

# Tank and Petroleum Use Mishaps

*The Steel Tank Institute is unable to guarantee the accuracy of any information. Every effort has been undertaken to ensure the accuracy of information contained in this publication but it is not intended to be comprehensive or to render advice. Websites may be current at the time of release, however may become inaccessible.*

*The newsletter may be copied and distributed subject to:*

- *All text being copied without modification*
- *Containing the copyright notice or any other notice provided therein*
- *Not distributed for profit*

**By learning about the misfortunes of others, it is STI's hope to educate the public by creating a greater awareness of the hazards with storage and use of petroleum and chemicals. Please refer to the many industry standards and to the fire and building codes for further guidance on the safe operating practices with hazardous liquids. Thanks and credit for content are given to Dangerous Goods-Hazmat Group Network.**

<http://groups.yahoo.com/group/DangerousGoods/>

**USA, AL, MOBILE**

**OCTOBER 2 2015.**

## **CHEMICAL ODOR FROM CHEVRON REFINERY DETECTED IN ORANGE BEACH**

"The safety of the workforce and community remains the top priority. No one has been injured and there is still no danger to the community. Chevron safety specialists and a contracted third party continue air monitoring in Pascagoula and throughout south Alabama. All readings in the community have been recorded without any findings. The Coast Guard Gulf Strike Team is also conducting additional air monitoring and is independently validating Chevron and their contractor's results. That sampling has produced no positive results for harmful chemicals."

"The tank was emptied Wednesday morning. The area around the tank remains partially flooded, but is contained. Since Monday, Refinery crews have kept the exposed product covered with fire retardant foam, which has reduced the further release of odors."

"Depending on wind direction, nearby residents may continue to detect the odor until recovery is complete. Air monitoring throughout the surrounding area will continue until all response efforts are complete."

"To report a concern, please call the Mississippi Emergency Management Agency at 1-800-222-6362."

### **The Story:**

After Sunday night's storms, a roof of one of the tanks collapsed, causing gasoline vapors and liquid to escape. That caused an unpleasant smell, even in Alabama, and many people are still concerned about it.

Refinery officials say the leak is contained and the tank is empty. Some may still be able to smell the chemical odor, which people say smelled like a mixture of gasoline and rotten eggs. Chevron officials say the odor, while unpleasant, is not harmful.

The odor many viewers alerted us about Tuesday is very faint in Pascagoula, but now, Orange Beach, Gulf Shores, Grand Bay Fire Departments officials say the smell is gone.

Chevron officials are investigating why a roof made to withstand heavy rains failed this time. One hundred of the tanks at the refinery have the same type of roof.

Two days after the leak, the odor is gone, but residents say another problem still lingers.

"We wanna know what this stuff gonna do in the long run," says one concerned citizen.

At a press conference in Pascagoula Wednesday, federal and local officials said the odor was unpleasant, but not unsafe. But residents in Pascagoula say they were not told about the leak until Monday afternoon, when the smell was the worst on Sunday night. Barbara Weckesser says this type of problem has happened before.

## Tank and Petroleum Use Mishaps

"I want it to be known that we actually have a problem continually out there, this is just another job at these poor citizens that have lived in these neighborhood, some of them for over 60 years."

The liquid in the tank is a component used in making gasoline, but they say it is not harmful. Chevron has been working with the Mississippi Air Quality Agency, Jackson County Emergency Management, and the Coast Guard, to do air quality tests every two hours in nine locations. Director of the Jackson County EMA, Earl Etheridge, says they acted promptly.

"When I talked to MDEQ I asked them to please get with Chevron to make sure all the necessary air monitoring was being done. I wanted to make sure we weren't having anything that was coming off the plant site that could be a threat to the public."

Officials say the air quality tests have come back clean so far, meaning none of the chemicals are in the air. Officials say they will continue to do air quality checks until they feel the problem is completely gone. Chevron official Alan Sudduth says they can now move on to the investigation.

"Why didn't this one work when all the others did, and why has this worked in the past, we don't know right now. The investigation is ongoing because our primary concern has been to get that pumping work in that tank done, so we've got that completed, now we're working on the final clean up phase, as we're working on the investigation phase."

Chevron says the odor could still linger for the next couple days.

<http://www.wsfa.com/story/30154016/chemical-odor-from-chevron-refinery-detected-in-orange-beach>

**USA, CO, DENVER**

**OCTOBER 6 2015.**

**OIL AND GAS SPILL REPORT FOR OCT. 5**

The following spills were reported to the Colorado Oil and Gas Conservation Commission in the past two weeks.

Information is based on Form 19, which operators must fill out detailing the leakage/spill events. Any spill release which may impact waters of the state must be reported as soon as practical. Any spill of five barrels or more must be reported within 24 hours, and any spill of one barrel or more which occurs outside secondary containment, such as metal or earthen berms, must also be reported within 24 hours, according to COGCC rules.

DCP Midstream LP reported Sept. 22 that a field operator suspected a possible pipeline leak due to dead vegetation Aug. 11 near Briggsdale. Between one and five barrels of condensate spilled.

Whiting Oil and Gas Corp. reported Sept. 22 that maintenance stockpiled soil during reclamation of a tank battery under the impression that it was impacted near New Raymer. An unknown amount of oil, condensate and produced water spilled.

DCP Midstream LP reported Sept. 22 that DCP overfilled a tank with condensate and water near Fort Lupton. Between five and 100 barrels of condensate and between one and five barrels of produced water spilled.

Noble Energy, Inc., reported Sept. 25 that historical impacts to soil and groundwater were discovered during plugging and abandonment near LaSalle. Between one and five barrels of oil and produced water spilled.

Kerr Mcgee Gathering, LLC, reported Sept. 30 that a release was identified. Impacted groundwater was discovered during an excavation near LaSalle. An unknown amount of oil and condensate spilled.

Noble Energy reported Sept. 28 that historical impacts to soil were observed during plugging and abandonment near New Raymer. Between one and five barrels of oil spilled.

<http://www.greeleytribune.com/news/18475160-113/oil-and-gas-spill-report-for-oct-5#>

# Tank and Petroleum Use Mishaps

**USA, MS, GULFPORT  
OCTOBER 13 2015.**

## **GFD RESPONDS TO SUNDAY MORNING STORAGE TANK FIRE**

No employees were on site at the time of the fire, and no injuries were reported. The Gulfport Police Department responded to an industrial fire on Reichold Road Sunday morning. After responding to calls of heavy black smoke in the area, firefighters discovered an 800 gallon storage tank on fire. The blaze was extinguished by applying master streams of water and foam on site. According to officials, "...no product was spilled, and the potential for a release has been mitigated." No employees were on site at the time of the fire, and no injuries were reported. Firefighters remain on the scene and will continue securing the tank until it is deemed safe. It is not known what caused the fire, an investigation is ongoing.

<http://www.wlox.com/story/30234615/gfd-responds-to-sunday-morning-storage-tank-fire>

**USA, CT, OXFORD  
OCTOBER 13 2015.**

## **2 SUFFER SERIOUS BURNS AFTER AIRPORT FUEL TANKER EXPLODES**

Two men have been hospitalized after a flash fire burned them at Waterbury-Oxford Airport. Airport officials say the two employees were grinding and welding inside a fuel tanker when the tanker exploded. State Police confirms that a spark from the grinding ignited lingering fuel that was inside the tank. One man inside the tank was able to climb out and the other was outside the tank. Police say the circumstances were worsened because some safety precautions were overlooked. Seymour fire crews say the fire has been put out. A Bridgeport Hospital spokesman tells the Connecticut Post both men are in serious but stable condition. They are expected to be transported to the hospital's burn unit. The incident is under investigation.

<http://wwwlp.com/ap/2-suffer-serious-burns-after-airport-fuel-tanker-explodes/>

**USA, OK, TULSA  
OCTOBER 15 2015.**

## **TANK EXPLOSION AT OWASSO ROCK QUARRY CAPTURED ON HELMET CAMERA**

A firefighter with the Limestone Fire Protection District had a camera mounted to his helmet that captured the moment a tank exploded at Tulsa Asphalt Monday.

A fire at an Owasso rock quarry Monday caused a fuel tank at the site to explode, injuring three firefighters and sending two to the hospital. The blaze drew a large emergency response to Tulsa Asphalt, located near 66th Street North and 129th East Avenue.

The fire started Monday morning while employees were cleaning the tanks. The cause of the blaze is under investigation, according to Rogers County Emergency Management Director Scott Stokes.

Tulsa Asphalt leases a facility at the rock quarry and manufactures material for the road construction industry. A malfunctioning pop-off valve caused one of the tanks filled with burner fuel to explode about 11:35 a.m., spreading debris at least 100 yards in different directions. The flames continued to spread as the fuel was spilled.

[http://www.tulsaworld.com/news/local/video-tank-explosion-at-owasso-rock-quarry-captured-on-helmet/article\\_1d787a15-021a-5ca3-8019-a2397a5f0782.html](http://www.tulsaworld.com/news/local/video-tank-explosion-at-owasso-rock-quarry-captured-on-helmet/article_1d787a15-021a-5ca3-8019-a2397a5f0782.html)

**COMMONWEALTH OF THE BAHAMAS, CROOKED ISLAND  
OCTOBER 17 2015.**

## **CONCERNS OVER WATER QUALITY AFTER CROOKED ISLAND DIESEL SPILL**

Fears are mounting on Crooked Island over the quality of the island's ground water supply after it was discovered that nearly 50,000 gallons of diesel spilled from Bahamas Electricity Corporation (BEC) tanks dislodged by Hurricane Joaquin.

BEC's infrastructure was severely damaged by the storm, which has left the island without power.

## Tank and Petroleum Use Mishaps

Last night, the only generator working on the island was believed to be the solar-powered unit delivered by the SOS - Save Our South relief flights on Saturday to Colonel Hill airport where a makeshift medical clinic has been set up.

At the weekend, Leslie Miller, the chairman of BEC, inspected two 25,000 gallon fuel tanks which had been shifted from their bases in Crooked Island and said that the job of repair was beyond BEC. "You need a crane to put it back in its place," he said. "You see what happened, all of these (bolts holding the brackets) snapped. So you got to re-drill them to put them back in place. There's a lot of work to do. This is why I say you need private contractors to come into these islands. You cannot rely on BEC to fix it."

Kevin Basden, General Manager of BEC, said then that the company was bringing in additional teams to deal with the situation. That included replacing the power station unit and a number of utility poles that had come down.

The Crooked Island power plant was described on Saturday as being completely destroyed with the fuel tanks having been shifted by the storm, allegedly because the holding brackets had not been bolted down correctly. The engines had been swamped with seawater and oil appeared to have spilled out. The building housing the BEC office had been tipped onto its side.

<http://www.tribune242.com/news/2015/oct/16/concerns-over-water-quality-after-crooked-island-d/>

### **USA, N.C, MOUNT HOLLY**

**OCTOBER 18 2015.**

#### **OFFICIALS: MAJORITY OF GAS STATION FIRES START FROM STATIC**

*Xavier Walton*

No one was injured when a fire broke out at a gas pump at a BP in Mount Holly this week.

However, officials want to warn drivers of the potential risk while filling up at the pump. There are some potentially dangerous habits at the pump to be aware of.

NBC Charlotte's Xavier Walton reports on how flash fires are more common this time of year and what you can do to stay safe.

The videos unsuspecting drivers turned victims of flash fires at the pump are tough to watch. Fire officials say the latest blaze at the BP Gas Station Friday morning was sparked by static electricity.

This comes less than two weeks after a motorcycle burst into flames at a gas station. It was all caught on camera. A biker left his motorcycle running when his gas tank overflowed instantaneously setting his bike ablaze.

"Fifty percent of all fuel station fires are driven by static electricity," said William Suthard, a firefighter with the Huntersville Fire Department.

Friday NBC Charlotte spoke to Suthard about the flash fire that happened Friday morning off Mount Holly Huntersville Rd. He says during this time of year drivers should be on high alert.

"It's a perfect cocktail for a flash fire," said Suthard. "A lot of people aren't aware of my wife wasn't aware it as you get to the cooler temperatures you get drier conditions and its a great situation for static electricity."

When your at the gas station filling up you're tank here are a few things that will keep you out of harms way- don't light up at the pump, don't use your cell phones and don't leave the car running. If all else fails and you still build up an unsafe amount of static electricity.

"Touch the front of your vehicle discharge the static electricity then pull your pump out," said Suthard.

<http://www.wcnc.com/story/news/local/2015/10/17/majority-of-gas-station-fires-start-from-static/74119404/>

# Tank and Petroleum Use Mishaps

**MALAYSIA, PENANG, BUTTERWORTH  
OCTOBER 19 2015.**

## **MAN FALLS INTO FACTORY'S SULPHURIC ACID TANK**

*Predeep Nambiar*

An electrical contractor fell into a sulphuric acid at an aluminium processing factory in Prai here today. In the 11.20am incident, the 25-year-old man had gone up to the second floor of the factory to fix a ventilation fan above the tank. A witness said the man had lost his footing while ascending the ladder, causing him to fall into the tank. Fortunately, the tank was only filled with two per cent of sulphuric acid at the time of incident. The chemical is often used in metal smelting. Prai Fire and Rescue Department hazardous materials team (Hazmat) arrived a minute after a distress call was received. Officials said the man sustained slight acid burns to his foot. He was also reported to have hurt his back and arm due the impact of the fall. "The factory's emergency unit alerted the Fire and Rescue Department. Our Hazmat team sent him to the Seberang Jaya Hospital immediately for treatment," the department said in a statement.

<http://www.nst.com.my/news/2015/10/man-falls-factory%E2%80%99s-sulphuric-acid-tank>

**USA, WASHINGTON, D.C.**

**OCTOBER 21 2015.**

## **CSB APPROVES FINAL INVESTIGATION REPORT AND VIDEO FROM 2009 EXPLOSION AND FIRE AT CARIBBEAN PETROLEUM TERMINAL FACILITY IN PUERTO RICO; REPORT FINDS INADEQUATE MANAGEMENT OF GASOLINE STORAGE TANK OVERFILL HAZARD**

The US Chemical Safety Board (CSB) today voted on the final investigation report into the 2009 massive explosion at the Caribbean Petroleum, or CAPECO, terminal facility near San Juan, Puerto Rico; the report includes recommendations for addressing regulatory gaps in safety oversight of petroleum storage facilities by the Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA).

The report was discussed at a CSB public meeting this afternoon at the Palomar Hotel in Washington, DC. The meeting was webcast and public comments were accepted. The Board also discussed several additional matters such as the status of several current CSB investigations, as well as the agency action plan for fiscal year 2015 in addition to newly confirmed Chairperson Vanessa Allen Sutherland's overview of her first 60 days.

In addition to the investigation report, the board voted to approve a new 11-minute safety video about the CAPECO accident called "Filling Blind." The video is available on the CSB's website as well as YouTube.

A draft version of the CAPECO report was released at a CSB public meeting on June 11, 2015. The public was given the opportunity to weigh in on the draft report at that time. The final report incorporates their feedback.

The 2009 incident occurred when gasoline overflowed and sprayed out from a large aboveground storage tank, forming a 107-acre vapor cloud that ignited. While there were no fatalities, the explosion damaged approximately 300 nearby homes and businesses and petroleum leaked into the surrounding soil, waterways and wetlands. Flames from the explosion could be seen from as far as eight miles away.

CSB Chairperson Vanessa Allen Sutherland said, "The CSB's investigation found several operational and regulatory deficiencies contributed to the explosion at Caribbean Petroleum. We have recommended that EPA and OSHA require above ground storage tank facilities, like CAPECO, conduct risk assessments to determine the potential dangers of their operations to surrounding populations and sensitive environments."

On Wednesday, October 21, 2009, Caribbean Petroleum Corporation began a routine transfer of more than ten million gallons of unleaded gasoline from a tanker vessel docked two and a half miles from the facility. The only storage tank that was large enough to hold a full shipment of gasoline was already in use. As a result, CAPECO planned to distribute the gasoline among four smaller storage tanks. This

## Tank and Petroleum Use Mishaps

operation would take more than 24 hours to complete. During transfer operations, one CAPECO operator was stationed at the dock, while another monitored valves controlling gasoline delivery at the terminal.

By noon the next day, October 22, two of the tanks were filled with gasoline. The operators then diverted the gasoline into two other tanks – tanks 409 and 411. At 10 pm the night of the 22nd, as tank 411 reached maximum capacity, operators fully opened the valve to tank 409. According to witness interviews, the supervisor on duty estimated that tank 409 would be full at 1 am. But shortly before midnight, tank 409 started to overflow. Gasoline sprayed from the vents forming a vapor cloud and a pool of liquid in the tank's containment dike.

The CSB's investigation found that the measuring devices used to determine the liquid levels in the tanks at CAPECO were poorly maintained and frequently were not working. The facility primarily measured tank levels using simple mechanical devices consisting of a float and automatic measuring tape. An electronic transmitter card was supposed to send the liquid level measurements to the control room. But the transmitter card on tank 409 was out of service, so operators were required to manually record the hourly tank level readings.

Investigator Vidisha Parasram said, "We found that the 'float and tape' measuring system was the only control system CAPECO used to avoid overfilling a tank. When that system failed, the facility did not have additional layers of protection in place to prevent an incident. The investigation concluded that if multiple layers of protection such as an independent high level alarm or an automatic overfill prevention system had been present this massive release most likely would have been prevented."

The CSB report further explains that an independent high level alarm could have detected and alerted operators to the danger of an overfill, even if the primary system for measuring the tank level fails, as it did at CAPECO. An automatic overfill prevention system goes even further, and can shut off or divert the flow into a tank when the tank level is critically high. These additional layers of protection, however, were not used at CAPECO.

The CSB found that existing process safety regulations exempt atmospheric storage tanks of gasoline and similar flammable liquids. Additionally the report concludes current regulations only require a single layer of protection against a catastrophic tank overfill – thereby putting workers and nearby communities at potential risk.

The final report recommends that EPA adopt new regulations for facilities like CAPECO to require that flammable storage tanks are equipped with automatic overfill protection systems, and to require regular testing and inspection as well as risk assessments. The Board is also making similar recommendations to OSHA, the American Petroleum Institute, and two key fire code organizations. The proposed regulatory changes would affect the EPA's Risk Management Program; Spill Prevention, Control, and Countermeasure (SPCC) rules; and OSHA's Flammable and Combustible Liquids standard.

The CSB is an independent federal agency charged with investigating industrial chemical accidents. The agency's board members are appointed by the president and confirmed by the Senate. CSB investigations look into all aspects of chemical accidents, including physical causes such as equipment failure as well as inadequacies in regulations, industry standards, and safety management systems.

The Board does not issue citations or fines but does make safety recommendations to plants, industry organizations, labor groups, and regulatory agencies such as OSHA and EPA.

Visit our website, [www.csb.gov](http://www.csb.gov).

# Tank and Petroleum Use Mishaps

**USA, TX, ABILENE  
OCTOBER 25 2015.**

## **TANK BATTERY IN NORTH ABILENE CATCHES FIRE DURING THUNDERSTORM**

Witnesses say lightning struck a tank battery near the 800 block of Lowden Street in Abilene and a fire was started in the middle of a storm Friday afternoon. No injuries were reported from the scene. Firefighters did not say that lightning was the official cause of the fire.

<http://www.ktxs.com/news/tank-battery-in-north-abilene-catches-fire-during-thunderstorm/36015330>

**USA, FLA, PINELLAS CO, TAMPA, CLEARWATER  
OCTOBER 25 2015.**

## **1,500 GALLONS LEAKS FROM FUEL TANK AT ST. PETE-CLEARWATER INTERNATIONAL AIRPORT**

About 1,500 gallons of jet fuel leaked from a fuel tank Sunday afternoon at St. Pete-Clearwater International Airport. Most of the fuel stayed within a concrete basin the fuel tank was stored in, but about 300 gallons spilled into a nearby ditch, prompting a response from the Environmental Protection Agency, said Michele Routh, spokeswoman for the airport. The ditch is not connected to Tampa Bay, she said, adding that EPA response is typical for large fuel spills. The leak did not affect flights coming in and out of the airport, Routh said. It is unclear what caused it, but it may have been related to a faulty valve. The tank is owned by Sheltair Aviation, a Fort Lauderdale-based company that provides aircraft services, including fueling, parking and cleaning.

<http://www.tampabay.com/news/environment/1500-gallons-leaks-from-fuel-tank-at-st-pete-clearwater-international/2251214>

**USA, MT, BILLINGS  
OCTOBER 25 2015.**

## **LAWSUIT CLAIMS ND OIL PATCH DEATH, THOUGH RULED A HEART ATTACK, CAUSED BY TOXIC GAS**

*Tom Lutey*

Family members of a Montana man found dead at a Bakken oil collection tank in 2013 are suing a Texas-based oil company.

Blaine P. Otto of Sidney was discovered dead on a catwalk where he was inspecting oil levels on July 18, 2013. His brother, Bradley T. Otto, acting as representative of Otto's estate, is suing Newfield Exploration Co.

Otto's family contends the oil field worker was killed by toxic gases released at the site in North Dakota's McKenzie County. He was found dead next to a tank hatch with a removed cover.

Newfield has denied any liability. Otto's death certificate indicates the 39-year-old man's death was natural, because of heart problems and obesity.

Investigator John Hiatt, who has uncovered the cause of several Bakken deaths similar to Otto's, said heart attack is frequently mistaken as the cause of death when exposure to toxic gases is the cause. The gases released when tank hatches are opened dissipate by the time victims are found. Coroners processing the scene typically check natural causes as the cause of death with no apparent sign of an accident, he said.

At least nine other deaths have occurred in the Bakken under similar circumstances, according to the lawsuit. Newfield had an obligation to minimize the danger of its well site, Otto contends. Hazardous vapors were a known threat at Bakken wells, he claims.

The lawsuit, filed in U.S. District Court in Billing

<http://www.inforum.com/news/3868149-lawsuit-claims-nd-oil-patch-death-though-ruled-heart-attack-caused-toxic-gas>