



2019 CONSTRUCTION CONFERENCE

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Mudslides, Wildfires and Hurricanes: Climate Created Construction Litigation

I Introduction of Topic/Panelists

The construction industry is not static. Climate change, particularly the increasing frequency and severity of weather events, is disrupting construction claims and litigation by changing the cast of typical defendants, the contractual methods for addressing delays, and the damage models for the cost to repair or rebuild damaged buildings and businesses. In order to avoid being antiquated, it is critical for all stakeholders to fully grasp the implications of climate change on the construction claims industry or risk being left behind.

II. Disruption Trend: Climate Change and Impact on Construction Claims

Many construction firms have grown accustomed to the weather patterns and climate within the areas they do business. Through experience and data gathering, they have developed strategies for ensuring that inclement weather does not threaten a project's success. However, even the best of plans may ultimately prove futile as climate change increases the frequency and severity of natural events.

Beginning with Hurricane Andrew in 1992, Florida has been at the forefront of discussions related to natural catastrophes and insurance markets. Florida's geographic, or physical, exposure to catastrophic weather, especially in the form of tropical windstorms, is unquestionable. Florida's increasing overall population, the increasing migration of its population to coastal areas, and the rise in total insured property values at risk in these areas combine to substantially increase Florida's concentration of insurance exposure to catastrophes.

Hurricane Florence made landfall in North Carolina on September 14, 2018 as a Category 1 hurricane. The storm made slow westward movement across the Carolinas, dropping record amounts of rainfall across a wide swath of eastern North Carolina. Coastal property was damaged from storm surges of up to 10 feet, but the damage extended far inland. Rivers in both North and South Carolina set record flood levels, and the riverine flooding lasted for weeks. It is estimated that Hurricane Florence caused between \$17 and \$22 billion in damages.

A total of 24 U.S. states were in some way affected by 2012's Hurricane Sandy. The hurricane caused tens of billions of dollars in damage in the United States, destroyed thousands of homes, left millions without electric service, and caused 71 direct deaths in nine states, including 49 in New York, 10 in New Jersey, 3 in Connecticut, 2 each in Pennsylvania and Maryland, and 1 each in New Hampshire, Virginia and West Virginia. There were also 2 direct deaths from Sandy in U.S. coastal waters in the Atlantic Ocean, about 90 miles (150 km) off the North Carolina coast, which are not counted in the U.S. total. In addition, the storm resulted in 87 indirect deaths. In all, a total of 160 people was killed due to the storm, making Sandy the deadliest hurricane to hit the United States mainland since Hurricane Katrina in 2005 and the deadliest to hit the U.S. East Coast since Hurricane Agnes in 1972.

California has been ravaged by record wildfires in recent years. 2017 was the state's costliest and most destructive fire season on record. The Mendocino wildfire in July 2018 was California's largest-ever by a whopping 60 percent. Even though California's wildfire season has traditionally ended in October, the Camp Fire raging in November 2018 is the state's most destructive on record. The data tell the story: Six of California's ten most destructive wildfires on record have now struck in just the past three years.

Wildfires are followed by deforestation and loss of topsoil. With increasing frequency of wildfires and rain, Western States, particularly California, have experienced an increase in devastating mudslides, destroying property, injuring people and worse. How will the construction claims industry survive a claims market that differs substantially from the foreseeable risk when the policies were underwritten?

A. Mudslides, Wildfires, and Hurricanes: Emerging Claims

1. Acts of God or Actionable Claims

Force majeure is considered "an event or effect that can be neither anticipated nor controlled." Black's Law Dictionary 673 (8th ed. 2004). As a result, not all conditions or events are situations that will excuse performance of contractual obligations, and therefore contractual obligations can only be excused under force majeure in extreme and unusual circumstances, such as a hurricane. A party's inability to perform under a contract must be determined based on an objective standard, which shows that no one could perform the party's obligations under the contract.

Because force majeure refers to a superior or irresistible force, it is often used interchangeably with an "act of God." An act of God excuses events beyond the control of mere human agency and occurs when there is an intervention of an "extraordinary, violent, and destructive agent, [which because of] its very nature **raises a presumption that no human means could resist its effect.**" Furthermore, when the subject matter of a contract is destroyed because of an act of God and the party seeking to be excused is not at fault, the contract will be terminated relieving both parties of any further obligations. In many instances, specific weather conditions have been considered acts of God when the necessary prerequisites were met. For instance, a "severe weather condition must be atypical, unexpected, and . . . have an adverse impact" on the party's performance under the contract.

In light of the increasing frequency and severity of catastrophic weather events, we expect there to be a push by Plaintiffs' counsels to, when faced with a force majeure argument, argue that these weather related events were reasonably foreseeable to contractors and design professionals and that the effects could be resisted by human means.

2. Emerging Theories of Liability

a. Defect Claims

According to Climate Central, "For every 1°F of warming, the saturation level of the atmosphere increases by about 4 percent. This means more water is available to condense into precipitation, and it can come down in heavier downpours." Architects, engineers, and other professionals are likely to face complete destruction, mold and mildew claims, construction defect claims, and other claims related to climate change.

b. Bodily Injury Claims

Nearly 6.5 million people work at approximately 252,000 construction sites across the nation on any given day. The fatal injury rate for the construction industry is higher than the national average in this category for all industries.

Climate change has increased the risk to workers' health and safety. Workers, especially those who work outdoors or in hot indoor environments, are at increased risk of heat stress and other heat-related disorders, occupational injuries, and reduced productivity at work. Smoke inhalation from fires, in addition to excessive heat, is a potential hazard for other workers.

Many workers are at high risk of occupational hazards from extreme weather events such as hurricanes, which will likely increase in frequency and severity with climate change.

Extreme weather events pose a variety of health and safety hazards to rescue and recovery workers, such as injuries from slips and falls and from being struck by airborne objects, inadequate sleep and nutrition because of long and uninterrupted work shifts, physical exhaustion, mental stress, and vehicular crashes. Floods, landslides, lightning strikes, and wildfires pose serious hazards. Heavy snowstorms can cause roof collapses and related hazards for workers.

c. Business Interruption

As both the frequency and severity of weather-related events increase, so too has the extent of damages a property owner will seek to recover. For both commercial and residential properties, there has been an increase in the number of owners who claiming their business was interrupted as a result of defective construction, revealed for the first time by storm and fire damage.

Many lawsuits involving real property and defective construction claims include claims for damages that do not constitute physical damage to tangible property. The recent decision in *Mid-Continent Cas. Co. v Adams Homes of Northwest Florida, Inc.*, No. 17-12660, 2018 WL 834896 (11 Cir. Feb. 13, 2018) seems to make loss of use claims—even where no physical damage to tangible property occurs—potentially covered claims under CGL policies in Florida.

Until the Adams decision, most of the focus in insurance litigation for defective construction involved the question of whether or not the “property damage” definition had been met by a showing of physical injury to tangible property. See *U.S. Fire Ins. Co. v. J.S.U.B., Inc.*, 979 So. 2d 871 (Fla. 2007), *Auto-Owners Ins. Co. v Pozzi Windows Co.*, 984 So. 2d 1241 (Fla. 2008). The Adams decision now gives a potential claimant under a CGL policy two avenues for pleading and proving covered “property damage”: 1. physical damage to tangible property and accompanying loss of use; and/or 2. loss of use unaccompanied by such damage.

d. Design Professional Liability

Recently, the Fourth National Climate Assessment warned that climate change will cost the United States economy hundreds of billions of dollars annually by the end of the century. Increasingly, stakeholders in the construction process are recognizing that buildings need to be designed to withstand the climate conditions of tomorrow as well as today. Naturally, this leads to the question of whether there will be a legal liability when design professionals fail to anticipate the conditions brought about by climate change.

Tort suits alleging liability for failure to adapt to climate change are unusual, but there are signs that they may be becoming more commonplace. In the wake of Hurricane Katrina, plaintiffs argued, with some success, that it was foreseeable to the US Army Corps of Engineers that a navigation channel would change the local microclimate in ways that exacerbated hurricane damage (*St. Bernard Par. Gov't v.*

United States, 121 Fed. Cl. 687, 721 (2015), rev'd on other grounds, 887 F.3d 1354 (Fed. Cir. 2018), petition for cert. filed, No. 18-359 (Sept. 9, 2018).

So, what is the standard of care? Simply put, design professionals have a duty to exercise the care of a reasonable practitioner in the location. Unfortunately, complying with this simple standard can be tricky, and the door is often open for someone to argue after a problem develops that the architect or engineer did not exercise the required level of care.

Relying on locally available climate data or projections may not be enough to protect the design professional from liability. Today, an architect in New York would have access to well-founded floodplain maps that take into account the potential impacts of climate change. However, this was not always the case. When Hurricane Sandy struck in 2012, many communities' FEMA maps dated back to 1983. In this situation, it would be more difficult for a design professional to claim that reliance on official floodplain data was reasonable.

Plaintiffs may argue that various nonbinding standards show prevailing practice. Industry bodies such as the American Society of Civil Engineers are attempting to develop such standards, and the Canadian Engineering Qualifications Board has published standards for engineers adapting to climate change. There is also the risk—as some design professionals have experienced with LEED certification—that undertaking to comply with otherwise nonbinding standards could create legal obligations.

3. Parties to Climate Resulting Claims

CGL climate-related claims will continue to feature generally the same players as has always been the case: property owners, contractors, design professionals, etc. However, it remains to be seen to what extent climate change will alter these entities' duty to use reasonable care in the performance of the usual suspects' scope of work. However, given the sheer magnitude and volume of claims, liability insurance is proving insufficient, and property carriers and under-insured are asserting novel theories of recovery against a new group of defendants, including governments, quasi-governmental utilities, and suppliers, distributors and manufacturers of arguably outdated products design to resist the reasonably foreseeable effects of mother nature.

Climate change will likely have an extraordinary effect on the potential liability of suppliers and/or manufacturers. Typically, a manufacturer or supplier is a larger entity than the contractor installing the products or the design professional that approves the use of that product. Section 2 of the Third Restatement of Torts distinguishes three major kinds of possible liability claims: Design defects; Manufacturing defects; and Marketing defects, or failure to warn.

Expect to see an uptick in product defect claims guised as construction defect claims as the performance standards under which these products were tested become outdated based on climate change. What legal precepts can be used to curb this trend? Will the Economic Loss Rule continue to be a vital defense?

B. Rebuilding Challenges

An estimated 30,000 homes in Houston were destroyed by Harvey, more than this city was expected to build in all of 2017, according to the Greater Houston Builders Association. Tens of thousands more were damaged. The spike in construction demand comes at a time when contractors say they already are facing delays of one to two months to find workers for their projects. Wages and material prices also, potentially by double-digit percentages, pursuant to the historical example of Hurricane Katrina in 2005.

In 2008, there were only 31 construction defect lawsuits filed in the entire state of Florida. But by 2017, that number had ballooned to nearly 1,000. Many in the construction industry acknowledge that a shortage of skilled workers is an important part of the dramatic increase in construction defect claims.

The \$200 billion combined price tag for hurricanes Harvey and Irma should prompt changes in zoning and land use in some places along the nation's coasts. After Superstorm Sandy, New York City became one of the first communities in the country to create a comprehensive set of climate resilience design guidelines for major projects in the region. The guidelines define a resilient facility as "one built to withstand or recover quickly from natural hazards," and they provide options for withstanding climate change-related risks, from more extreme heat to more severe floods, across the useful life of a project.

The so-called "FEMA 50% Rule" is required by the National Flood Insurance Program. Every community that needs federally backed flood insurance to be made available to its citizens must adopt and enforce rules related thereto. The FEMA 50% Rule applies to homes and other structures where the lowest floor is below the 100-year flood elevation. In residential properties, only parking, building access and limited, incidental storage is allowed below the flood level.

At its most basic, under the 50% FEMA Rule, if an improvement is "substantially damaged" or "substantially improved", it must be brought into compliance with the flood damage prevention regulations, including elevating the building to or above the 100-year flood elevation. Each community is responsible for determining the definition of "substantial damage" and "substantial improvement", but most communities in Southwest Florida use the same basic definition.

As defined by Collier County (Z101-0410), “Substantial Damage” is “damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damage condition would equal or exceed 50 percent of the market value or replacement cost of the structure before the damage occurred” and “Substantial Improvement” is “any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the ‘start of construction’ of the improvement.”

In Florida, The Florida Building Code Commission and Miami-Dade County implemented its own product approval process after the devastation caused by Andrew. The product approval process for components and cladding in High Velocity Hurricane Zones and Wind Borne Debris Regions is designed to protect structures and contents by guarding against breaches of the envelope and providing resistance to air and water infiltration. Nonetheless, Miami-Dade County has still experienced a substantial amount of devastation caused by the increasing frequency and severity of storms.

As a result, it begs the question as to whether the Miami-Dade County and FBC product approval system has become outdated in the less than thirty years since its inception.

C. Practice Pointers: Best Strategies for Climate Genre Claims

In some cases, insurers are encouraging customers to make their properties more resilient. For example, people in flood-prone areas are encouraged to use building materials that dry out quickly after floods. In other cases, insurers charge premiums to reflect the added risk.

Climate scientists say the 2017 hurricane season — the most expensive in U.S. history — could be a harbinger of more severe storms to come. The slowly rising sea level is contributing to more frequent flooding, and NOAA predicts that severe floods are likely to worsen. Wildfires, fueled by parched forests and high winds, are trending up in size as wildfire seasons grow longer.

However, more sophisticated technology and data analysis tools can help risk managers more proactively assess and mitigate their exposures.

Better processes at the front end of the insurance transaction can also help companies better prepare for and recover from losses. Some carriers are bringing more of their internal resources to bear much earlier for clients to help proactively mitigate risk. It’s not uncommon for an insurer to send out a risk consultant or engineer to a new client’s site to do just that, but often these surveys are limited to once per year. Companies need more than a single visit from a risk engineer to make the most of their feedback. Spending more time with clients means engineers can adopt the role of risk coach, actively helping risk managers prioritize and implement new protocols. That includes everything from training front-line employees on new procedures, to helping to select new building materials for capital improvement projects.

Collaboration among risk engineering consultants, claims professionals and underwriters from the very beginning of a client relationship also enables better loss prevention, as well as faster recovery when a claim does happen. A risk manager who is familiar with their claims contact before a loss can get the ball rolling much faster when they do eventually need to file a claim. Especially after a catastrophe, recovery often involves many moving parts, and time is of the essence. Knowing who to call to report the loss right away removes one step and can help companies hit the ground running.

III. Disruption Trend 2: Impact of Technology in Construction Claims

Today, new technologies in construction are being developed at a breakneck pace. What seemed like future tech 10, 20 years ago like connected equipment and tools, telematics, mobile apps, autonomous heavy equipment, drones, robots, augmented and virtual reality, and 3D printed buildings are here and being deployed and used on jobsites across the world.

A. Emerging Technologies in Video Storytelling: Impact on Trier of Fact

Before the use of courtroom technology, counsel relied on their courtroom presence, oratory, and enlarged exhibits to carry the day. Today, courtroom presence and oratory have their place, but litigants will likely need much more to meet the expectations of the jury hearing their case.

The federal courts were the first to install courtroom technology system-wide. Many state and local jurisdictions have installed technology-enhanced courtrooms in locations where there is a high likelihood of use and provide portable technology units in some courthouses as needed. However, these state and local installations do not make up as much of the system as one is likely to find in the federal courts. Even in those locations where the technology is available, the equipment does not operate itself.

Effective use of the equipment requires at least one person with a sufficient understanding of the technology to use it for its intended purpose.

There is no question that technology within the legal profession has been changing at an accelerated pace, faster and faster each year.

1. Drones

Unmanned Aerial Vehicles (UAVs), or drones, became a major staple construction technology trend of 2016 when the Federal Aviation Administration (FAA) introduced their new law in August, making it legal for Construction companies to operate drones onsite. This industry defining moment opened the floodgates for construction companies in America to both test and deploy drones onsite to aid in the construction process.

To date, larger scale construction company leaders are adopting UAV technology, but popularity and awareness is trickling down quickly to all areas of construction.

Drones have recently gained traction as an effective way of displaying actual the condition of a property to a jury who may otherwise not fully appreciate what they are assessing liability and damages over without context.

2. ESI

The exponential explosion of the volume and types of electronically stored information is driving litigation expense up. The lack of email discipline is perhaps the single most influential factor. Litigation economics demands action. What strategies are being employed to control the scope of ESI to prevent its cost from driving the resolution of claims?