rule 16 Scheduling Order. Given the ever increasing trend of "paper-less" business, the amendment is sensible, as the days of "paper" discovery come to a close.

Rule 26

Rule 26 as amended, expressly provides a substantial proportionality component to the scope of discovery. The amendment provides:

Parties may obtain discovery regarding any non-privileged matter that is relevant to any party's claim or defense and proportional to the needs of the case, considering the importance of the issues at stake in the action, the amount in controversy, the parties' relative access to relevant information, the parties' resources, the importance of the discovery in resolving the issues, and whether the burden or expense of the proposed discovery outweighs its likely benefit. Information within this scope of discovery need not be admissible in evidence to be discoverable.

Some believe that proportionality had been effectively established in the 1983 Amendment to Rule 26. Nearly 25% of our survey respondents do not believe that the amendment providing a substantial proportionality component to the scope of discovery represents a meaningful change to the previous law. Indeed, the 1983 Advisory Committee amended Rule 26 to avoid discovery abuse, delay, and the utilization of discovery as a tactical weapon instead of a fact finding tool. The 1983 Committee Notes state, in pertinent part, "The elements of Rule 26(b)(1)(iii) address the problem of discovery that is disproportionate to the individual lawsuit as measured by such matters as its nature and complexity, the importance of the issues at stake in a case seeking damages, the limitations on a financially weak litigant to withstand extensive

opposition to a discovery program or to respond to discovery requests, and the significance of the substantive issues, as measured in philosophic, social, or institutional terms."

In drafting this most recent Amendment, the 2015 Advisory Committee noted that the effects of the 1983 Amendment may have been inadvertently softened by the 1993 Amendments. In their Notes, the Committee provided clarification and guidance to attorneys, which we would all be well to heed:

Restoring the proportionality calculation to Rule 26(b)(1) does not change the existing responsibilities of the court and the parties to consider proportionality, and the change does not place on the party seeking discovery the burden of addressing all proportionality considerations.

Nor is the change intended to permit the opposing party to refuse discovery simply by making a boilerplate objection that it is not proportional. The parties and the court have a collective responsibility to consider the proportionality of all discovery and consider it in resolving discovery disputes.

Rule 37

Rule 37(e) as amended, provides direction to the Trial Court pertaining to the imposition of sanctions in the event that ESI that should have been preserved in the anticipation or conduct of litigation is lost because a party failed to take reasonable steps to preserve it. If the ESI cannot be restored or replaced through additional discovery the court upon finding prejudice may order measures to cure the prejudice; or upon finding that the offending party intended to deprive another party of the information may (a) presume the lost information was unfavorable, (b) instruct the jury that it may or must presume the information was unfavorable, or (c) dismiss the action or enter a default judgment.

Of our survey respondents, more than 76% believe that the sanctions contemplated by the rule, as amended, are appropriate. The lesson to be learned is that collection and maintenance of ESI must be diligently overseen, as the consequences of lost ESI are potentially grave.

An Advocate's Role in the Preservation of ESI

The 2015 Amendments dictate that counsel familiarize itself with their client's information preservation systems. The only way to truly know whether a client is

appropriately safe-guarding their ESI in the face of potential or ongoing litigation is to learn how the client manages, stores and maintains their electronic files and emails. If, for instance, emails are not centrally archived on a server, it is imperative that the individuals who possess discoverable emails maintain those stored on their computer. Otherwise, upon purchasing a new computer and disposing of the old, ESI may be lost, and the potential for sanctions is realized.

The 2015 Committee notes, however, that Rule 37(e) will not be triggered in the event that information is lost despite reasonable steps to preserve it. The Rule does not require perfection. Similarly, a party will not be subject to sanctions in the event that information is lost due to forces outside of its control.

Given the Rule's express direction of measures to be employed by a Court in the event that ESI is lost, it is imperative that we, as lawyers, understand our client's ESI management and retention policies. Further, inquiries need be made when litigation is anticipated, not during the Rule 16 conference or upon complying with Rule 26.

Learn to Cooperate in the Discovery of ESI

One federal district court described "the overriding theme" of the 2006 FRCP e-discovery rule amendments as the "open and forthright sharing of information by all parties to a case with the aim of expediting case progress, minimizing burden and expense, and removing contentiousness as much as practicable." *University of Neb. v. BASF Corp.*, 2007 WL 3342423 (D. Neb. 2007). While the 2006 amendments may have been aimed at maximizing cooperation and removing contentiousness, the 2015 amendments recognize that such a noble goal may not be attainable, and clarifies the framework in which a court and the parties should cooperate in exchanging ESI and the ramifications of a party's negligent or intentional failure to preserve information relevant to the case.

Technology

The exponential advances in technology, the continuing digitization of business and construction and the new rules, suggest that there will be more, not less ESI to be preserved, gathered and exchanged during litigation. There are various technological tools which may be used as a tool to produce relevant information.

Optical Character Recognition ("OCR") technology is fairly established and commonly utilized. OCR is the process by which a computer converts typed, handwritten or printed text into machine encoded text which is then searchable. Thus, once thousands, tens of thousands, or even hundreds of thousands of pages of documents are OCR'd, they can be searched for specific words, combinations of words or even words which simply fall within a designated number of words of another specifically identified word.

Many, including this author, are uncomfortable with even this basic method of technology assisted review. What happens if a key document is handwritten by someone whose handwriting is poor and not capable of being recognized by the computer? It seems that the only way to avoid that situation is to identify and review all handwritten documents. In that event, some of the time savings enjoyed by utilizing OCR is lost.

Once the ESI is collected, one must determine how it is to be reviewed. There are assorted document review platforms which allow the documents to be stored, organized, "tagged" by issue, "coded", redacted, produced and otherwise managed. Some document review platforms accept processed documents which results in the pre-population of fields identifying author, recipient, date, subject (if an email), version, document type and location where the document was maintained. This tool can be extremely helpful in limiting the population of documents which you are reviewing if, for example, your client is certain that a specific individual wrote an email, but is having a difficult time locating it.

Finally, a recent, and likely for some, more intimidating means of technology assisted review is Predictive Coding. Predictive Coding involves a knowledgeable attorney reviewing "seed" documents and identifying them as responsive or non-responsive. Based upon those documents, the software culls through the remaining documents and identifies other responsive or non-responsive document. In order to establish a statistically reliable search, there needs to be a significant number of seed documents. Thus, Predictive Coding is likely not the appropriate tool unless there are an extremely large quantity of documents.

Many attorneys are resistant to the role of technology in litigation. Of our survey respondents only 23% regularly utilize Technology Assisted Review in their practice. However, it is undeniable that technology is here to stay. In order to provide clients with the most effective and efficient counsel, it is imperative that technological innovations are identified and learned. Similarly, Courts are accepting the utilization of Technology Assisted Review, including Predictive Coding. In March 2015, a decision was issued out of the Southern District of New York approving the use of Predictive Coding. *Rio Tinto PLC v. Vale S.A.*, 2015 WL 872294 (S.D.N.Y. Mar. 2, 2015). *Rio Tinto* is an excellent read for those who wish to learn more about the utilization of technology in discovery and take a glimpse of the future of litigation, which is now. ■



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survey related to the UAV video footage results, expressing overwhelming support for the construction of the water storage tanks.⁴³ Without the UAV video footage, speculation about the aesthetics of the PVWC project would continue to be a divisive issue.

III. Send in the Drones: Best Practices for Integrating UAVs into Construction Projects

UAVs are here to stay and they will only become more prevalent in the construction industry. Construction attorneys should keep the following best practices in mind when working with clients on projects integrating UAVs:

1. Confirm that the commercial UAV operator has obtained a Section 333 exemption from the FAA. This information is available to the public on the FAA website. Commercial operators without FAA authorization cannot lawfully operate drones for commercial purposes.
2. Encourage your client to vet both the UAV pilot and the UAV company to determine if they are a good fit. Your client should go in with a clear understanding of its goals and ensure that the company has the expertise and equipment to deliver the final product the client is seeking.
3. Review the commercial operator's insurance policy to determine exposure if there is an accident on the jobsite. Some clients may find that carrying their own insurance protection makes sense as part of its larger risk management plan.
4. Stay abreast of the evolving State and Federal laws regulating commercial UAV use. The FAA is expected to publish new guidelines for commercial UAV usage in June of 2016.⁴⁴ ■



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festive, growing city of Nashville, home to the Grand Ole Opry and the Country Music Hall of Fame, is the perfect place to mark this incredible occasion.

Throughout the past 40 years, the Forum has prided itself on building the best construction lawyers in the industry. This has been achieved by providing outstanding seminars, excellent books and periodicals and cutting-edge leadership on legal issues affecting the construction industry. We can think of no better way to commemorate the Forum's 40th anniversary than by highlighting its wealth of knowledge and rich history.

Since we are in the Music City, we assembled a program of the Forum's "Greatest Hits." The meeting will welcome back many of our most popular past programs and presenters to reprise their presentations with new and interesting updates. These include the Ethics of Social Media, Risk Management and Insurance Coverage Issues, Payment-Related Provisions, the Inside/Outside Counsel Relationship, an Analysis of the AIA A201 General Conditions and Defective Work, Effective Litigation.

We also added some "bonus tracks"—programs that have not yet been seen before, but that honor the

top-notch programming for which the Forum is known. The program will kick off with a session examining the development of construction law over the past 40 years from some of the Forum's leaders who have been a part of its evolution.

Of course, no trip to Nashville is complete without music. To that end, we have planned a Thursday night "block party" that is sure to be a crowd pleaser. We also hope you join us for a Friday afternoon tour of the Country Music Hall of Fame, and that you will take the opportunity to enjoy Nashville's wealth of live music venues.

The 2016 Annual Meeting presents a unique opportunity to travel down memory lane with the best of the Forum's past programs and presenters. We look forward to seeing you in Nashville!

Register: <http://ambar.org/FCL40yrmtg>; #FCL40years

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