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The Critical Path

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Committee Leadership

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Leadership Note

From the (Vice) Chair: Creating More Room at the Table

By Danielle Waltz

It's hard to believe that we are reaching the end of 2020. I won't use any of the worn-out sayings regarding this year—but let's face it, it's been a tough one. However, as our leader David Jones has aptly said, no committee handles adversity like this one. Our committee has continued to rise to the occasion—thanks to the efforts of each of you. This success was recently recognized by DRI with two members of our committee having been awarded 2020 DRI Annual Professional Achievement and Service Awards. Ryan Harrison won the G. Duffield Smith Outstanding Publication Award while our chair David Jones collected the Davis Carr Outstanding Committee Chair Award.

Our Committee's success has hinged on years of commitment and leadership. Importantly, it has also hinged our members creating more room at the table for others to lead. Recently, I was asked to give a speech about this very topic. In doing research, I came across the following advice:

You need four people in your life—a coach, a friend, a mentor, and a cheerleader. And *be* one of those for someone else.

DRI Construction has a history of strong committee chairs and leaders, many of whom have served and continue to serve in the roles of coach, friend, mentor, and cheerleader.

A Mentor: David Wilson

As evidenced in our committee's continued celebration of his life and leadership, there was no better mentor than David Wilson. Countless members of our committee, including myself, count David as the reason we became involved in DRI Construction. David Wilson was the definition of creating more room at the table, in a manner which was selfless, and was always in the best interest of the committee and its success.

A Coach: Mike Sams

Mike Sams is one of those people who always knows the right thing to say or do, whether it be as an exemplary construction lawyer or committee leader. I know many of us when dealing with a tough organizational challenge or a thorny construction issue often pick up the phone to call Mike. That call is always met with a calm demeanor and sage advice to navigate any problem.

A Cheerleader: Diana Gerstberger

Diana's enthusiasm for our committee and for each of us is unmatched. She is constantly finding new members and developing new ideas to help our committee be successful and adaptive. Her sense of humor, her energy and optimism inspire each of us to be a better leader and committee member.

A Friend

The most special thing about DRI Construction is the friendships we have developed over the years. Our commitment to one another and our profession (while also having quite a bit of fun) sustains our committee's success and allows us to continue to recruit new members.

And *Be* One of Those (a Mentor, a Coach, a Cheerleader, a Friend) for Someone Else

As we near the end of the 2020—I would ask each of you to consider which role you play in our committee in creating more room at the table for DRI Construction's future success. David and I wish each of you a happy holiday and look forward to working with you in 2021.

Danielle M. Waltz is a member in Jackson Kelly PLLC office in Charleston, West Virginia, focusing primarily on litigation, handling complex multi-party construction matters, and government relations. Waltz has published and lectured on construction matters, including authoring the West Virginia portion of the 2009 DRI Desk Reference. She has been extensively involved in the DRI Construction Law Group, and currently serves as the Vice Chair of DRI Construction Committee.

Litigation Amid the COVID-19 Pandemic: The Surge of Litigation to Come

By Stephen J. Henning and Patrick S. Schoenburg


The COVID-19 pandemic is a singular event. There is no analogous historical precedent to the stay at home orders that swept the globe in March and April. The economic impact was immediate and sharp. Unlike past recessions, this halt in economic activity was precipitous and driven not by a financial crisis, commodities shortages, or inflation, but by public health measures. This makes projections on the impact to litigation from the pandemic risky, as precedents are few and inexact.

We are now far enough into the pandemic and the response to it that we can see trends. Our views are shaped by experience in past economic downturns and knowledge of the industries in the areas in which we practice. This article presents an overview on how multiple practice areas are being impacted as courts resume operation and litigation finds a new normal. One thing is certain: The types of lawsuits that have been filed in response to the pandemic have been as unique as the pandemic itself.

Part of the impact of COVID-19 on litigation is simply the result of the economic downturn. Litigation has always been a counter-cyclical practice area. Business disputes increase and individuals' willingness to file suit to obtain compensation are more determined when money is scarce. Layoffs and furloughs lead to employment lawsuits. If business interruptions are arguably covered losses (and even when they are not), insurance claims are made. This increased litigiousness may be tempered by a willingness on the part of plaintiffs to settle more quickly because of a need for funds. The plaintiffs' bar itself may suffer from the same lack of liquidity, limiting their willingness to finance more questionable claims and encouraging early settlements. This is compounded by trial continuances due to closed courthouses and a shortage of willing jurors.

However, the impact of the pandemic has not been limited to the expected effects of an economic downturn. Nothing about COVID-19 has been "as expected." In the immediate aftermath of the lockdowns and rising death toll, priorities were public safety and health, but a search for blame followed quickly. Missouri's attorney general filed a lawsuit in federal court seeking to hold Beijing and the Chinese Communist Party responsible for the spread of the coronavirus. We expect many similar lawsuits, big and small, to follow, all seeking to assess blame and impose liability for the impact of COVID-19. Some are clearly motivated by politics. Others are focused on compensation.

Open questions regarding the impact of the coronavirus on litigation include the role of science and scientific evidence. America has become a nation of amateur epidemiologists. Some view Dr. Anthony Fauci as the most trusted man in Washington D.C. Will the endless news cycle focused on testing methodologies and the interpretation of data regarding infection and mortality rates cause jurors to rely more heavily on numbers and the results of scientific research?

Of course, there is a counter-balance, skeptics who believe that economic concerns must take precedence, ignoring the advice of public health officials on masking and social distancing. Is this group more likely to accept risk as inherent in all facets of life and reject certain claims for compensation as a result? Will this second group be equally scornful of the testimony of expert witnesses and scientific evidence at trial?

While we don't have all the answers to these questions, we do have insight. And we know these questions will be asked as the first post-pandemic juries in civil trials get picked.

First Wave of Litigation

The initial salvo of lawsuits filed as a result of COVID-19 were predictable. The targets were already in the headlines—cruise lines, managed care facilities and big box retailers deemed essential businesses—and the insurance industry. Princess Cruise Lines was sued in federal court in San Francisco while it was still disembarking passengers from the COVID-19 impacted Grand Princess. The daughter of a woman who died of coronavirus at the Life Care Center nursing home in Kirkland, Washington filed a wrongful death lawsuit against the parent company claiming the facility covered up the outbreak. Both cruise ships and

nursing homes were hotspots during the first stage of the pandemic and these two incidents are often considered starting points for COVID-19 in California and Washington state. Lawsuits for wrongful death and bodily injuries based upon failure to warn and negligence theories are expected to multiply rapidly.

Another area with increased activity is first party claims against insurers for denial of business interruption claims. There is no question regarding the losses to American businesses caused by shut down orders and social distancing requirements. Most insurance carriers have denied claims based upon these losses. The courts will have to determine whether insurance contracts properly exclude losses due to a pandemic. Among scores of these lawsuits filed to date is one by the Choctaw Nation casinos in Oklahoma and another by the Los Angeles law firm of celebrity attorney Mark Geragos.

General Liability Third-Party Lawsuits

Cruise ships and nursing homes were obvious targets of coronavirus litigation. Of more concern to American businesses and their underwriters should be a lawsuit against Walmart filed in early April. A relative of a Walmart employee in Illinois who died from COVID-19 complications filed a wrongful death lawsuit against the retail giant, alleging the store did not do enough to protect employees. As of the publication of this article, there are currently over 280,000 deaths in the U.S. attributed to COVID-19 and nearly fifteen million confirmed infections. Every large business, not just Walmart, has numerous employees, customers or vendors who may have been exposed to the virus at their locations. This is particularly true for those who directly serve the public.

How many lawsuits will be filed by those who attribute their illness or the death of a loved one to a specific business? As restaurants, hotels and stores have reopened, as others continue to operate as essential businesses, how much risk do they face? The problems faced by businesses in this new environment are compounded by conflicting guidance from public health officials, dueling regulations and the politicization of issues such as masking.

We expect many businesses to be named in third party lawsuits. Legal theories will include premises liability, negligence, and failure to warn. But individuals or groups asserting personal injury claims as a result of COVID-19 face a basic problem: Coronavirus is a biological pathogen, not man made. People can carry the virus and transmit it, but is that alone a basis for liability? A suspicion that an infection occurred at a place of business, absent more, may be insufficient to support a claim. This is true both because of the nature of transmission—person-to-person—and the unfortunate prevalence of the disease in this Country. Known facts about the disease also contribute to the difficulty of proving causation. COVID-19 can be transmitted by asymptomatic carriers. Symptoms may develop from 2 to 14 days after exposure—if at all. All of these factors make a forensic investigation almost impossible. The overwhelming number of cases has also caused the contact tracing system to break down.

We expect what will be significant are large numbers of confirmed cases associated with one location. A hotel or restaurant that is linked to numerous cases may be held liable. Statistical evidence and epidemiology may be key to third party bodily injury and exposure law suits.

A handful of customers at the same store developing COVID-19 may not be epidemiologically significant. A lawsuit may fail due to a lack of evidence of a single source of infection, particularly as the infection rate in the population as a whole grows. But when large numbers of individuals on a cruise ship, airplane, in a nursing home, hotel or other facility become infected with coronavirus, litigation becomes more likely. Cruise passengers and nursing home patients are confined for long periods of time, limiting other possible sources of infection. As social distancing measures increase, that may become true for more of the general population as well. To avoid litigation, businesses must avoid becoming hotspots. The more time customers, employees or vendors spend at one location, the greater the risk. COVID-19 mitigation and risk management will become part of overall good business practice to limit these potential liabilities.

General liability lawsuits over COVID-19 have taken many forms. Recent lawsuits have been based on the following alleged facts:

- A rehabilitation facility in Colorado failed to respond to plaintiff's concerns about her husband contracting COVID-19 at their facility and then failed to create a discharge plan before he tested positive for the disease.
- A well-known cruise ship loaded passengers, sailed, and conducted activities in a manner that spread COVID-19. Plaintiff contracted the virus on board and now has permanent injuries and may never walk again.
- A popular restaurant in Florida is facing a suit alleging that it did not require patrons to wear a mask during the COVID-19 pandemic despite a county ordinance requiring it.

- Raiders fans sued The Republic of China over the spread of COVID-19 within its borders and the revocation of press credentials from journalists who covered the outbreak in Wuhan. As a result, the virus allegedly spread to the United States and will prevent fans from attending Las Vegas Raiders games as season ticket holders.
- A class action suit has been filed against a passenger cruise ship that departed from Buenos Aires. Defendants failed to address COVID-19 exposure on the ship, allowing the illness to spread.

Employment

COVID-19 forces employers to make difficult and often times unprecedented decisions as businesses in nearly all industries face falling revenue and inconsistent governmental restrictions. The resulting decisions regarding human resources practices and policies expose thousands of employers to existing and emerging liabilities, adding to the impact of the pandemic.

Workplace Safety

Employers have an overriding duty to maintain a hazard-free workplace. This duty is based in part on statutes, including the Occupational Safety and Health Act and associated state and local laws. Data published by the Occupational Safety and Health Administration shows that workplace safety inspectors have already conducted thousands of coronavirus-related investigations to determine whether employers failed to adequately protect their workers from the virus. These investigations have targeted hospital, nursing homes, school systems, meatpacking plants and can be expected to expand to more industries in the days and weeks to come.

State agencies are also investigating reports of inadequate protections. Early in the pandemic the Office of the Attorney General for the State of New York's sent a letter to Amazon regarding the Attorney General's "concerns" that Amazon's health and safety measures for warehouse workers are so inadequate that they may be in violation of federal and state laws. Amazon has been the focus of media attention and worker protests regarding these issues since the onset of the pandemic.

As non-essential businesses re-open and join essential businesses in operating during the pandemic, questions, and concerns regarding what safety measures in a given industry are adequate will grow. As no standard protocol exists to fit every industry, a consensus is emerging among employment law practitioners and employers to proceed with extreme caution, while tailoring new practices and procedures to the unique challenges and risks associated with each business's operations. As risks of re-opening are weighed, employers must be aware of directives from the Centers for Disease Control and Prevention, the Equal Employment Opportunity Commission and the Occupational Safety and Health Administration, as well as the statutory and regulatory frameworks governing testing in the workplace and employee privacy rights.

The importance of practical and thorough workplace safety programs is not just a matter of legal compliance. Employees and union groups argue that the rush to re-open favored by some governments and industry sectors is deprioritizing worker safety. In the months and years ahead, we will see a growing wave of agency investigations, lawsuits, workers' compensation claims and whistle blower complaints by employees challenging the adequacy of new measures and a heightened focus on workplace safety.

Recent lawsuits in this area have been based upon the following alleged facts:

- A well-known community hospital in Southern California instructed workers with COVID-19 symptoms to continue working even when obviously symptomatic and highly contagious. The resulting lawsuit is based on allegations that the hospital failed to provide employees and environmental services workers with sufficient and adequate personal protective equipment, pressured employees to ignore safety precautions and failed to conduct basic contact tracing. As a result, defendants facilitated the spread of the virus and put employees and the surrounding community at an unnecessarily heightened risk of infection.
- In Oregon, a former employee of a senior living facility filed a whistleblower, discrimination, and retaliation lawsuit. Defendant fired plaintiff for reporting that it allowed a symptomatic worker to return to work without testing negative for COVID-19, because it was short-staffed.
- Plaintiff was fired from his job as head of maintenance at a private charter school in Florida after he complained about violations of the building code, "unsafe furniture," and issues with the school's response to the COVID-19 outbreak. He seeks damages under Florida's whistleblower-protection statute.
- In Minnesota, a non-profit hospital is facing suit after plaintiff expressed concerns and filed an OSHA complaint about the adequacy of protective equipment

used at defendant's hospital to prevent the spread of COVID-19. Defendant threatened to terminate him for using hospital scrubs instead of personal scrubs.

- A family sued after a man contracted COVID-19 while working for the Port Authority of New York and New Jersey and was exposed to a co-worker who was not wearing a mask. The man later died.

Disability and Leave Discrimination

In the past several months, employers have adopted, often at unprecedented speed, new policies and procedures in response to shelter-in-place orders, growing demands for medical leave and public health directives. In practice, however, implementing these policies and ensuring clear lines of communications with employees has presented a significant challenge. Already, courts are seeing new lawsuits arising from perceived unlawful practices and policies by employers in response to COVID-19:

- A well-known property management firm in New York fired plaintiff, a 69-year old in-house attorney. The employee informed defendant that his underlying health conditions made returning to the office during the COVID-19 pandemic potentially life-threatening.
- In New Jersey, an employer is alleged to have failed to institute social distancing or other safety protocols regarding COVID-19, after which plaintiff tested positive for the virus. Defendants later fired plaintiff when she continued working from home due to migraines from the disease.
- Plaintiff, an addiction counselor who is immunocompromised, was denied an accommodation to work from home in order to avoid a COVID-19 infection.
- In Northern California, an assisted living facility required a 72-year-old plaintiff to work on site, despite his doctor's orders and state guidance that he continue his psychiatry practice remotely because of COVID-19. He was fired despite satisfactorily performing his duties remotely in the last two weeks of March using telemedicine. To apply for privileges to practice elsewhere, he must re-publish false statements that his conduct was grounds for termination "for cause."
- Former employee of a grocery store filed a lawsuit claiming the grocer violated its own recently adopted policy to provide employees affected by the coronavirus up to 14 days of paid leave when her next paycheck failed to credit her despite providing a doctor note directing her to self-isolate.
- Former general counsel for a real estate firm filed a lawsuit against her company for refusing to change its policy to permit her to work from home, which she claims was necessary to avoid violating shelter-in-place orders and facing possible criminal prosecution.
- In two separate class-action matters filed days apart against two well-known ride sharing companies, drivers alleged the company failed to provide paid sick leave compelling the drivers to continue working during the pandemic even if they felt ill.
- An infectious disease nurse filed a lawsuit claiming she was terminated when she raised complaints that her department was only given regular surgical masks instead of N95 masks.

Historical data on filings following an economic downturn offer additional reasons for concern. As reported by the Equal Employment Opportunity Commission, in the period since 1997, annual charges peaked in 2011 at 99,947 following the recession in 2008, after a historic low in 2005 of 75,428 charges. The data indicates that between 2007 and 2008, total annual EEOC filings increased by nearly 13,000. The speed and depth of the current economic downturn far out paces the recession of 2008, begging the question of what truly should be expected going forward. Millions of recently laid off, terminated and furloughed workers will question the policies and practices of their former employers over the past months and weeks. Employers need to be prepared.

Directors and Officers (D&O) and Securities

The COVID-19 pandemic has impacted every corporation in every sector of the economy. Hard decisions must be made in regard to workplace safety, layoffs and furloughs, investments, financing, and business planning. Challenges to corporate governance will follow. These suits may be retrospective, focusing on alleged failures in regard to disaster preparedness, insurance coverage and contingency planning or prospective, challenging ongoing management, financial and operational decisions. As the economic crisis caused by shelter-in-place and social distancing orders grows, corporations will be faced with selling assets and entering into mergers or financing agreements that would have been unthinkable prior to the pandemic. Shareholder suits are sure to follow.

The current fiscal crisis may be based upon public health issues but it will directly impact all aspects of the corporate world, including securities. Examples of early COVID-related securities and D&O claims include:

- A California-based vaccine development company has been hit with a coronavirus outbreak-related securities class action lawsuit alleging that the company attempted to artificially inflate company stock prices by issuing misleading information regarding their COVID-19 vaccine candidate and misrepresenting their involvement in the federal "Operation Warp Speed" program. Once the truth emerged, company stock prices fell from $12.29 to $11.16 on July 27, 2020.
- A well-known cruise ship company made false representations about the safety precautions that they were establishing on their ships, and its preparedness to deal with the COVID-19 pandemic to keep its crew and passengers safe, in an attempt to keep the ships at sea and continue a steady level of revenue. As a result, when the truth was disclosed, the cruise ship's share price drastically dropped affecting plaintiff and all the stockholders. Defendant made false representations and employed schemes to maintain artificial prices for option contracts for their shares.
- Share prices of a healthcare information software services company in New York, soared after defendants announced that the company had received a committed purchase order of two million COVID-19 rapid testing kits. A week later, a research firm issued a report doubting the validity of the deal, calling it "completely bogus," alleging that the supplier that defendant was buying from fraudulently misrepresented themselves as sellers of its COVID-19 tests and that the purported buyer does not appear to be capable of handling hundreds of millions of dollars in orders.
- A pharmaceutical company was sued in a securities class action for representing that it was able to develop a COVID-19 vaccine within three hours and that it planned to start trials in April 2020. The lawsuit alleged that the statements were inaccurate, that the company had not developed a vaccine, and that the statement that it designed a vaccine in three hours was "ludicrous and dangerous." A shareholder derivative lawsuit was later filed based on similar facts.
- A plaintiff shareholder filed a U.S. securities class action lawsuit against a holding company that leases and manages apartments in Wuhan and other Chinese cities, alleging that the company's January 2020 IPO offering documents failed to disclose the impact of the outbreak on the company's residential real estate operations in China. It is alleged that the company's offering documents misrepresented the nature and level of renter complaints the company received before and as of its IPO date relating to the coronavirus, impacting its risk exposure and the value of the company.

As more companies are forced to take extreme measures to avoid insolvency as a result of the COVID-19 pandemic and resulting global recession, we foresee an increase in claims relating to alleged corporate mismanagement, inadequacies in financial or operational disclosures, breach of fiduciary duties and violation of security laws. Will corporate decisions be judged based upon long standing statutory and common law standards or in relation to the "new normal?"

A corporation that has residential real estate interests in Wuhan is an obvious target. But when Zoom, the videoconferencing company that has become synonymous with communication during COVID-19 lockdowns, faces a shareholder's derivative action, it's clear that all corporations are potential targets.

- On April 7, 2020, a plaintiff shareholder filed a securities class action lawsuit in the Northern District of California against Zoom as well as Eric Yuan, the company's CEO, and Kelly Steckelberg, the company's CFO. The complaint purports to be filed on behalf of a class of persons who purchased the company's securities between April 18, 2019 (the date of Zoom's IPO), and April 6, 2020. The complaint alleges that the defendants violated Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and seeks damages on behalf of the plaintiff class. Plaintiff alleges that the defendants made false and misleading statements regarding the company's "business, operational and compliance policies." The complaint further alleges that the defendants misrepresented or failed to disclose that "(i) Zoom had inadequate data privacy and security measures; (ii) contrary to Zoom's assertions, the Company's video communications services was not end-to-end- encrypted; (iii) as a result of all the foregoing, users of Zoom's communications services were at increased risk of having their personal information access by unauthorized parties, including Facebook; (iv) usage of the Company's video communications services was foreseeably likely to decline when the forgoing facts came to light; and (v) as a result, the Company's public statements were materially false and misleading at all relevant times."

It should be noted that although many existing D&O policies are not written with cyber and technology related risks in mind, a failure to protect against and insure for privacy or cyber liabilities could potentially lead to D&O liability. This risk has increased during the current "work from home" era and is highlighted by the suit against Zoom.

Conclusion

Cruise ship lines and operators of managed care facilities are obvious targets of COVID-19-related litigation. But since Zoom, the darling of the new work from home era, has also been sued is anyone safe? The varied allegations in the lawsuits we have reviewed demonstrate that all industries are potential targets. In the new normal, good public health practices are also good risk management practices. All businesses must plan on potential litigation as one of the many problems resulting from the pandemic.

Stephen J. Henning is a co-founder of Wood, Smith, Henning & Berman LLP, an Am Law 150 law firm with 30 offices throughout the United States. Steve is a skilled litigator, nationally recognized for results in complex construction, real estate, business, and toxic tort litigation. He regularly represents Fortune 500 companies and preeminent members of the business community, including some of the nation's largest residential and commercial public and private owners, homebuilders, developers, investors, contractors, and lenders.

Patrick Schoenburg, a managing partner of Wood, Smith, Henning & Berman LLP, is known for his successful representation of clients at trial in state and federal court, in appeals, arbitration hearings and in the negotiation of contracts, license agreements and other transactions. He has particular expertise in defending occupational exposure, environmental, toxic tort and professional liability claims involving technical issues and has developed innovative strategies for attacking questionable scientific evidence.

Evaluating Causes of High-Rise Water Damage

By Masoud Mashkournia

High-rise towers are complex buildings filled with multiple piping systems, including domestic water, heating/cooling, sanitary and storm water piping. When these pipes leak or break and a water loss occurs, the ensuing damage often affects multiple floors and can become quite costly to remedy. It can also prove difficult to pinpoint the root cause.

Determining the cause of the water intrusion and damage involves looking into distinct factors such as design, manufacturing, installation, operation and maintenance of the high-rise and its piping. It is also necessary to determine if there had been any recent work performed in or near the building, as it is not uncommon for multiple factors to contribute to a loss. Thus, it is crucial to consider each factor to determine which played a role in causing or contributing to the loss, and which factors can be eliminated.

Evaluation of Water Damage: The Investigation

The first step is to analyze any and all physical evidence, such as fractured components, to determine the cause of the component of failure. Some common causes include overpressure, stress, corrosion, or wear and tear. Further investigation will be based upon these scientific findings. For instance, if there is evidence of wear and tear, the next steps may include gathering information on how the component was installed and maintained.

In addition to gathering information on maintenance and installation history, it is often necessary to obtain data on operating temperatures, operating pressures, piping support locations, specifications, drawings, and manufacturer requirements in order to narrow the cause. While it is always best to secure the investigation immediately after the loss occurred, it is possible to perform a site visit after time has elapsed and still gather enough scientific data and evidence to pursue the investigation. However, it is important to underscore that quick action to secure the scene and all physical evidence can make or break the case.

In some complex high-rise water loss cases, knowledge on previous water losses may assist in determining whether there may be systemic problems throughout the building. A known history of problems at a certain location can lead to the theory that those involved in maintaining the property knew or should have known that a water incident could very well occur and did not take proper steps to remedy the issues. It is also possible that there had been recent work performed in or near the building, either as tenant improvements or maintenance, that caused or contributed to the loss, so it is critical to ask as many questions as possible.

These potential loss scenarios require a thorough review of documents, including manufacturer requirements, maintenance logs, and installation records, among others. This also assists in identifying the involved parties to place them on notice. The typical parties involved are the installer, designer, manufacturer, and/or maintenance provider. The parties involved will likely take part in a joint site exam and the case will progress based upon the scientific findings uncovered during the exam.

It is also often necessary to gather information to determine whether the damages were properly mitigated. For instance, did it take excessively long for the mitigation company to control the situation thus exacerbating damages to a point beyond what they likely could have been contained? If so, there could be potential liability against such mitigation company for the ensuing water damage.

Ultimately, in order to determine the cause of the loss, or the potential for parties to have avoided the incident, data gathering is a critical step in the investigation process. It is possible that this data gathering may occur in stages as the focus of the investigation narrows. For example, a visual examination of the evidence may be enough, but over time, a joint destructive examination may become necessary. It is always important to discuss with the expert the usefulness of any further testing or investigation, as they may be able to provide context and information as to the possible next steps. If there is not enough physical evidence to support strong findings into the cause, it is necessary for the expert to communicate this as soon as possible to ensure proper management of expenses and resources.

Common Causes of Water Damage

Through the investigation described above, it is possible that the cause may be simply identified, and the avenue of subrogation be clear. However, the construction of these complex structures may require consideration of the building as a whole and an understanding of the nuances

specific to high-rise buildings. Three important and common causes of water losses we see related to high-rise structures include the following.

The installation of fittings requires a near perfect installation record to not be a factor.

Suppose a building has 20,000 plumbing connections. If there is a 99.9 percent success rate with those connections, that still means there is one failure for every 1,000 connections. So, in a building with 20,000 connections, statistics would dictate there would be a minimum of 20 failures. That's how precise builders need to be. You can be nearly perfect and still succumb to a loss because eventually a connection somewhere within the system of thousands will fail.

New manufacturing products or procedures are often tested and used in high-rise buildings.

If a new product could be installed in half the time, reducing the installation and bulk supply costs, it would be difficult not to go that route. This might be the difference between winning and losing the bid for the next project. If there are cheaper methods of installation, the industry will always be interested. Clients may decide to take on the risk and believe that a manufacturer's product is the best option, until the day comes when the cheaper method no longer proves viable.

For example, installers often use brass fittings to connect PEX piping in an effort to contain costs. Those brass connections may be made with a high zinc content and low copper content. In certain water environments, this would lead to dezincification of the fitting and ultimately fracture of the connection.

There are a lot of great developing products, but it is critical to thoroughly test products and understand their limitations before implementing them in a high-rise piping system. The use of inferior materials can certainly be a contributing factor to the ultimate cause of the loss.

Expansion or contraction of water lines may not be taken into account in the design of fluid transfer systems.

When pipes heat up, they expand, and when pipes get cold, they shrink or contract. If the design or installation restricts the pipe from movement, major problems can occur. This is particularly important in multistory buildings, as the longer the length of pipe, the more expansion or contraction is experienced. Common problems can include:

a) Lack of expansion or contraction mechanisms on the riser;

b) Over-constrained branch supports;

c) Cold water line expansion is not considered; and/or

d) Plumbing issues related to riser clamp usage.

Putting It All Together

High-rise water losses can have complex causes and often result in a significant amount of damage due to the size and number of factors at play. When dealing with this type of loss, it is important to have a thorough understanding of the common modes of failures for high-rises, as they are unique structures, and to gather all the relevant data in order narrow the cause of loss and identify any potential avenues of subrogation.

Masoud Mashkournia, M.Sc., P.Eng., is a mechanical engineer with Envista Forensics. With 10 years of experience in the field, he specializes in the practice areas of mechanical engineering and failure analysis of commercial claims as it relates to industrial equipment, including pipelines or process piping, high-rise piping analysis, plumbing piping and components, fire detection and suppression systems, and mechanical equipment. Masoud also provides support to the vehicle accident reconstruction team, determining vehicle speeds, collision locations, seatbelt use and potentials to avoid.

I Don't Think It Means What You Think It Means: Force Majeure Provisions in the Time of Coronavirus

By Joshua W. Mermis

Just over a century ago, a new strain of influenza arose and quickly spread throughout the world. This new illness, the Spanish flu, quickly reached the level of a worldwide pandemic in the early twentieth century. In the U.S. alone, half a million people died of the Spanish flu. For perspective of how devastating this pandemic was, the Spanish flu claimed the lives of more than twice the number of Americans who died during World War I, the largest scale military conflict in human history up to that time.

History is filled with examples of how pandemics can be more devastating than wars, political conflicts, and natural disasters. Today, a short century after the Spanish flu touched every populated area on the planet, we are faced with another pandemic: the coronavirus. The uncertainty accompanying this latest pandemic and the health concerns we all have for our family, friends, and neighbors cannot be understated. That same uncertainty has resulted in disruption to our everyday lives and, on a more mundane level, on commerce. The issues of whether the pandemic excuses contractual performance and associated risk allocation are new facts of life. Given the severe impact the coronavirus pandemic is taking on businesses across the entire world, it is critical to have an understanding of one's contractual rights and obligations. A good starting point is with a review of the contractual force majeure clause.

Force Majeure

Force majeure is a contractual term that dates back more than a century. The term refers to an event, often referred to as an "Act of God," which is beyond the parties' reasonable control and that intervenes to render performance under the contract impossible and, therefore, excused. 6 A. Corbin, *Corbin on Contracts*, §1324 (1962).[1] If the term force majeure itself at one time carried significance, courts in recent history have found "much of [force majeure's] historic underpinnings have fallen by the wayside." *Sun Operating Ltd. P'ship v. Holt*, 984 S.W.2d 277, 282-83 (Tex. App.—Amarillo 1998, pet. denied). Of course, state laws will vary, but every jurisdiction respects a parties' right to contract. With this in mind, it is clear that the majority of force majeure disputes will likely rely heavily on the specific language used in the contract. For example, Texas courts now find the term "force majeure" to be without substance when standing alone and utterly dependent on the other terms of the contract in which it appears. *Hydrocarbon Mgmt., Inc. v. Tracker Expl., Inc.,* 861 S.W.2d 427 (Tex. App.—Amarillo 1993, no writ).

Force majeure is not a magic phrase which would relieve a promisor of contractual obligations in the face of an event that could be described as an Act of God. *Sabine Corp. v. ONG W., Inc.*, 725 F. Supp. 1157, 1172 (W.D. Okla. 1989). Rather, force majeure describes a particular type of event which may excuse performance under the contract. *Perlman v. Pioneer Ltd. P'ship*, 918 F.2d 1244, 1248 (5th Cir. 1990). Force majeure clauses can be either general or specific, but even the most general or the most specific clause may still not protect you. When the contract sets out the parameters of what force majeure covers, those parameters dictate the "application, effect, and scope of force majeure." *Specialty Foods of Indiana, Inc. v. City of South Bend,* 997 N.E.2d 23, 27 (Ind. App. Ct. 2013).

While a pandemic, such as the coronavirus, would seemingly qualify as an Act of God and fall under such an event outside of the parties' control, the deciding factor of whether coronavirus falls under the scope of a force majeure clause rests entirely on the language of the clause itself. Most courts interpret force majeure clauses narrowly. *See Kel Kim Corp. v. Central Mkts., Inc.*, 519 N.E.2d 295, 296-97 (N.Y. 1987). Therefore, it is instructive to review two illustrative examples: one of such a clause that explicitly covers a health event such a coronavirus, and a second that may cover coronavirus under a "catch all" provision.

[1] Even Corbin points out the term force majeure by itself serves no purpose as a test of contractual responsibilities and the issue of whether a promisor's contractual duties are discharged would be better approached by reviewing:
- The terms of the contract.
- The custom of business in like cases; and
- Prevailing opinion of public welfare as evidenced by judicial decisions.

Example 1 – Force Majeure Provision Specifying Pandemics

"Force Majeure – Neither party shall be liable to the other for any delay or failure in performance due to any Act of God, fire, flood, severe weather, earthquake, strike, or other labor problem not caused by the employees of either party, terrorism, war, governmental actions, civil disturbances, pandemics, epidemics, quarantines or other health crisis."

Courts are substantially more likely to enforce a force majeure clause in a contract when the clause clearly lists the event complained of in order to excuse performance. In this first example, the parties specifically bargained for a force majeure clause that included pandemics, epidemics, quarantines, or other health crisis. Under this example, a party seeking excuse for non-performance due to the coronavirus pandemic would argue the language of the contract demonstrates that the parties intended such an event to excuse performance. As the force majeure language clearly covers a health event such as the coronavirus, the court would be hard pressed to deny that excuse for non-performance. *Sun Operating*, 984 S.W.2d at 283, citing *PPG Indus., Inc. v. Shell Oil Co.,* 919 F.2d 17, 18 (5th Cir. 1990).[2]

Example 2 – Force Majeure "Catch All Provision"

"Force Majeure—Neither party shall be liable to the other for any delay or failure in performance due to any Act of God, fire, flood, severe weather, earthquake, strike, or other labor problem not caused by the employees of either party, terrorism, war, or any causes beyond the parties' control."

In this second example, the force majeure clause does not include language that specifically identifies an event such as the coronavirus pandemic. The party seeking excuse for nonperformance in this case would argue that the coronavirus pandemic would fall under the force majeure "catch all provision": any causes beyond the parties' control could qualify as force majeure. When does such a catch all phrase sufficiently capture the event at issue?

The First District Court of Appeals in Houston recently addressed the question of when a catch all provision in a force majeure clause is sufficient to capture an event that was not specifically enumerated in the force majeure clause. The specific issue was whether one party's inability to obtain financing because of a downturn in the oil and gas industry qualified as a force majeure event in the contract. *TEC Olmos, LLC v. ConocoPhillips Co.*, 555 S.W.3d 176, 183–84 (Tex. App.—Houston [1st Dist.] 2018, pet. denied). The contract provision in *TEC Olmos* did not specify an economic downturn as a force majeure event but did contain a "catch all provision."

The court utilized a two-step analysis to determine whether an economic downturn constituted a force majeure event. First, the court applied common law notions of force majeure, including foreseeability, to "fill in the gaps" in the force majeure clause. *TEC Olmos*, 555 S.W.3d at 184; citing *Sun Operating*, 984 S.W.2d at 283. The court found that since fluctuations in the oil and gas market are foreseeable as a matter of law, it cannot be considered a force majeure event unless it is specifically listed as such in the contract. *TEC Olmos*, 555 S.W.3d at 184.

The second step in the court's analysis involved narrowly applying the doctrine of *ejusdem generis*. Generally, courts tend to construe catch all provisions narrowly while following the rules of *ejusdem generis*. *See Seitz v. Mark-O-Lite Sign Contractors, Inc.*, 510 A.2d 319, 321 (N.J. Super. Ct. 1986). Under this doctrine, when specific items in a list are followed by catch-all language, the catch-all phrase is limited to things similar to the specific items listed. *Ross v. St. Luke's Episcopal Hosp.*, 462 S.W.3d 496, 504 (Tex. 2015). Catch-all language of the force majeure clause relied upon is to be narrowly interpreted as contemplating only events or things of the same general nature or class as those specifically enumerated. *URI Cogeneration Partners, L.P. v. Bd. of Governors for Higher Educ.*, 915 F. Supp. 1267, 1287 (D.R.I. 1986). For example, the force majeure clause in *TEC Olmos* specified the terms "fire, flood, storm, act of God, governmental authority, labor disputes, war" followed by "any other cause not enumerated herein but which is beyond the reasonable control of the Party whose performance is affected." *TEC Olmos*, 555 S.W.3d at 186. Applying the doctrine of ejusdem generis, the court limited the catch-all phrase to the types of events specified before, *i.e.* fire, flood, storm, etc., and determined that the catch all phrase did not cover an economic downturn as a force majeure event.[3] *Id.*

[2] The Fifth Circuit court held that the reasonable control requirement which was allegedly an element in the historic doctrine of force majeure was applicable not because of the dictates of common law, but because the parties so stated in their contract.

[3] Courts have declined to apply the doctrine of *ejusdem generis* when the catch all provision in the force majeure clause contains the language "including but not limited to." Such language demonstrates "the parties intended to excuse all delays coming within the general description regardless of their similarity to the listed excuses." *E. Air Lines, Inc. v. McDonnell Douglas Corp.,* 532 F.2d 957, 989 (5th Cir. 1976).

Conclusion

The coronavirus presents the global community with the most serious pandemic in the past hundred years. As businesses are forced to shut down, the effects of this pandemic remain palpable on every level of our economy. As this pandemic has affected all industries, an understanding of the potential effects the coronavirus regarding contractual obligations. In this new world, parties entering into contract would be well served to include appropriate, detailed force majeure language based on the pertinent case law. The evil an obligor will want to avoid is being unable to perform under the contract because of a pandemic event, but not being excused from performance based on the language of the contract.

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Challenging Expert Opinions: Extrapolated Findings Based on the ASTM E2128 Standard for Evaluating Water Leakage of Building Walls

By Benjamin W. Dowers

At most large Florida construction defect mediations, one would likely hear the *Heron's Landing*[4] case argued in caucus. Typically, plaintiff's counsel argues that the destructive testing sample size was more than adequate and the findings and expert testimony will be admissible under *Heron's Landing* and the *Daubert* standard.[5] In contrast, defendants argue that the sample size was too small, there was no quantitative analysis, and the plaintiff's expert cannot extrapolate the data subset to the entire project.

Despite the differing positions, all parties agree that destructive testing is expensive and findings can cut both ways. For example, a defense expert may argue that there are no damages under a three-coat stucco system over a wood-frame wall since the stucco is not cracking or delaminating, but destructive testing can reveal rotted sheathing. Similarly, a plaintiff's expert can argue that the flashing detail at a wall and roof intersection is permitting water to penetrate into the building envelope, but destructive testing reveals like-new building materials.

Currently, *Heron's Landing* is the authoritative case in Florida concerning the adequacy of destructive testing and its application to the project as a whole. The court in *Heron's Landing* used the *Daubert* standard to reach its ruling. In Florida, the *Daubert* standard is codified under Florida Statute §90.702 and permits "scientific or technical testimony to be admissible if that testimony is (1) based upon sufficient facts or data; (2) the product of reliable principles and methods; and (3) the witness has applied the principles and methods reliably to the facts of the case." Whether by statute or case law, many state jurisdictions have adopted qualification standards similar to those imposed by Florida statute.[6] This article explores *Heron's Landing* at the trial level and provides an analysis of the appellate opinion. Generally, *Heron's Landing* stands for the proposition that expert opinions predicated on the ASTM E2128 standard for evaluating water leakage of building walls ("ASTM E2128") will not be excluded when challenged with only a quantitative sampling defense. The goal of this article is to provide defense attorneys - not just in Florida – with different approaches to challenging expert opinions based on ASTM E2128 with a focus on stucco and window systems.

Heron's Landing at the Trial Level

Heron's Landing presents ubiquitous facts in multi-party construction defect cases: single builder who served as both the developer and general contractor but did not self-perform the work; subcontractors hired to complete the work; multiple buildings on the project; and different subcontractors completed the same scope of work. For example, two or three stucco subcontractors installed the wire lath and stucco, but each subcontractor worked on different buildings on the project.

In 2013, plaintiff Heron's Landing Condominium Association of Jacksonville, Inc. (the "Association") filed suit against defendant DR Horton, Inc. - Jacksonville ("DR Horton") alleging construction defects. The development consisted of twenty two-story condominium buildings with a total of 240 units in Jacksonville, Florida. The buildings were constructed between 2005 and 2007 and were wood-framed with a traditional three-coat, portland cement plaster (a/k/a "stucco") over wire lath.

The Association alleged myriad construction defects involving the asphalt roadways, roof, flashing, windows, and stucco. According to the Association's expert, ASTM E2128 was used as the foundation for the forensic evaluation and destructive testing for the stucco and window systems. As to the stucco, the expert destructively tested stucco at 7 of the 20 buildings. Additionally, the expert completed both water spray and sill dam tests on three of the over 500 windows on the project. Per the expert, the test samples revealed that the installed stucco violated the ASTM C926 and C1063[7] standards and the windows were improperly installed. The expert completed testing and observations on other components such as the roof, asphalt roadways, and sound barriers. The expert con-

[4] *D.R. Horton, Inc. - Jacksonville v. Heron's Landing Condominium Assoc. Of Jacksonville, Inc.*, 266 So.3d 1201 (Fla. 1st DCA 2018).

[5] *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993)

[6] *See, e.g., E.I. du Pont De Nemours and Co., Inc. v. Robinson*, 923 S.W.2d 549 (Tex. 1995).

[7] Both standards are incorporated into the Florida Building Code by reference.

cluded that an appropriate repair plan would include the removal and reinstallation of the project's stucco coating and the windows.

Following two years of litigation, on January 29, 2016, DR Horton filed its Motion in Limine to "Exclude Evidence of Damage or Cost of Repair Based Upon Extrapolation." DR Horton made two arguments: (1) that the Association's expert was unqualified to testify that the destructive testing of stucco at 7 buildings could be extrapolated to all 20 buildings; and (2) the sample size was inadequate to extrapolate. DR Horton stated the extrapolation was prejudicial because a jury could impose damages to buildings that were not destructively tested; that permitting the Association's expert to extrapolate may confuse the jury and lead to a prejudicial conclusion that the defects are uniform throughout the project; and that the expert failed to take into account differing conditions between the buildings. Later, DR Horton supplemented its motion to include a statistician's analysis which evaluated the destructive sampling's methodology, selection, and sample size. The statistician concluded the Association's expert failed to outline a proper sampling scheme; failed to procure a proper sample size, and created a sampling bias through the use of his own visual observations, review of plans, and conversations with unit owners to choose areas to test.

In response, the Association argued that its expert used his experience and knowledge of the construction industry in Florida and generally acceptable methods to perform the inspections and testing. The premise of the Association's argument was that a quantitative analysis was not required to conclude that defects were persistent throughout the project. Rather, ASTM E2128 provided a methodology and that activities such as visual observations, conducting interviews, and reviewing plans to form a hypothesis whether defects are present, with destructive testing confirming that hypothesis. Specifically with regard to the stucco and window systems, the Association relied on ASTM E2128's language that the standard "is not based on conventional hypothesis testing and quantitative random sampling."

At the hearing on the Motion in Limine, the court heard live testimony from the Association's expert. DR Horton's motion was ultimately denied, with the court finding the opinions admissible after evaluating ASTM E2128's general acceptance in the industry and the reliability of the testing. With respect to the window tests, the court noted that if the Association's expert solely relied upon the water spray and sill dam tests to reach his conclusions, then DR Horton would have a stronger argument to exclude the testimony under deficient quantitative sampling.

In April 2016, the trial began and after six weeks of evidence and expert testimony, the jury returned a $9,600,000.00 verdict for the Association. DR Horton appealed various issues, including the extrapolation of the destructive testing.

Heron's Landing on Appeal

Florida's 1st District Court of Appeals' opinion upheld the trial court decision and addressed two issues: (1) extrapolation and (2) whether actual damages are required for a violation of the Florida Building Code claim. This article focuses on the extrapolation analysis. The court held that the Association's expert's testimony was admissible because it was "scientifically reliable and based on a peer-reviewed methodology that was the industry standard."[8] *Id.* at 1207. The court focused on the elements of the *Daubert* standard of reliability and general acceptance in the industry rather than arguments concerning quantitative sampling.

In weighing reliability, the court noted that the Association's expert relied on over 40 years of experience in forensic investigation of construction defects and because ASTM E2128 was developed from a community of engineers. Also, the court recognized the universal acceptance of ASTM E2128's forensic inspection methodology.[9] The court did not provide in-depth analysis of statistical sampling and simply dismissed DR Horton's argument that it was improper to extrapolate a small subset to the project as a whole. Instead, the court focused on the *Daubert* standard to evaluate the expert's experience, the reliability of the testing methods, and the conclusions that arose from the peer-reviewed testing. On November 12, 2019, the Florida Supreme Court denied certiorari.

Arguably, *Heron's Landing* could be interpreted as setting a low bar for a plaintiff because the plaintiff's expert only needs to show experience and the forensic evaluation was completed per ASTM E2128 and a stand-alone quantitative statistical attack will not exclude the expert's testimony. On the other hand, the opinion does not completely dismiss a quantitative statistical defense, but rather the opinion indicates such a defense is secondary to a *Daubert* analysis.

[8] *Heron's Landing*, 266 So.3d at 1207.

[9] *Id.* at 1207-1208.

The ASTM Standards

To challenge destructive testing samples and the subsequent extrapolation, the ASTM standards and protocols used should be thoroughly examined. The focus of this article is mainly on ASTM E2128 since it served as the foundation to the expert's opinion in *Heron's Landing*. However, other ASTM standards address extrapolation and sampling subsets and can be effective weapons against expert's methodology and testing protocols.

ASTM E2128 provides investigative techniques to a forensic examiner to evaluate water leakage at building walls. The framework for an investigation is outlined in section 5 titled "Sequence of Activities" and recommends the examiner to: (1) review project documents, (2) evaluate the design concept; (3) determine the service of history; (4) inspect the building; (5) test; (6) analyze; and (7) prepare a report. As mentioned above, section 5.2 states that ASTM E2128 "is not based on conventional hypothesis testing and quantitative random sampling." But section 5.3 also cautions the examiner to not "assume[] or expect[] that all locations with similar design, construction and service characteristics will be currently performing in precisely the same manner."

While ASTM E2128 states that quantitative sampling should not be a factor in its application, other ASTM standards address such quantitative analysis. *See, e.g.,* ASTM E122 "Standard Practice for Calculating Sample Size to Estimate, With Specified Precision, the Average for a Characteristic of a Lot or Process" (aiding an examiner "in deciding on the required sample size"); ASTM E141 "Standard Practice for Acceptance of Evidence Based on the Results of Probability Sampling" (outlining rules for accepting or rejecting evidence based on sampling); ASTM E178 "Standard Practice for Dealing with Outlying Observations" (providing guidelines to assist the examiner to analyze observations that appear to be "outliers"). In a matter where an expert extrapolates the performance of construction materials, then a review of ASTM E122, E141, and E178 is warranted.

Defending Against Expert Opinions Based on ASTM E2128

Generally, a defense should focus on: (1) the expert's interpretation and subjective use of ASTM E2128; (2) changes in the construction means and methods; and (3) the relevance of the data set. The hurdle for defense counsel is that *Heron's Landing* implies that an expert can reach broad conclusions under ASTM E2128 and then selectively choose areas to destructively test. The expert can choose the worst areas and argue that other areas are suffering similar damages.

First, defense counsel should review ASTM E2128 and retain an expert that is well versed in its protocols and interpretation.[10] ASTM E2128 provides a loose framework that is open to subjective interpretation. Specifically, section 5.2 outlines various activities which a prudent expert will examine completely. However, experts can simply ignore some activities or amend the activities so thoroughly as to render them purely subjective. For example, an expert may investigate the onsite conditions but fail to review the maintenance history and be unaware of prior repairs. During deposition, defense counsel should walk-through ASTM E2128 section 5.2 to determine if the considerations were liberally construed, modified to fit the expert's subjective need, or simply ignored.[11]

Second, a court will focus on the reliability and general acceptance of ASTM E2128, but extrapolation and statistical subsets arguments should not be ignored. In *Heron's Landing,* the Association only sued DR Horton and did not independently bring suit against the subcontractors. The Association argued DR Horton was the constant denominator across the project, meaning all the buildings were constructed under the auspices of DR Horton. This permitted an inherent argument that DR Horton controlled all aspects of the project, and a jury may have assumed all buildings were similarly constructed and defects were uniform throughout. Defense counsel should focus on facts that show a change or alteration in the means and methods of construction and whether the expert considered such changes or alterations to buildings not destructively tested. As an example, if the expert only tested buildings with no weep screeds at the base of stucco walls and extrapolated his conclusions to buildings with installed weep screeds, then the conclusion fails to account for a material change that can be used to challenge the extrapolated conclusions under the ASTM E2128 section 5.3 disclaimer.

Third, a variation of the second defense, is to focus on the relevancy of the data set. In *DR Horton, Inc. v. Eighth*

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[10] *See, e.g., Wallace v. Meadow Acres Manufactured Housing, Inc.* 730 N.E.2d. 809 (Ind.Ct.App. 2000)(focusing on the unreliability of the equation used to establish causation and prohibiting the expert to extrapolate the findings).

[11] *See e.g., Wyndham Intern., Inc. v. Ace American Ins. Co.*, 186 S.W.3d 682 (Tx. App.—Dallas 2006, no pet.)(finding an expert's testing methodologies for extrapolation were inadmissible when it was flawed, contained inherent errors, and was highly subjective).

Judicial Dist. Court ex. Rel. County of Clark., 168 P.3d 731 (Nev. 2007), the Nevada Supreme Court recognized the importance of the data set when it interpreted pre-suit notice requirements under NRS 40.645 and provided guidelines to the trial courts. The case involved a multi-family community with 138 buildings constructed by DR Horton which used multiple subcontractors. The community retained experts who used visual and destructive testing to identify alleged defects at some buildings which were then extrapolated to the whole project. The community then served a NRS 40.645 notice to DR Horton, but DR Horton filed a declaratory judgment arguing the notice was "unreasonable and thus statutorily insufficient" due to the extrapolation. The court agreed and established a "reasonable threshold test" and issued guidelines for the trial courts to focus on the data set and require subsets of buildings that are "similarly situated."[12] The opinion concerns pre-suit claims, but the importance of the analysis can be applied to a Daubert challenge when focusing on particular data.

This Nevada opinion recognized the importance of considering multiple different variables. Such variables can include (1) the subcontractor, (2) construction materials, (3) installation methods, (4) location of the buildings (*e.g.* whether a stucco wall faces east and takes the brunt of a full sun versus a wall that is continually shaded); and (5) changes in the building codes. With the differing variables, a statistician can provide a basis to challenge any extrapolated conclusions. If, for example, destructive testing shows that subcontractor A installed windows with a 75 percent defective installation rate, but subcontractor B following the same plans, specifications, and materials shows a 0 percent defective installation rate, the data set can be used to show that the defects may not be uniform but confined to subcontractor A.

Conclusion

The cost prohibitive nature of destructive testing will ensure extrapolation will continue in construction defect cases. The dearth of legal precedent addressing extrapolation under an ASTM E2128 analysis means that *Heron's Landing* will likely be cited in many states with constructive defect matters. Defense counsel should not rely on only a quantitative sampling defense but focus on the expert's use and interpretation of ASTM E2128 testing protocols, means and methods of construction, and the data set to increase the chances of a successful *Daubert* challenge.

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[12] *DR Horton, Inc. v. Eighth Judicial Dist. Court ex. Rel. County of Clark.*, 168 P.3d 731, 740 (Nev. 2007).