

Tank and Petroleum Use Mishaps

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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/>

INDIA, BANGALORE

JANUARY 28 2011.

PETROL SIPHONED OUT ON WAY TO BUNK

Vinay Madhav

Oil adulteration and pilferage is alive and thriving in Bangalore, and is controlled by local goons. Dealers are cautious about this mafia, which cuts deep into their pockets.

Bhushan Narang of the Oil Dealers' Association says, "The adulteration mafia is not as strong as in Maharashtra, where there are many refineries, but pilferage is widespread."

Here's how they go about it: "Usually, the transport period from the depot to the petrol station is around one-and-a-half hours in Bangalore. Each tanker has three compartments and fuel is filled in cold conditions. As the temperature goes up, the fuel expands and the goons know by exactly how much. They take out 30 litres from each compartment and by the time it is unloaded in the petrol station, the measurement is perfect. Only the next day, when the fuel comes to normal density, the petrol station owner realizes the pilferage," Narang pointed out.

When station owners take pro-active steps to control adulteration, they don't get adequate support from oil companies and police. "Recently, a petrol station owner noticed that the tanker took more than normal time to reach his station. The driver did not know the vehicle was fitted with GPS, and the owner discovered there was a deviation in the route. Petrol in one of the compartments was found to be adulterated. Learning that their game was up, the driver and cleaner escaped. When the owner informed the oil company, they took back the fuel but he had to undergo a lot of harassment. He did not get his money back and the case is still in court," Narang said.

Bangalore was in the grip of the oil adulteration mafia in the 1990s with Oil Kumar, alias Boot House Kumar, an underworld gangster who introduced a systematic oil adulteration business. After his murder in Sadashivanagar in 1997, the business was dismantled into small groups, but these are thriving even today.

However, a senior IOCL official said adulteration and pilferage had come down by 90%, after the locking system was introduced. "It is difficult to break through the system as it has only two keys. One key is with the bunk owner and another at the starting point. Since there are thousands of combinations, it is difficult to make a duplicate key, unless the station owner is conned," said the official, on condition of anonymity.

<http://timesofindia.indiatimes.com/city/bangalore/Petrol-siphoned-out-on-way-to-bunk/articleshow/7375128.cms>

USA, WASHINGTON DC

JANUARY 28 2011.

CSB RELEASES CASE STUDY ON FATAL 2008 ACCIDENT AT GOODYEAR TIRE AND RUBBER PLANT IN HOUSTON; CITES NEED FOR EMERGENCY DRILLS, FOLLOWING PRESSURE VESSEL CODES

A U.S. Chemical Safety Board (CSB) case study released today on the 2008 heat exchanger rupture and ammonia release at the Goodyear Tire and Rubber Company in Houston, Texas, identifies gaps in facility emergency response training and calls for increased adherence to existing industry codes.

The accident occurred on June 11, 2008, when an overpressure in a heat exchanger led to a violent rupture of the exchanger, hurtling debris that struck and killed a Goodyear employee walking through the area. The heat exchanger contained pressurized anhydrous ammonia, a colorless, toxic chemical, used as a coolant in the production of synthetic rubber; five workers were exposed to ammonia released by the rupture.

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On the day prior to the accident, maintenance work required closing several valves on the heat exchanger. CSB investigators found that workers closed a valve that isolated the exchanger from a relief valve, to replace a burst rupture disk located below the relief valve.

The next day, at about 7:30 a.m. an operator closed another valve — this one blocking a second, automatic pressure control valve — to begin cleaning the process line with steam. Unaware that the isolation valve was also closed — thus leaving no means of relieving excess pressure in the exchanger, pressure continued to increase until the heat exchanger exploded violently.

Managers ordered the plant evacuated. However, CSB investigators found that on the day of the accident the employee tracking system was not operating properly, making it difficult to quickly account for all employees.

The CSB found that a malfunction in the computerized electronic employee badge tracking system delayed supervisors in immediately retrieving the list of personnel in their area, requiring handwritten lists to be generated. At about 1:20 p.m. an operations supervisor assessing the damage to the incident area discovered a fatally injured employee buried in rubble in a dimly lit area. The CSB case study notes that because the fatally injured employee had been a member of the emergency response team, her absence from the evacuation muster point was not considered unusual.

CSB Chairperson Rafael Moure-Eraso said, “The absence of this worker had not been noted due to the lack of training and drills on worker headcounts. Plant personnel were not provided with the proper training to effectively manage this emergency. Company procedures called for routine evacuation and shelter-in-place drills four times a year, but such drills were not held for several years prior to the incident. Management’s adherence to company procedures should have allowed for effective communication between all members of the workforce and a more robust emergency response structure.”

The report further notes that maintenance work activity was not properly communicated between maintenance and operations personnel, resulting in a subsequent shift not being notified of the isolation of the pressure relief line.

The CSB’s final report outlines several lessons learned including the need to adhere to existing American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code.

CSB Investigations Supervisor Robert Hall said, “We found the accident likely would not have happened had operators followed the ASME code. It’s crucial that workers continuously monitor an isolated pressure relief system throughout the course of a repair and reopen blocked valves immediately after the work is completed.”

The CSB’s report notes that the ASME code states that “Overpressure protections shall be continually provided...whenever there is a possibility that the vessel can be over-pressurized by a pressure source.”

The CSB is an independent federal agency charged with investigating serious 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. CSB’s final report including can be viewed at www.csb.gov.

USA, IN, KOSCIUSKO CO, WARSAW

JANUARY 28 2011.

EXPLOSION ROCKS WARSAW PLANT

A vapor explosion of fuel tanks at a Kosciusko County business Wednesday rocked the plant but caused no injuries, according to a statement from the Warsaw Fire Department.

About 9:25 p.m., the Kosciusko County Central Dispatch received a 911 call from the RR Donnelly East Plant about a fire in the roll paper storage area.

The Warsaw-Wayne Fire Territory firefighters and the Multi-Township EMS were dispatched to the plant to find that numerous employees had contained the fire, using portable extinguishers and a fire attack hose to assist the sprinkling system.

The fire department credited their actions for keeping the fire in check until firefighting crews could extinguish the fire.

An investigation determined a lift hoist tow motor used to lift large rolls of paper for the printing presses had somehow become involved in a fire. The fire extended to the LP fuel tanks, which had a boiling liquid expanding vapor explosion, that damaged a number of doors.

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The compression from the explosion was reported as being heard and felt throughout the plant, which houses a number of large automated printing presses.

The lift hoist tow motor lifts the rolls of print paper from a stacked position and moves them within the structure.

As reported to the fire crews from RR Donnelly management, there was no one working in the immediate area of the fire.

The Winona Lake Fire Department and the Warsaw Police Department also assisted at the scene.

<http://www.journalgazette.net/article/20110127/LOCAL07/110129564/1031/BIZ>

MALAYSIA, KOTA KINABALU

SEPANGGAR,

JANUARY 29 2011.

1 KILLED, 5 SERIOUSLY INJURED IN PETRONAS SEPANGGAR FUEL TERMINAL CAUSED BY HOT WORKS

One person was killed while five others sustained serious head, leg and body injuries when a fire broke out inside the Petronas Dagangan Bhd Sepanggar Bay fuel terminal in Sepanggar near here yesterday.

The 9.30am fire was said to have started during a pipeline maintenance hot works carried out at Tank 5 which caused a spill from Tank 4 (gasoline) to occur.

According to a Petronas spokesperson, the spill was due to a leak in the tank's flexible bellow which led to a fire within the bund-wall area.

Sparks from the hot works ignited the accumulated gasoline where one welder was killed while two others sustained major burns on their hands and body.

During the inferno, two LGP staff who were working at the LGP platform next to the bund-wall, fled the area and in the process to escape, one of them suffered a broken leg after jumping from the platform while his colleague was crushed by a 50kg cylinder.

The chaotic moment also caused an operator to be hit by a moving tanker, injuring his body and arm.

A distress call was immediately sent out and the Royal Malaysian Navy fire and rescue team was the first to arrive at the scene to contain the blaze followed by the Fire and Rescue Services Department.

The scenario was actually a live simulation conducted by Petronas Dagangan Berhad (PDB) together with the Royal Malaysian Navy (TLDM) and several other agencies in an emergency response exercise to improve response plans in an emergency situation as well as managing and mitigating a crisis.

Dubbed "PEDEX 4" (Petronas Dagangan Exercise 4), the exercise involved more than 150 personnel from the Fire and Rescue Services Department, Royal Malaysia Police, Queen Elizabeth Hospital, Likas Hospital, Public Services Department, Kota Kinabalu City Hall, Department of Environment and Department of Occupational Safety and Health.

The exercise was to entail various emergency scenarios that could happen during an explosion, collision, oil spill or fire to ensure proper measures are taken to mitigate the situation.

The two-hour exercise was part of PDB's continuous commitment in proactive management of health, safety and environment across all of its business operation.

The drill was also designed to enhance the capability of PDB's (Sabah region) emergency response team in handling an emergency situation.

<http://www.theborneopost.com/?p=90304>

USA, TN, NASHVILLE

JANUARY 29 2011.

WIDOW SAYS ASHLAND CAUSED HUSBAND'S DEATH

Liz Potocsnak

Ashland, a Fortune 500 chemical company, sent a man into a 5,000-gallon heptane fuel tank, telling him it had been empty for 6 months; but it actually had been drained the day before and the man lay in the toxic fumes for hours until his body was found, his widow claims in Davidson County Court.

Malvia Dugan says Ashland's failure to air out the tank and its violation of multiple OSHA regulations caused her husband's wrongful death.

Dugan says her husband was told the tank had been empty for six months, but actually had been drained of gas the day before he was told to scrub the rust out of it.

"Per the instructions of defendant delivered via electronic mail, among other directions, Mr. Dugan was to

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'Clean tone 5000 gals. Tank (rust). Tanks have been empty for six months,'" the complaint states.

On the day he arrived, Dugan was trained for only half an hour, and was never given a mandatory written quiz, his widow says.

After completing a "Confined Space Entry Permit" that did not list an authorized attendant to help Dugan, he entered the tank unaware that the fuel had just been drained.

"On February 2, 2010 sometime after the issuance of the permit, Mr. Dugan tested the oxygen, flammability and carbon monoxide levels in Tank-9B and listed the material in tank 9-B to be 'water,'" the complaint states.

"Mr. Dugan thereupon entered the tank, and upon reaching near the bottom of the tank, was exposed to toxic levels of heptane gas and died.

"Sometime around 3:00 p.m. on February 2, 2010, approximately three hours past the expiration of the permit, an employee of defendant finally noticed that Mr. Dugan was missing and searched the tank yard, finding Mr. Dugan at the bottom of Tank 9-B."

Tank 9-B had been drained of the toxic gas one day before Dugan entered it, according to the complaint.

Dugan's widow says, "Defendant had a duty to plaintiff to ensure that all safety requirements were in place to protect individuals from harmful exposure to hazardous chemicals on their premises, including, but not limited to, the duty to train people to the dangers presented by specific chemicals within their control, the duty to provide adequate personnel to supervise or monitor people such as plaintiff during their potential exposure to said chemical, the duty to provide adequate safeguards to ensure that people exposed to harmful chemicals will be discovered and treated promptly, and the duty to enact adequate safeguards to ensure that access to emergency or response personnel will arrive timely."

She says Ashland violated OSHA requirements for a permit-confined space, and failed to properly ventilate the tank, provide communication equipment, protective equipment or emergency equipment, among other OSHA requirements.

She seeks punitive damages for negligence, reckless conduct and wrongful death.

She is represented by James Higgins with Higgins, Himmelberg and Piliponis.

<http://www.courthousenews.com/2011/01/28/33702.htm>

INDIA, PUNE

FEBRUARY 4 2011.

2 WORKERS FALL INTO RESIN-FILLED TANK, FEARED DEAD

Two workers from a chemical factory located at Nasrapur around 30 km from Pune were feared dead after they accidentally fell into a resin-filled metal tank around 6 pm on Thursday. The strong fumes of the chemical emanating from the tank made any rescue difficult. The company's rescue team and the fire brigade were struggling till late on Thursday to rescue them. The workers were Sandeep Khude (24) and Vishal Kamble (22), police said. Sanjay Bothe of Rajgad police station told TOI that one of the workers was working near the tank when the strong fumes made him dizzy and he fell into the container. "When another worker saw him, he rushed to help him. He too fell inside due to the fumes," Bothe added. "We have begun cutting open the tank. Both workers may not have survived as they have been inside the tank for more than two hours," Bothe said.

<http://timesofindia.indiatimes.com/city/pune/Two-workers-fall-into-resin-filled-tank-feared-dead/articleshow/7421464.cms>

USA, AKA, NUNAVUTM

FEBRUARY 18 2011.

GAS MIX-UP CAUSED NUNAVUT EMERGENCY LANDING

A FUEL SUPPLIER MISTAKENLY DELIVERS BARREL OF "SLOP" A COMBINATION OF WASTE FUELS REMOVED FROM TANKS AT VARIOUS AIRPORTS

A small airplane that made an emergency landing near Rankin Inlet, Nunavut, in July was mistakenly filled with waste fuel at the local airport, according to the Transportation Safety Board.

The privately owned 1971 twin-engine Aero Commander was forced to land on the tundra on July 18, just after it had taken off from the Rankin Inlet airport.

The pilot and two passengers walked away from the severely damaged aircraft with no injuries. They left Rankin Inlet a short time later on a commercial flight.

The three were en route from Portland, Oregon, to Bern, Switzerland, to deliver the plane to its new owner when they landed in Rankin Inlet to refuel.

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In its report on the crash, the Transportation Safety Board says the fuel supplier in Rankin Inlet had delivered two drums that were both marked as aviation gas.

One of the drums did contain fresh aviation gas, but the other drum contained "slop," a combination of waste fuels that had been pumped out of various tanks at the airport.

"It was being stored in this drum, but the drum was mistaken for a full drum of clean aviation gasoline," Peter Hildebrand, a regional manager with the safety board, told CBC News on Wednesday.

Engines lost power

Just after the plane departed from Rankin Inlet, both of its engines began to lose power.

The pilot tried to turn the aircraft around, but did not have enough power to make it back to the airport. Instead, the plane landed on its belly on the tundra, about 150 metres from the runway.

The Transportation Safety Board's report says renovations were underway at the Rankin Inlet airport at the time of the incident. As a result, drums of slop were being stored just 61 metres away from the fresh fuel.

Rankin Inlet airport officials have made some changes, and the fuel supplier has moved the drums of aviation gas away from the drums of slop, according to the board.

The slop will soon be stored in tanks that cannot be mistaken for fresh fuel, the board's report said.

The safety board has also asked the airplane's pilots to review procedures for refueling aircraft using drums. <http://www.cbc.ca/canada/north/story/2011/02/16/nunavut-plane-crash-tsb.html?ref=rss>

CANADA, S.K, SWIFT CURRENT

FEBRUARY 24 2011.

DIESEL SPILL AT HUSKY TRUCK STOP

The Swift Current Fire Department is reminding people to never leave their vehicle unattended while filling up at a gas station after they responded to a diesel spill at the Husky truck stop Feb. 18 at 12:40 a.m. Crews were called to the scene on South Service Road East after a semi truck was allegedly left unattended while filling up at the station, spilling approximately 10 gallons of diesel on the ground. The four firefighters shut down the pumps and spread sorbent material to soak up the diesel and they bagged the contaminated material. The pumps were shut down for a total of two hours, although the fire department doesn't believe it caused much of an inconvenience due to the time of night when the spill occurred. Acting Captain Earl Braun said these calls are common, but spills like this could have been avoided had the truck driver stood by his vehicle while refueling.

http://www.mysask.com/portal/site/main/template.MAXIMIZE/?javax.portlet.tpst=c583957c316d272c0f79690b88215ae8_ws_MX&javax.portlet.prp_c583957c316d272c0f79690b88215ae8_viewID=content_item_detail&javax.portlet.prp_c583957c316d272c0f79690b88215ae8_itemID=48667&javax.portlet.prp_c583957c316d272c0f79690b88215ae8_contentID=PRAIRIE%20POST%20CONTENT%20SUBMISSION&javax.portlet.begCacheTok=com.vignette.cachetoken&javax.portlet.endCacheTok=com.vignette.cachetoken

ECUADOR, RUMIPAMBA

FEBRUARY 25 2011.

INDIGENOUS ECUADORAN WOMAN HUMBLER US OIL GIANT

Valeria Pacheco

She has no legal training, and doesn't speak the Spanish that dominates government in Quito but indigenous villager Maria Aguinda helped bring a landmark judgment against US oil giant Chevron for polluting the rain forest she calls home.

The diminutive grandmother whose modest home sits near marshes clogged for decades in sticky oil has been at the heart of the David-and-Goliath case, and spoke out after Chevron was slapped last week with a \$9.5-billion fine, among the heaviest ever handed down for environmental damage.

"Before I die they have to pay me for the dead animals, and for what they did to the river, and the water and the earth," the 61-year-old Aguinda told AFP at her home in Rumipamba, a town in remote Orellana province where pollution caused by 30 years of oil drilling and petroleum accidents had become a sad fact of life.

Texaco operated in the area between 1964 and 1990, and was bought in 2001 by Chevron, which inherited Texaco's legal nightmare.

"The demand (for compensation) is going on track," said the ethnic Quechua woman, pointing to a nearby spot marked by spillage from an oil well run by Texaco in the 1970s.

"Mary Aguinda et al" are the opening words of the suit launched in 1993 on behalf of 30,000 residents of Orellana and Sucumbios provinces, in which they charge Texaco dumped billions of gallons of toxic crude during its 684, 685, 686, 687, 688, 689, 690

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operations, fouling rivers, lakes and soil and causing cancer deaths in indigenous communities.

Aguinda said she believes her husband and two of his 10 children died from effects of the pollution, which rights group Amazon Watch says has affected an area the size of the US state of Rhode Island.

Several of her family members “have skin problems, like fungus,” Aguinda said as she lifted her granddaughter’s foot off the dirt floor to show an outbreak on her leg.

Chevron blames state-run Petroecuador, with which Texaco formed a consortium from 1972 until the US firm departed in 1992, of not doing its part in the clean-up agreed with the state.

“When Texaco came we never thought they would leave behind such damage, never. Then it began to drill a well and set up burn pits,” she said, helped in translation by her son William Grefa.

“It changed our life: hunting, fishing, and other food, it’s all finished.”

She skeptically eyes the ongoing cleanup of a marsh just meters from her house, where workers dressed in oil-stained yellow overalls dredge thick black ooze into suction pipes.

Aguinda said the spill is leftover from a Texaco storage pool which overflowed into the marshes during 1987-1990 operations of the Auca South 1 well about 200 meters (656 feet) from Rumipamba.

Texaco performed operational repairs in the area in the 1990s, and oil extraction continues in the region, according to Grefa.

Six months ago, a dozen workers from Petroecuador, which has managed the concession since 1990, began cleaning up the marshes, reviving bitter memories within the community of the slow-motion disaster.

The company “made arrangements, but they covered everything with sticks and earth and nothing more,” said Grefa, a member of the Assembly of People Affected by Texaco, which represents the 30,000 indigenous people in the suit.

The operation has done little to improve conditions, Aguinda said.

“With the cleanup that Texaco left, the air is just unbearable. I can’t live above the oil,” groaned Aguinda, who grew visibly irritated talking about the disaster.

“If someone comes here from Texaco” he’ll get “pepper in his eyes,” she winced.

A strong petroleum smell permeates Rumipamba, home to nine families, some of whom complain of headaches. Several areas of Sucumbios are also contaminated, according to the plaintiffs, who argue that merely sinking a shovel into the ground yields a thick layer of crude.

Chevron, which has called the judgment “illegitimate and unenforceable,” has asked a judge in Ecuador for clarification of the ruling as it seeks to appeal.

The court last week announced a penalty against Chevron of \$8.6 billion with an additional 10 percent for environment management costs.

The plaintiffs, too, plan to appeal, saying the ruling fails to adequately compensate for certain damages and illness. They were seeking more than \$27 billion in their suit.

<http://www.dawn.com/2011/02/23/indigenous-ecuadoran-woman-humbles-us-oil-giant.html>

USA, TX, TEXAS CITY

FEBRUARY 26 2011.

HIGHWAY 146 REOPENS AFTER 6,000 BARRELS [250,000 GALLONS] OF GASOLINE SPILLS INTO NEIGHBORHOOD

T.J. Aulds and Chris Paschenko

Twelve hours after a pipeline carrying gasoline ruptured, officials reopened state Highway 146 and allowed evacuated residents to return home. As much as 225,000 gallons of fuel may have spilled into Texas City's Bayou Pierre, officials said.

A pipeline carrying gasoline ruptured at about 3 a.m. Thursday forcing the evacuation of about 30 homes and the closure of state Highway 146. As much as 250,000 gallons of gasoline may have leaked from a ruptured pipeline into Bayou Pierre before it was shut down, the line's owner said at a news conference this morning.

The highway is closed between FM 517 and FM 1764.

Houses on Clara Lane nearest the point where the pipeline ruptured were evacuated as a precaution, Bruce Clawson, the city's homeland security coordinator, said. About a dozen of the evacuated residents were at the Doyle Convention Center.

No injuries were reported when the pipeline ruptured and there was no fire or explosion.

The 25th Avenue Extension between state Highway 3 and Highway 146 is also closed. The spill also forced the closure of the city's municipal golf course.

The evacuations and road closures are all precautionary.

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"We could have 6,000 (barrels) of fuel on the ground and we want to be extra careful," Clawson said.

Magellan Midstream Partners LP, the owners of the line said the company received a leak detection alarm on the line at about 1 a.m. After shutting the line down crews confirmed the leak at about 3 a.m.

Magellan spokesman Bruce Heine said the underground line is an 18-inch supply line from Texas City to its Pasadena Products Pipeline. The line is a multi-carrier product line and transports refined products to multiple shippers along the company's Texas City to Houston pipeline, he said.

"We don't know what caused the release in the pipeline," Heine said. The company was removing the failed section of the line to help in the investigation of how the rupture happened.

Heine said the line was in "compliance with all laws and regulations," but would not confirm when it was last inspected. Regulations require that pipelines be inspected every five years.

Since it ships refined products, the line falls under the jurisdiction of the Texas Commission on Environmental Quality, which was coordinating the state's response to the cleanup. Commission spokesman Terry Clawson could not confirm when the line was last inspected.

The pipeline is near two overpasses that cross the bayou at Highway 146 near Atwater Avenue. There are currently no readings of high concentrations of fumes, but the concern is that fumes could gather under those bridges. The morning's brisk winds are helping, Clawson said.

Cleanup crews from Garner Environmental were called in to boom off areas along the bayou and prevent any of the fuel from making its way into nearby Moses Lake. The spill was contained.

<http://galvestondailynews.com/story/213674>