Workshop B: Environmental Issues Following a Natural Disaster

Case Studies

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1. Disaster Preparedness: Arkema Crosby Facility

Disaster preparedness is all about the ability to accurately assess and plan for mitigable risk. In order to understand the complexities of disaster preparation policies in the real world, it is important to review a case where these policies were not adopted and where the subject company, and the community it works in, were drastically affected. One such case study is the Arkema, Inc., facility in Crosby, Texas, which manufactures organic peroxides. See Organic Peroxide Decomposition, Release, and Fire at Arkema Crosby Following Hurricane Harvey Flooding. U.S. Chemical Safety and Hazard Investigation Board. Report No. 2017-08-I-TX. Available at: https://www.csb.gov/arkema-inc-chemical-plant-fire-/.

In 2017, Hurricane Harvey hit Texas, producing unprecedented rainfall which caused massive flooding across Texas. Eventually, that flooding made its way to Crosby and the Arkema facility. Flooding at Arkema was particularly troublesome because the organic peroxides Arkema products must be kept at cool temperatures or they will ignite and burn.

As the flooding increased and water levels rose, Arkema’s crew needed to de-energize electrical equipment to proactively prevent short circuiting. Back-up generators turned on automatically, but the floodwater forced workers to turn them off for safety. Instead, workers moved the organic peroxides to temporary trailers for transport to higher ground. Unfortunately, before some of the trailers could be moved, they began to fail and lose refrigeration as the floodwater pooled into their fuel tanks. Ultimately, the products began to decompose, causing the peroxides and the trailers to burn. Over 350,000 lbs. of organic peroxide combusted, sending 21 people to the hospital for toxic fume exposure and preventing more than 200 residents living within a 1.5-mile radius from returning to their homes for a week.
Amid dealing with this disaster, general Hurricane Harvey disaster relief was still ongoing—as all other interstates were closed, Highway 90, which cut right through Arkema’s evacuation zone, was the only route open for transporting hurricane relief and rescue resources. Due to the smoke pouring from the Arkema facility, Highway 90 had to be closed.

Now, Arkema faces numerous law suits from first responders, crew workers, and members of the Crosby community for its failure to adequately prepare for the storm. The CEO of Arkema and the Crosby plant manager are also facing criminal charges for their “reckless disregard” for the risk of flooding.

The devastating impact of Arkema’s failures could have been prevented by adequately assessing the risk of natural disasters and creating a flooding preparedness plan and implementing policies to prevent the electrical shutdown that caused the burning to occur. Namely, Arkema had implemented 3 separate safety systems as a response to flooding: redundant refrigeration systems; emergency generators; and refrigerated trailers for temporary storage. However, none of these layers met company or industry standards, and each layer failed during Hurricane Harvey flooding, likely due to Arkema’s first mistake: it did not adequately assess the risk that flooding posed to the facility. For example, while company safety checks indicated that the Crosby facility was in the 100-year and 500-year flood plain, Arkema failed to take adequate precautions to prepare for this risk. Arkema did not retain flooding incident summary reports, and thus did not deem flooding to be a credible risk to the facility. This is problematic because according to the Chemical Safety and Hazard Investigation Board’s (“CSB”) report, the rainfall documentation from the area would have indicated to Arkema that flooding was a potential problem.
Unfortunately, maintaining, updating, and relying on this information falls largely on companies. Industry regulations and safety guidance are too vague or generic to help companies prepare for potential disasters, such as the severe flooding that Arkema faced. Thus, despite lax regulations on the issue, the best practice to avoiding disaster, and accompanying liability, is to employ policies that reduce risk to “as low as reasonably practicable” (“ALARP”) standards. See *Arkema Inc. Chemical Plant Fire Recommendations*. U.S. Chemical Safety and Hazard Investigation Board. https://www.csb.gov/recommendations/?F_InvestigationId=3594.

On this issue, many companies will be tempted to engage in a “cost-benefit” analysis in order to determine the amount of risk the company should take precautions to prevent. While such an analysis would be beneficial to the company’s bottom line in the short run, such a policy can and will be highly criticized if and when disaster strikes. Arkema, for example, failed to employ risk reduction policies to reduce risks to as low as reasonably practicable, and is now paying a civil and criminal penalty for its choice.

Further, companies should develop policies requiring regular testing, updates, and upgrades are performed to ensure emergency disaster preparedness. In our example, for Arkema, this means ensuring that critical safeguards, such as backup power, function as intended during extreme weather events, including hurricanes or floods. Mitigating these potential effects on the front end is an invaluable tool—where companies undertake to create intuitive, meaningful disaster preparedness policies, companies reap the benefit of, first, avoiding the impacts of disaster, and second, avoiding liability for playing a role in exacerbating an already devastating disaster.
2. Debris Removal: New Orleans Landfills and Hurricane Katrina

Debris removal in the aftermath of a disaster has important impacts on the ability of those in need to receive emergency aid and the speed with which communities can begin to rebuild. Again, a real-world case study is instructive; here, New Orleans in the aftermath of Hurricane Katrina.

In New Orleans, the largest landfills were across the Mississippi River; new landfills were needed. The city-owned Old Gentilly Landfill had long been closed, but quickly reopened after Hurricane Katrina by emergency order. See Hurricane Katrina pushed landfill business into overdrive. Nola.com. March 20, 2011. https://www.nola.com/katrina/2011/03/hurricane_katrina_pushed_landf.html. There were environmental concerns that the landfill was situated amid wetlands, had accepted all manner of waste, and lacked modern underground liners designed to protect groundwater. The landfill sparked fierce debate about the potential effects on the abutting land and water—and a lawsuit. While neighbors and national advocacy groups pressed for answers, politicians tried to interpret technical environmental rules. FEMA, the Louisiana DEQ, EPA, the Corps, and consultants ultimately agreed on a course of action to address these concerns, and settle the lawsuit: (1) maximum daily debris load, (2) the placement and sequencing of waste, (3) geotechnical monitoring, and (4) groundwater monitoring. State officials limited the volume of refuse that could be collected at the Gentilly Landfill to 19,000 CY a day.

The opening of the city’s second new landfill after the storm—the Chef Menteur Landfill—was also controversial. See Shogren, Elizabeth. Makeshift Katrina Landfill Raises Safety Concerns. National Public Radio. Available at: https://www.npr.org/templates/story/story.php?storyId=5200540. It was also an unlined site; it
sat adjacent to a national wildlife refuge and a large minority community. Federal officials requested a liner be installed under the new landfill to reduce the chances that noxious material would leach into the nearby refuge. Demands for proof of its safety prompted the mayor to temporarily shut down the site, and it was only open for six months. Citing the need for more landfill space, the LDEQ then allowed the Gentilly landfill to increase its intake to 50,000 CY/day.

Both new landfills were non-hazardous sites. As a result, trucks carrying debris containing asbestos were frequently turned away, as were those carrying household hazardous wastes, fluorescent light ballasts, electronics and other unpermitted wastes. The remaining waste—concrete, lumber, roofing tiles, and other construction materials, and some tree and vegetation wastes—piled up 20 feet high along a line that moved across the 200-acre Gentilly site.

To better ensure protection of public health and the environment and prevent the creation of future Superfund site, the EPA updated its 1995 guidance on managing disaster debris disposal in 2008. Such guidance might have helped Mississippi, Louisiana, and Alabama avoid some of the controversies and lawsuits faced as a result of its emergency debris management decisions.

3. The False Claims Act and Allegations of Fraud

Due to the very nature of emergency relief, there tends to be limited oversight over vast amounts of federal money flowing into the disaster-struck areas. This can lead to fraudulent activity which, when discovered, can result in a “qui tam” action under False Claims Act, which allows private citizen “whistleblowers” to bring actions on behalf of the United States for discovered fraud, with the United States having the option to intervene.
One such whistleblower lawsuit, *United States ex re. Decastro v. Jacquet Constr. Servs., LLC*, 2012 U.S. Dist. LEXIS 78375 (E.D. La. June 6, 2012) was filed in 2007 against construction company Jacquet Construction Services, L.L.C. ("JCS") and its principals, alleging that they presented false and fraudulent claims arising from a FEMA contract for maintenance services on trailers temporarily housing victims of Hurricanes Katrina and Rita. The U.S. intervened in 2011, alleging that JCS instructed employees to submit fake records to receive unearned funds from FEMA in the aftermath of Hurricane Katrina. JCS was accused of submitting invoices for 7,475 preventative maintenance inspections during two months in 2006 when less than 5,000 inspections were actually performed. The U.S. sought to recover $2.2 million, and the parties settled, the terms of which were not made public.

In the whistleblower case of the *United States v. State Farm*, 137 S.Ct. 436 (2016), independent adjusters reported to have witnessed State Farm shifting Mississippi claims to federal flood insurance that should have been paid by private wind insurance after Hurricane Katrina. In 2013, a jury found that State Farm committed fraud against the federal government. State Farm was ordered to pay $750,000 in damages, with 30 percent going to the whistleblowers, plus $2.9 million in legal fees and expenses. In 2016, a unanimous U.S. Supreme Court upheld the jury verdict, and rejected claims by State Farm that the whistleblower case against the insurer should have been dismissed because the sealed lawsuit was leaked by the relators’ lawyer rather than remaining secret for at least two months, as required under the False Claims Act.

4. **Problems with Lax Oversight**

In addition to outright fraud, disaster relief can also be hampered by lax oversight, which can lead to contractors obtaining payment for inadequate or defective work, or work that is
unneeded, and possibly even damaging. After the 2017 Santa Rosa fires, for example, California state officials blasted the Corps for lax oversight after the debris removal contractors excavated so much extra material that they damaged driveways, septic systems, wells and other features on hundreds of fire-ravaged properties. Wine Country Wildfire Victims Say Army Cleanup Crews Added To Woes. October 08, 2018. Available at: https://sanfrancisco.cbslocal.com/2018/10/08/wine-country-wildfires-army-corps-cleanup-fraud-allegations/.

There have also been criticisms related to debris removal calculations following a natural disaster. Prior to 2016, FEMA was required to “take an active role in validating truck and trailer capacity certifications, evaluating operational efficiency, and overseeing documentation requirements.” But in 2016, the agency eliminated federal and state debris removal monitoring requirements. Local governments are now responsible for monitoring the process and they often hire monitoring firms. See Debris Removal Contractor Registry Information. Federal Emergency Management Agency. Available at: https://www.fema.gov/debris-removal-contractor-registry-information.

found they were being monitored mostly by contracted employees who approved the haulers for payment without properly checking truck loads.

Because FEMA reimburses much of the cost of state and local disaster cleanup, the report stated the lack of oversight resulted in the U.S. government paying millions of dollars for cleanup work that often was never completed. The report noted that “[w]ithout adequate guidance and oversight of debris removal by FEMA, state officials and sub-recipients, there is increased risk of fraud, waste, and abuse at great cost to the taxpayers.” FEMA debris removal operations in Florida and Georgia cost roughly $1.5 billion, but those costs would have been significantly lower if proper monitoring practices were in place after the storm.

5. FEMA Documentation

Though I am not aware of any instance where FEMA has withheld Hurricane Irma reimbursements to state and local governments related to the above example on non-compliance, FEMA has that power. Moreover, if a contractor does not perform according to FEMA guidelines, including maintaining proper documentation, it could find itself either unpaid or defending itself against a claim for credit or indemnification by a state or local government, if and when FEMA refuses to reimburse funds expended.

For example, following Hurricane Katrina, FEMA approved a program proposed by the Mississippi Emergency Management Agency to retrofit 2,000 homes for $29.9 million. However, $30.5 million was spent on just 985 homes. According to the OIG report, Mississippi overspent, had lax oversight, and failed to provide documentation for a program designed to retrofit homes. FEMA announced that it would not repay Mississippi for nearly $30 million spent to retrofit homes. As a result, Mississippi announced that it is seeking reimbursement from prime contractor for any unreimbursed amounts. Pender, Geoff. Mississippi blasts federal report

6. Environmental Damage and Government Takings

Under the United States Constitution, the United States is not permitted to take private property without just compensation and for public use (a “taking”). Given the government’s involvement with both infrastructure construction and maintenance and disaster relief, disputes arise as to whether a disaster either caused or intensified by government infrastructure which damages private property constitutes a taking requiring compensation.

In Rocky Mountain Thrift Stores v. Salt Lake City Corp., 784 P.2d 459 (Utah 1989), business owners brought an action against the city for damages they sustained as a result of a flood. The business owners alleged that the city negligently mismanaged the floodwaters. The trial court granted summary judgment in favor of the city. On appeal, the court reversed and remanded. The court held that the construction, operation, and maintenance of the city drainage system was a government function and was covered under the Governmental Immunity Act. The city did not expressly waive immunity because the design, capacity, and construction of the drainage system was a discretionary function of the city. The court also found no merit to the business owner's claim that the city allegedly committed an inverse taking of the business owner's property. However, on the issue of alleged negligent operation and maintenance of the drainage system, the court held that if proven, the city was not immune. The case was remanded for a determination of negligence.

In Bernard Parish et al. v. United States, 887 F.3d 1354 (Fed. Cir. 2018), Bernard Parish, Louisiana, and private property owners sued the United States in the Court of Federal Claims
under the Tucker Act, 28 U.S.C. § 1491, for a taking of their property in the form of a flowage easement caused by construction and improper maintenance of the Mississippi River-Gulf Outlet, which caused foreseeable environmental harm in the form of flooding. The Claims Court initially held for plaintiffs, finding that the U.S. had not adequately accounted for the increased likelihood of storm surge caused by Katrina by virtue of wetland destruction and bank erosion, which constituted a temporary taking. However, the Court of Appeals for the Federal Circuit reversed, holding that the proper standard of proof was not the harm caused by the MRGO, but rather whether the MRGO as well as contemporaneous efforts at flood control and levee construction, taken together, increased the likelihood of flooding beyond what existed if the government had never acted. Accordingly, the plaintiffs had not established a causal relationship, and no taking could be said to have occurred.

7. “Act of God” Defense to Superfund Site Contamination

A Superfund site is land identified by the EPA that has been contaminated by hazardous waste. There are 1,340 Superfund sites nationwide that have not been cleaned. Superfund sites were flooded during Hurricanes Katrina, Sandy and Harvey. Many Superfund sites have caps that cover and secure some of the sites from the elements. Caps are meant to isolate contaminants, prevent them from spreading, and protect people from contact with the toxins underneath. Caps may be a one or multiple layers of asphalt or concrete layers, soil, sand, gravel, plastic-style membranes, or clay, depending on the type of contamination to be protected. If these caps fail, questions arise as to liability for contamination for property owners and governments.

For example, the San Jacinto River Waste Pits Superfund Site contains carcinogenic pollutants from pulp and paper mill dumping decades ago. After Hurricane Harvey’s floodwaters


The cap, according to EPA’s proposed cleanup plan, was built to withstand 100-year storms, if not 500-year storms like Harvey. But cap erosion at the site has occurred after 20-year floods. Testing at part of the site revealed carcinogenic dioxin levels far beyond the recommended clean up level, thereby opening up the owners, contractors, or others to potential liability under CERCLA (i.e., the Superfund law).

Although the “act of God” defense is technically available to negate Superfund liability, I have found no reported cases where a defendant successfully asserted an “act of God” defense to CERCLA liability. CERCLA defines an “act of God” as “an unanticipated grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.” CERCLA § 101(1), 42 U.S.C. § 9601(1) (2012). An otherwise responsible party is not liable for hazardous substance cleanup costs if that party can prove, by a preponderance of the evidence, that the release and the resulting damages were caused solely by an act of God.

However, it is difficult for a defendant to prove that the natural event was the sole cause of the damages. To some degree all natural disasters are foreseeable. Court decisions denying the “act of God” defense have typically found that the defendant’s negligence contributed to the release or the resulting harm. While it may be hard to predict the precise nature or intensity of the natural disaster, it is reasonably foreseeable that hurricanes will continue to hit coastal states, that earthquakes will continue to occur near fault lines, and that tornados will continue to strike
in “Tornado Alley” in the South-Central U.S. Even after a slew of hurricanes that were unprecedented and exceeded worst case expectations, including Hurricanes Katrina, Irma, Sandy, and Harvey, the “act of God” defense appears to be more of a theoretical defense than it is an actual one.

8. Governmental Immunity from Environmental Damage

As noted above, suits are often brought against governmental entities in the aftermath of disasters seeking compensation for either direct property damage or environmental damage. However, these suits are often unsuccessful. Dozens of lawsuits were filed seeking damages from the U.S. government for Hurricane Katrina-related levee failures and flooding in the New Orleans area. By the end of January 2008, the U.S. Army Corps of Engineers had received 489,000 claim forms from individuals and businesses that planned to participate in a lawsuit alleging that the agency's poor design and construction of levees and floodwalls resulted in the flooding during and after Katrina and Hurricane Rita, both in 2005.

In Robinson v. United States (In re Katrina Canal Breaches Litig.), 696 F.3d 436 (5th Cir. 2012), a federal appeals court overturned a ruling that held the Corps liable for flooding caused by lax maintenance of a shipping channel. A year later, all lawsuits against the Corps were dismissed by the federal court in New Orleans. The Corps was immune from damages caused by failures of levees and floodwalls they designed and built, and from failure to maintain the rapidly eroding Mississippi River-Gulf Outlet, a now-closed shipping channel that helped decimate wetlands. “The Flood Control Act of 1928 as interpreted over the years gives the Corps virtually absolute immunity, no matter how negligent it might have been in designing and overseeing the construction of the levees.”
9. Lessening Liability: Lessons from BP’s Oil Spill Litigation

Companies and governments interested in disaster preparedness and management are also naturally concerned about limiting or escaping liability in the event that their plans are unsuccessful. Companies in particular often find that a multi-pronged approach yields the best results; BP, for example, after its oil spill in 2010, has undertaken significant measures to limit liability and systematically address claims. First, at the outset of the disaster, BP began engaging in contracts with prominent scientists from various Gulf Coast universities to aid in its defense against the suit that was eventually brought against BP by the U.S. Government. See Raines, Ben. *BP buys up Gulf scientists for legal defense, roiling academic community*. AL.com. Available at: http://blog.al.com/live/2010/07/bp_buys_up_gulf_scientists_for.html. The benefits of this strategy were two-fold: 1) BP received world-class research and expertise in marine science to support its defense, and 2) the contracts that BP had its scientists with public universities sign severely limited the number of scientists and experts available to the government.

Second, BP sought to offset costs by reallocating liability to its partners in the oil rig. BP claimed that Transocean, Halliburton, and Cameron International were responsible for nearly $40 billion dollars in damages and that failed safety systems and the irresponsible behavior of the contractors led to the explosion and resulting spill. Krauss, Clifford. *Transocean Chief Admits Crew Shortcomings in Oil Spill*. New York Times. March 19, 2013. Available at: https://www.nytimes.com/2013/03/20/business/energy-environment/executive-says-crew-should-have-acted-to-prevent-spill.html. Ultimately, this strategy reduced BP’s liability by 33%, as Transocean and Halliburton were each apportioned a percentage of the total liability by the court.
Third, BP and Transocean immediately engaged in a containment and clean-up collaboration with federal agencies. Attorneys for BP were able to argue on BP’s behalf that the Gulf had been largely returned to its pre-spill state, a mitigating factor during litigation. Larino, Jennifer. *In BP oil spill trial, BP calls expert witnesses to testify to healthy Gulf of Mexico ecosystem after spill.* Nola.com. https://www.nola.com/business/2015/01/in_bp_oil_spill_trial_bp_calls.html. However, this positive aspect of BP’s response is also a negative—on the back-end, BP faced lawsuits from workers it hired to conduct clean-up of the spill who alleged that exposure to the oil and clean-up chemicals caused health problems.

In short, a business’s response to a disaster should be strategic in order to limit liability and present the best possible defense, but also should be creative and should seek to establish a plan for litigation early on. Moreover, generally, the faster a remediation effort is undertaken, the better. Remediation efforts not only seek to correct the environmental problem, but also mitigate damages and reduce liability while also protecting the image of the business as a responsible entity. Thus, while prevention is necessarily the best option to undertake to prevent liability, a well-reasoned response to a disaster can also be particularly beneficial to the resolution of claims.

**10. Getting Involved in Disaster Resolution**

Lastly, not all disasters are bad for all businesses. For some businesses, contracting for clean-up and rebuilding after a disaster strikes can be a lucrative way to engage in the disaster resolution process. One such option for contractors is becoming a FEMA approved contractor for disaster-related work. How to do Business with FEMA. Federal Emergency Management Agency. Available at: http://www.acpactx.org/images/FEMA-How_to_do_Business.pdf
To that end, though contractors do not contract directly with FEMA to rebuild homes or commercial or public properties, FEMA relief provided to individuals and entities affected by a natural disaster are used to rebuild. However, these funds come with FEMA strings attached.

For individuals and households, FEMA will provide up to $33,000 in disaster assistance, which includes money for home repairs that homeowner’s insurance does not cover. Homeowners seeking additional funds can apply for a Small Business Administration loan. But all contractors potentially working on FEMA funded products should take note: FEMA will only pay for work that brings the property to a safe and sanitary condition, not a full restoration, even if the prior structure had extensive upgrades or fixtures. See Use Disaster Assistance Grants Wisely. Federal Emergency Management Agency. Release No. R4-DR-4399-FL NR 051. Available at: https://www.fema.gov/news-release/2018/11/26/use-disaster-assistance-grants-wisely.

For example, while FEMA may pay to have moldy flooring replaced with linoleum, it would not pay to reinstall wood flooring, even if that was the type of flooring that was ruined in the disaster. Thus, contractors may potentially be on the hook for expenses in excess of FEMA grants. Accordingly, contractors should ensure that the specific FEMA grant is approved for the work requested, or alternatively, should develop a payment agreement with the owner if the work requested is not covered by the grant.

While there is a certain amount of security in doing work covered by a FEMA grant, contractors must be aware of the FEMA rules regarding these grants in order to avoid surprise. Additionally, contractors should be aware that the federal source of the funds requires the contractor to comply with the Truth in Negotiations Act, likely requiring additional
administrative procedures if the contractor is not familiar with public works projects. See 10 U.S.C. § 2306a.

Too, it is important to note that contractors seeking disaster-response type work should pay attention to the licensing requirements of the state where they intend to perform work. Generally, a contractor should only perform work that he is licensed to do, and contractors performing out-of-state work may not realize that their license is not valid from state to state. Though after a disaster states often suspend licensing requirements temporarily, contractors should contact an attorney to determine if the specific applicable license requirement has been suspended. Otherwise, the contractor could potentially be penalized or lose lien rights or the right to recover payment. After the devastating Santa Rosa fires in 2017, for example, the California licensing board fined one prime debris removal contractor and five subcontractors for contracting without a license. Lewis, Sukey. Cleaning Up: Inside the Wildfire Debris Removal Job that Cost Taxpayers $1.3 Billion. KQED News. July 19, 2018. https://www.kqed.org/news/11681280/cleaning-up-inside-the-wildfire-debris-removal-job-that-cost-taxpayers-1-3-billion.

Contractors working in disaster response must be vigilant regarding the right to assert a lien against a property. In large part, disaster recovery work is bank-rolled by insurance companies. Insurance payments are often delayed or arrive after the lien period has expired. Accordingly, the unpaid contractor should pay close attention to lien filing dates and should file a lien within the required time period. A lien claim can be canceled once payment is received, but the opposite is not true: a lien cannot be asserted once the statutory period has expired. This type of use it or lose it requirement mandates that contractors preserve their rights, even if payment is expected, because lien rights cannot be re-established once lost.