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Cyber Attack and the Cost of Mediation

In this day and age, it is almost impossible to find an industry or company that is immune to cybersecurity threats. Recent headlines provides an abundance of evidence of how sophisticated and widespread today's cyber-attacks have become. According to the Identity Theft Resource Center, in 2017 there were over 930 data breaches that led to more than 19 million records exposed, and there are no signs that attacks are slowing down.

In fact, earlier this year, federal agencies have issued guidance statements pertaining to cyber risks and insurance. The Securities and Exchange Commission in February issued a statement and guidance on public company cyber security disclosures. Release No. 10459 (February 21, 2018). In addition the FDIC and the Comptroller of the Currency in April issued statements encouraging, but not requiring, financial institutions to maintain cyber insurance to offset financial losses from a variety of exposures that may not be covered by general liability insurance. FDIC FIL-16-18 (April 10, 2018); OCC Bulletin 2018-8 (April 11, 2018).

As the attacks are becoming more sophisticated, employee training and awareness have become a focus for organizations. Phishing attacks are more common than ever before. Employees can be tricked into giving out critical business information resulting in malicious actors gaining access to bank accounts and other sensitive company information. Ransomware can quickly spread through a company's network and render critical files unrecoverable. In one case, a hospital in Buffalo, New York paid $10 million to recover their systems and services following such an attack. And even then, data and records that were encrypted by the attack were permanently lost.

As much as vigilance on the job is encouraged to prevent physical harm and workplace accidents, similar vigilance should be exercised when utilizing technology to prevent potentially catastrophic financial harm to employees and employers.

Query: If despite your best efforts your company becomes the subject of a Cyber-Attack, how will you pay for the cost of remediation? A Cyber Policy of Insurance is one answer.

Below highlights some of the types of losses that span both the non-physical and physical world that may be addressed by various cyber coverage offerings by AIG.

-Reimbursement of ransom payments incurred in terminating a covered cyber event;

-Costs to restore electronic data from duplicates or, if not possible, costs to research, gather, and assemble electronic data;

-Third party claims arising out of, or alleging financial loss as a result of a failure of the insured's network security or a failure to protect confidential information, including PCI-DSS (Payment Card Industry Data Security Standard) assessments for the failure to protect payment card data;

-Investigation and defense of regulatory actions arising out of a failure of the company's network security or a failure to protect confidential information, including coverage for such fines and penalties if allowable by law;

-Costs of forensic investigation, notifications, public relations, and other services to assist in managing and mitigating a cyber incident; legal consultations and identity monitoring costs for victims of a breach;

-Business income loss resulting from physical damage to property due to a covered cyber event, as well as loss of net profit and extra expense as a result of material interruption to the company's network caused by a security breach;

-Third party claims alleging bodily injury or third party property damage caused by a security failure or privacy event; and

-Third party claims alleging bodily injury and third party property damage caused by a breach of a computer system that is part of an insured's product.

Here is a link to an earlier article that appeared in the Fall 2017 Issue of the CLE titled "Cyber Risk – Should Your Company Obtain a Cyber Insurance Policy?"

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American Arbitration Asssociation Introduces New Fixed/Capped Fee Arbitration

Many parties to construction agreements have chosen litigation in court over AAA arbitration in contractual dispute resolution provisions owing to the often high costs involved. Citing the growing popularity of Alternative Fee Arrangements (AFAs) in the legal field, the American Arbitration Association announced that it would offer an AFA option for its commercial and construction arbitration programs. The association explains that it inaugurated the program in response to former AAA clients who expressed an interest in AFAs for arbitrators. The program is only open to two-party cases where the parties choose to proceed with one arbitrator.

Parties may select the fixed fee option, where the parties and the selected arbitrator agree to a set overall fee for the case, divided into fee segments for the pre-hearing, hearing, and post-hearing phases of the arbitration. In the alternative the parties and the selected arbitrator agree to a maximum fee for the entire process. Under this arrangement, the arbitrator's hourly rate is billed and paid until the cap is reached.

AAA arbitrators may agree to participate on a case-by-case basis. If parties are interested in pursuing the AFA option at the time of arbitrator selection, the AAA invites case-appropriate arbitrators to submit a fee proposal for that particular case. The case manager then advises the parties of specific arbitrator availability and their compensation expectations or budget, and the parties make their selection. The arrangement is open to amendment if the arbitrator or the AAA believes that the case has become more complex than originally contemplated.

In addition, the AAA has also introduced its Streamlined Three-Arbitrator Panel Option because it has found that a three-arbitrator panel actually can cost approximately five times as much as a single arbitrator. The streamlined option for cases that require a three-arbitrator panel, either by the rules or by contract, provides that a single arbitrator will preside over the case for pre-hearing and discovery matters and that only the final hearing on the merits will involve the additional two arbitrators. This process is meant to increase efficiency and problems often associated with juggling the schedules of three arbitrators.

Whether the AAA has responded to after-arbitration client surveys or simply a loss of business, the association is making an effort to remain a dispute resolution alternative in the commercial and construction settings.

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Direct Evidence of Contamination Is Not Required To Prove Violations Of the Clean Streams Act

The Commonwealth Court has held that direct evidence of contamination is not required to assess a penalty of up to $10,000 per day for violation of The Clean Streams Law.

On September 10, 2018, the Commonwealth Court of Pennsylvania upheld a civil penalty of more than $1.1 million imposed by the Commonwealth of Pennsylvania Environmental Hearing Board ("Board") against EQT Production Company for its daily violations of The Clean Streams Law. EQT Production Co. v. Dept. of Environmental Protection, No. 844 C.D. 2012 (Pa. Commw. Sept. 10, 2018). EQT used a wastewater holding pond, or "impoundment", for storage of fracking wastewater. When the liner was damaged, the wastewater infiltrated the ground and ultimately polluted groundwater, seeps and springs, and a stream.

After discovering that the impoundment had failed, the Department of Environmental Protection ("DEP") filed a complaint against EQT for violations of The Clean Streams Law. The Clean Streams Law provides for a penalty of up to $10,000 per day, per violation:

> (a) In addition to proceeding under any other remedy available at law or in equity for a violation of a provision of this act, rule, regulation, order of the department, or a condition of any permit issued pursuant to this act, the department, after hearing, may assess a civil penalty upon a person or municipality for such violation. Such a penalty may be assessed whether or not the violation was wilful. The civil penalty so assessed shall not exceed ten thousand dollars ($10,000) per day for each violation. In determining the amount of the civil penalty the department shall consider the willfulness of the violation, damage or injury to the waters of the Commonwealth or their uses, cost of restoration, and other relevant factors.

Section 605(a) of The Clean Streams Law, 35 P.S. § 691.605(a).

The Board set the maximum daily penalty for EQT's statutory violations at $10,000, and assessed a penalty for the time period of April 30, 2012, when EQT learned of anomalous results from the monitoring wells near the impoundment, to September 27, 2012, the date by which EQT fully excavated the impoundment, including the contaminated subbase, and installed a temporary liner.

EQT appealed the penalty, arguing that there was no record evidence to show that there was an active daily release of contaminants after June 15, 2012. Instead, EQT claimed that there was only evidence of the presence of contaminants in the water, not that such contamination was being continually released. EQT argued that indirect evidence was inadequate to prove daily violations of The Clean Streams Law and, as such, the Board inappropriately shifted the burden to EQT to establish when the wastewater stopped entering the waters of the Commonwealth. The pivotal question was the duration of EQT's violations of The Clean Streams Law, that being the number of days contaminants from the impoundment entered into the waters of the Commonwealth.

But the Commonwealth Court upheld the penalty, including for violations after June 15, 2012, because the Board's findings relating to continued violations were supported by fundamental hydrologic principles, the expert report and testimony of DEP's expert hydrogeologist, the testimony of EQT's experts, and EQT's water sampling data. While the Commonwealth Court found that there was "no 'direct' evidence that contaminants from the [impoundment] entered into the groundwater beneath the impoundment every day or any day after June 15, 2012" it was sufficient for the DEP and the Board to rely on expert testimony in the absence of direct evidence. Expert testimony constituted "substantial evidence" of daily release of contaminants that subjected EQT to daily penalties for the continuing violations. Because an expert testified that components of the contaminated

wastewater continued to enter groundwater every day, albeit at a lesser amount than after the initial release, this testimony was sufficient to support the penalty.

Moreover, the Court found that while EQT had the opportunity to rebut DEP's evidence with evidence tending to show that no contamination from the soil flowed into the groundwater after June 15, 2012, the Board did not require EQT to do so.

Companies engaged in fracking or the disposal of fracking wastewater must be aware of The Clean Steam Law's significant penalties for contamination, assessed daily. This recent development in the law indicates that civil penalties under The Clean Stream Law will be decided largely on a "battle of the experts" because direct evidence of actual daily release of contamination is not required.

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From The Black Market To The Mainstream: The First Decade Of Cryptocurrency

Despite its skyrocketing value and use and its increased presence in the law and industry, many attorneys and other professionals lack a working familiarity with cryptocurrency. More have heard of Bitcoin – the Jell-o to cryptocurrency's gelatin – but aside from its oft-reported growth, it remains shrouded in mystique. What is cryptocurrency? What is it good for? And what is its future, particularly in the construction industry? These are the questions that this article addresses, albeit superficially.

Cryptocurrency: A Primer

Cryptocurrency is a digital currency that uses cryptography – generally, the use of techniques for secure communication in the presence of third parties – to secure transactions and control the creation of new units. Each unit is a unique series of digits. Traditionally, cryptocurrency has not been issued by banks or governments. Rather it is generated through computer software operating on "peer to peer" networks. That said, nation-states including China, Japan, and Sweden have started developing their own cryptocurrencies. Great Britain has appointed a task force to examining the prospect. The United States lags behind, but is reportedly considering whether to consider it. In August 2017, Peter Smith, the CEO of Blockchain, predicted that a "top 30" government would issue its own cryptocurrency within 24 months. Kyle Torpley, *Blockchain CEO Peter Smith: We're 24 Months from a Top 30 Government Issuing a Digital Currency,* Forbes, Aug. 30, 2017.

A frequently asked question involving cryptocurrency is why does it have value? After all, it isn't tangible, nor is it backed by precious metals or the "full faith and credit" of a sovereign government. In essence, cryptocurrency, like any currency that works, simplifies the exchange of goods and services. Cryptocurrency is subject to the "network effect" – that is, the value of it increases as its volume of transactions grows. Take Bitcoin: $100 of the currency in 2010 would have been worth $75 million in mid-2017. During that same time period, the volume of daily Bitcoin transactions swelled from practically none to more than 350,000.

Cryptocurrency is purchased with traditional money or credit from exchanges. Instead of using names, tax IDs, or

social security numbers, cryptocurrency connects buyers and sellers through encryption keys – the unique series of digits referenced above. Importantly, though, purchasers are not anonymous. They are pseudonymous. Most exchanges collect the personal information of users, but the encryption keys protect the information.

While cryptocurrency allows users to conceal their identities in a way that other forms of payment do not, the transactions themselves are transparent. Purchases made with Bitcoin are based on Blockchain, a digital ledger that all parties processing transactions on the network can see. Moreover, data entered on the Blockchain is inherently resistant to modification, thus imbuing the transactions with security.

Cryptocurrency and the "Dark Web"

What can one do with cryptocurrency? For a few years after Bitcoin's introduction to the marketplace in 2009, the primary answer was, "buy drugs." And stolen data, dangerous chemicals, body parts, malicious software, and other illicit items. Website operators used "Tor" – a network that prevents traffic analysis by (1) requiring the use of specific software, (2) transferring communications through numerous relays, and (3) encrypting each communication – to create private marketplaces on the so-called dark web. Customers at these marketplaces made purchases with cryptocurrency, typically Bitcoin.

But while Tor can conceal web traffic and Bitcoin can protect the purchaser's identity, the illicit goods still must move in the stream of commerce. The provision of goods, and law enforcement's interception of those goods, led to the downfall of most of these marketplaces – as well as some fascinating criminal prosecutions.

The most famous of these prosecutions resulted in the conviction of Ross Ulbrecht, a.k.a., the Dread Pirate Roberts, the proprietor of Silk Road. Ulbrecht started the site in February 2011, as a means of selling psychotropic mushrooms and creating a libertarian space where people buy and sell drugs in the shadows. It quickly ballooned into an international narcotics market, with enough visibility to become the subject of a Gawker article in mid-2012. For his troubles, Ulbrecht would take a commission from each transaction. After an extensive, cross-border criminal investigation, Ulbrecht was indicted in the U.S. District Court for the Southern District of New York on charges including conspiracy to distribute narcotics and money laundering.

Ulbrecht moved to dismiss the indictment. As to the drug charges, he argued that the United States could not meet its burden to prove that he engaged in a conspiracy because he was just a "facilitator." He set up the site, but others sold the drugs. United States v. Ulbrecht, 31 F. Supp. 3d 540 (S.D.N.Y. 2014). The Court disagreed. It held that the United States could establish that website was "specifically and intentionally designed for the purpose of facilitating unlawful transactions." And, of course, he took commissions from each sale, a fact from which his *mens rea* could be inferred.

As to the money laundering charges, Ulbrecht argued that that the United States could not prove he conducted a "financial transaction" because of the decentralized nature of Bitcoin. Not so, said the Court. The term captures all movement of funds by any means. After the Court denied the motion to dismiss, the case proceeded to trial, where Ulbrecht was convicted and ultimately sentenced to life imprisonment because of the staggering amount of drugs sold on Silk Road. Ulbrecht was also ordered to forfeit the 144,336 Bitcoin that the government seized from him. After trial in 2015, the government sold the Bitcoin for $48 million. The currency is worth $1.5 billion today.

Applications in the Construction Industry

As time passes and the volume of cryptocurrency transactions increase, so too do cryptocurrency's lawful applications. Indeed, cryptocurrency and Blockchain technology are beginning to surface in the construction industry. For example, TraderTranseferTrust, a fledgling app developed by DotBuiltEnvironment, would use blockchain elements, including its digital proof of work mechanism, to ensure that accounting systems – designed to use cryptocurrency – automatically remit payment as benchmarks are met. To become a fixture in the industry, the app must overcome certain structural challenges. For example, the question whether benchmarks have

been met satisfactorily is often subjective and dependent on professional judgment.

Francis Ho, construction partner at the United Kingdom-based law firm Penningtons Manches suggests that the app "may be suitable for activities where performance is more easily adjudged on an objective basis, such as where key performance indicators tied into incentive payments post-completion. Smart meters, for instance, could record whether utilities consumption in a completed building is within the tolerances agreed with the contractor and, if so, payment is automatically released from an incentive fund controlled by Blockchain." Stephen Cousins, *Bitcoin for Construction Could Improve Payment*, BIM Plus, May 15, 2017.

While cryptocurrency faces obstacles to becoming a fixture in the construction industry (and many others), it offers significant value in its transparency, security, and efficiency. These qualities have facilitated its emergence from the shadows of the dark web and ensures a bright, dynamic future.

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Things To Consider When Financing Construction Projects In Islamic Majority States

Islamic finance is a rapidly growing industry with well over $2 trillion in assets whose foundational principle is to organize financial and commercial transactions in a manner that complies with the shari'a, roughly translated as Islamic law. By and large, Islamic finance is a voluntary practice, meaning that nearly all Muslim majority states permit conventional financing that is not compliant with shari'a. However, organizing transactions in a shari'a compliant fashion is growing increasingly attractive to a growing number of Muslim investors, commercial interests, and financiers across the Muslim and indeed the non-Muslim world, with Bahrain, Kuala Lumpur, and London serving as major hubs of Islamic financial activity. This article will highlight some of the basic contours of Islamic finance.

The core practice of Islamic finance is built around two central prohibitions that have long existed under Islamic law, across all of its many schools and sects. The first of these, known as riba, is based on a ban imposed by the Prophet Muhammad himself against the trade of gold, silver, and other commodities for the same commodity in a higher amount in the future. Modern jurists generally interpret this to ban interest on a loan. The second prohibition, known as gharar, prohibits undue or excessive amounts of speculation in a contract. What is considered excessive speculation is a matter that both medieval jurists and modern theologians discuss in extensive (and, in some cases, arcane) detail. However, certain core uncertainties in contract have long been understood to be absolutely prohibited due to the ban on gharar. These relate to a ban on an item that is not yet in existence, or over which the seller does not have control at the time of sale. Hence, for example, the paradigmatic cases of gharar (and the ones prohibited by the Prophet Muhammad himself) involve the sale of fish in the open sea, or the sale of the sperm of a stallion. Similarly, because of gharar, lease contracts, and contracts involving work for hire, must be terminable at will by either party because the future profitability of such contracts to each side is fundamentally unknown.

These can prove quite problematic in any number of modern transactions, including those relating to construction. Imagine, for example, that an energy provider seeks to use Islamic financing to arrange for the construction of

a massive hydroelectric dam, which it will use to sell electricity to a local utility. Conventionally, the private owner often seeks to complete this transaction via financing from a large number of financial institutions. The owner then uses the credit to hire a contractor to build the plant, and then the utility pays theowner, who pays the financial institutions. Yet if the plant owner cannot borrow money, it is unlikely to be able to have the funds necessary to pay a contractor to construct the plant. Moreover, even if it did, the construction of the plant is a difficult one, given the rules of gharar which render work for hire as terminable at will, and ban the sale of items, including power plants, that do not yet exist.

Fortunately, however, there are workarounds, built largely around loopholes that existed in the medieval era. These loopholes have been greatly expanded by modern Muslim jurists eager to use Islamic finance as a means to mimic conventional transactions. The most important of these loopholes is the fact that while interest on a loan is not permissible, a credit sale is permissible. This means that while one cannot lend money with interest to another so that the latter can buy an item, one can sell an item to another party, and receive payment for that item in future installments, even if the total amount paid by the buyer is more than the market price when paid in immediately available funds. Thus, a bank does not need to lend money to a person at fixed rate over 30 years in order to enable the person to purchase a home. It can instead purchase the home from the market for the person, and then require the person to pay an increased amount back in monthly installments over the course of thirty years, in an amount that would reflect the prevailing interest rate. (There are legal and economic issues that arise in this context, concerning prepayment and risk of ownership for example, but they are beyond the scope of this article to address. Suffice it to say, Islamic finance has found a remedy for them as well.)Just as some form of credit sale (though almost surely in a more sophisticated and complex form than reflected above) is a viable option as a means of credit for a home, so it would be a viable option for a large infrastructure project like a hydroelectric dam, except for a second problem. The dam does not yet exist. The bank, therefore, has nothing to sell to the future, leveraged owner of the dam in a way that it would in the case of a home. The common workaround for this second problem is a transaction blessed by one of the more prominent Islamic schools in the medieval era, which indicated that while in general contracts for hire were terminable at will, this would not be the case as to a contract known as istisna', where a person hired another to manufacture an item for the hirer. Such a contract could lawfully be made because the contractor would have turned over an item of tangible and reasonably certain value to the future owner at the end of the contract. Moreover, and, according to a minority of jurists, the arrangement would be binding upon the owner when executed, because if the owner is able to terminate the contract after the contractor began work, it would result in hardship on the contractor.

Thus, one can combine an istisna' (between contractor and owner) and a credit sale (between owner and bank consortium) in order to mimic a conventional transaction. Again, to be clear, this is only an example of a workaround. Moreover, even as an example, the description is highly simplified, and to structure a transaction to meet all legal and regulatory requirements would involve far more legal and economic complexity than I have allowed here. The purpose of this short piece was only to give a flavor of what Islamic finance is in very broad terms, and how it operates. I will leave to future issues a more in depth look at specific transactional forms.

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About the Construction Group

Time is money. This is never truer than in construction. Pietragallo appreciates the time constraints of construction projects and the owners who pay for them. We understand the complexities of the construction process from conceptual planning, site acquisition and development, design, contract drafting and negotiation, to dispute resolution, risk management, community participation and city processes, insurance coverage, and labor relations. We use our experience to guide your project to its successful completion.

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Where In The World?

Construction Mystery: When we think of pyramids, the trio at Giza come to mind, but there is a far older pyramid that we should discover. It's a complex in the area of Egypt's first capital, Memphis. It was designed by King Djoser's Prime MInister, Imhotep, who was the first architect to envision building in stone, instead of mud bricks. Like previous mastabas, bench-like burial sites, Imhotep started with a terrace 200 feet high, but he then departed from earlier structures. He added five more terraces, each gradually getting smaller in size, creating a "step" pyramid. Instead of mud bricks, each brick was made of limestone. Once the construction was completed, the entire exterior was encased in smooth white limestone, so the sunlight was reflected off this radically different pyramid. The four sides of the pyramid were aligned with the four cardinal direction points. Inside were rooms that are no longer open to the public, but the Pharoah's limestone statue that greeted visitors in the first chamber can be seen in the Cairo Museum. On the south side, there was a symbolic tomb, during the first three Dynasties rulers built two tombs, one a real burial site and the other a cenotaph, or commemorative tomb. The step pyramid is the world's oldest complete stone building. This marvel still stands, although the limestone facade has long since vanished. As have the chapels and vast courtyard and wall which surrounded the complex. The site does still have some additional royal tombs with walls decorated by delicately incised depictions of people hunting, herding, and farming. Visitors can see artistic images of the animals, fish, birds, and vegetation that supported the Egyptians over 4,500 years ago. This amazing complex, only 19 miles south of Cairo, is well worth a visit.

Question: What is the name of this building?

Last Issue Answer: Morgan Lewis Windmill, St. Andrew, Barbados

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The Construction Legal Edge is a quarterly publication of the Construction Practice Group.

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