

# ENERGY EXPERT: ISSUES IN FOCUS

*A quarterly review of disputes and complex issues in the hydrocarbon production and processing industries*

Baker & O'Brien, Inc.

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## When Hurricanes Hit, Storage Tanks Can Float—Archimedes' Principle at Work

### International Arbitration, North America

By Scott Jensen

When a hurricane approaches, with the potential for a storm surge or severe flooding, refiners must ensure that there is an adequate inventory level in each storage tank. This is to prevent tanks from floating off their foundations due to something called "Archimedes' Principle." In simple terms, this principle states that there will be a net upward force on an object if the weight of the water it displaces exceeds its own weight (i.e., the object will rise until the forces equalize, after which it will float).



In a case in which Baker & O'Brien became involved, a refiner had a hurricane shutdown plan that addressed the need for minimum tank levels to avoid potential tank flotation. However, one large crude oil tank—with a diameter almost the length of a football field—was inadvertently left only about 10% full. When the storm surge came, this tank floated off its foundation and struck a concrete abutment, which tore a hole in the bottom of the tank. There was no oil spill initially because the storm water flowed into the tank through the hole. When the flood waters receded, however, and the tank

eventually settled to the ground, crude oil was noticed spilling from the tank.

Baker & O'Brien was engaged to investigate the incident and the sequence of events leading up to the oil spill. We were also asked to review the refiner's emergency shutdown procedures and assess whether they were adequate relative to the prevailing standard of care in the industry. Finally, we were asked to provide an opinion as to what other preventive measures, if any, could have been taken to avoid the oil spill. Our forensic analysis of the data and sequence of activities identified some alternative actions that may have served to prevent or minimize the spill. For example, one option might have been to open a valve and allow the inventory level in several of the large crude oil tanks to equalize. Although an arbitration was filed against the refiner, the matter was settled prior to the panel convening.

## Hurricanes Unravel Distribution and Branding Agreements

### Litigation, North America

By Dileep Sirur



A major refiner/marketer (the “Refiner”) with assets concentrated in the Gulf Coast and the Midwest entered into several long-term distribution franchise and branding agreements (the “Agreements”) under which it agreed to supply gasoline and diesel fuel to a Midwest-based retailer (the “Retailer”), as well as to allow the Retailer to display its brand. The Agreements defined elements such as volumes, pricing, brand incentives and penalties for non-performance. Although successful initially, following various supply disruptions the relationship between the parties eventually deteriorated and the Agreements were terminated.

The Refiner filed a lawsuit against the Retailer seeking millions of dollars in damages and claiming that the Retailer had violated the Agreements by consistently “under-lifting” the contractual volumes and by “de-branding” many retail outlets well before the agreed dates for de-branding. In response, the Retailer filed a countersuit alleging that the volume shortfalls were caused by the Refiner not providing product when requested, and that the de-branding was the result of the Refiner’s own actions.

During many of the shortfall periods in question, the Gulf Coast had been struck by two major hurricanes and two Midwest refineries were experiencing unscheduled downtime. Thus, the Refiner claimed that any supply shortfalls were *force majeure* events under the Agreements and that essentially all of their customers had experienced similar volume cutbacks. Much of the Refiner’s Midwest supply was sourced from its hurricane-ravaged Gulf Coast plants.

Baker & O’Brien was engaged to conduct an in-depth analysis of whether the subject volume shortfalls experienced by the Retailer were unavoidable and how they compared to shortfalls experienced by the Refiner’s other customers. Our consultants analyzed key public data as well as client-provided proprietary data. We reviewed regional refinery runs, hurricane-related shutdown periods, Gulf Coast-to-Midwest pipeline flows, and terminal shortfalls recorded by both the Retailer and the Refiner’s other customers. We issued a report outlining our conclusions and supporting analysis. One of our consultants was deposed regarding our work, but the parties settled the case prior to trial.

## Hurricane Force Majeure or Poor Standard of Care?

### Litigation, North America

By Kevin Waguespack

A refinery on the U.S. Gulf Coast was directly in the path of a hurricane and ultimately decided to completely shut the facility down due to a pending loss of utilities, and as a preemptive move to allow their employees time to evacuate the area. The hurricane shifted course and caused only minor, incidental damage at the refinery. However, due to various causes (including a cold shutdown of the entire steam system and headers, which hadn’t been done in a long time), it took an extended period of time for all of the refinery’s process units to be operating at full rates – as they were prior to the storm.



A company that served as a supplier to the refinery later filed suit, claiming that the refinery’s inability to accept its product during the extended downtime exceeded the initial force majeure provisions of the supply contract, and claimed damages for lost profits due to the refiner’s inability to honor the contract. More

specifically, the claim asserted that the refiner’s poor standard of care, and not the hurricane, was the cause of the extended outage.

Baker & O’Brien was engaged to investigate the series of events leading to the refinery’s extended outage, including examining refinery management’s conformance with standard industry protocols, laws and regulations. Our consultants assessed several factors, such as refinery complexity and process unit integration, which may have impacted the refinery operator’s ability to restart the facility and whether the refinery operator acted in a reasonably prudent manner necessary to safely restart the facility as soon as possible. We provided an expert report and deposition testimony in the matter prior to settlement.

## Consulting Support for Complex Commercial Disputes

When faced with complex commercial disputes in the energy-related industries, clients often turn to Baker & O'Brien for its independent and objective support. For over 20 years, the firm's consultants have employed their engineering knowledge, industry experiences, and commercial acumen to provide assistance on a wide range of matters. Our project experience includes disputes involving operational incidents, standards of care, asset valuation, commercial supply terms, product quality, large engineering and construction projects, and intellectual property.

Our clients include many of the world's largest law firms, insurance providers, and operating companies. Law firms rely upon Baker & O'Brien to evaluate

technical and commercial aspects of a case and provide expert testimony. Our analyses, conclusions, and expert testimony have been heard by judges, juries, and arbitration panels around the world. On insurance matters, clients rely upon Baker & O'Brien's assistance for investigation of industrial accidents and quantification of resultant property damage and business interruption losses. We are also called upon to assist insurers in subrogation actions by evaluating causation theories and claims for damages.

We welcome the opportunity to discuss our qualifications in more detail as they relate to your specific area of interest.

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