

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/>

USA, MI, ST. JOSEPH COUNTY

JUNE 26 2010.

BP PIPELINE LEAK IN WEST MICHIGAN

British Petroleum's problems in the Gulf of Mexico are well known at this point, but recently the company was forced to deal with a gas spill in West Michigan.

Crews are still out, day and night after nearly 93,000 gallons of gasoline poured into a farm field over the Memorial Day weekend.

The leak in the pipeline, in Constantine Township on Quarter Mile Road, was closed off quickly, but there's still lots of work going on.

"I had no idea there was any gasoline lines underground," said Jeff Russell.

However, Russell recently learned that a line does run right near his home. Russell made that discovery after the pipeline sprung a leak.

"They brought bottled water and containers for bathing," said Russell.

Russell and three other families were also evacuated for a few nights while BP crews tested the water and the air to make sure it was safe.

On Friday, crews were still out extracting the spilled gasoline from the soil and monitoring the environmental impact.

"BP was on the ball with this," said Michael Baranoski, DNRE Environmental Quality Analyst, "sampled residential wells, testing water ensuring wells not impacted by the gasoline."

Michigan's Department of Natural Resources and Environment is also keeping track of the clean-up. They tell Newschannel 3 that there have only been about a half-dozen spills like this in southwest Michigan in about 40 years.

Testing of well water has shown that it is okay for those in the area to drink the water, but they should expect the clean-up crews to be around for awhile.

"This will go on for months, not going to be a quick process," said Baranoski. "The bigger concern for us is the long-term impact. Stuff enters the groundwater, where is it going to go, how much is there, impact on any surface water bodies in the area."

Newschannel 3 spoke to a BP spokesperson on Friday. She said the pipeline that leaked in St. Joseph County is monitored from a control center in Tulsa, Oklahoma and as soon as a problem was indicated, BP initiated a shutdown of that pipeline. At about the same time, a passerby at the site was calling local emergency crews.

<http://www.wwmt.com/articles/style-1378219-font-span.html>

TONGA, HA'APAI, PANGAI

JUNE 26 2010.

TWO MEN DIE INSIDE HA'APAI FUEL TANKER

Two men died on board a fuel tanker, the MV Punalei, berthed at Pangai, Ha'apai yesterday afternoon, after it is believed they were overcome by poisonous fumes while cleaning empty fuel tanks. Ha'apai police today confirmed the deaths had occurred on board the vessel and named the men as Takilesi Uata and Ula Tu'ionetoa. Takilesi is a son of 'Uliti Uata, the Ha'apai No. 1 People's Representative to the Tongan Parliament. Both men were working on the boat.

The vessel owned by Uata Shipping, was due to leave for Fiji, and regularly carries benzene fuel, diesel and oil

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between Fiji and Ha'apai.

Sgt Tonga 'Onevai of the Tonga Navy in Ha'apai, who supervised the recovery of the bodies, said that at 5:30pm yesterday he noticed a commotion on the wharf. He went on board the MV Punalei a small tanker that carries fuel. He looked down and could see two men were lying inside the tank and they looked as if they had been dead for quite some time.

"The fumes coming out of the tank were very strong," he said. He said the men were getting ready for the MV Punalei to go to Fiji to get some fuel and the normal practice was that when it is empty they open it up for a while before they go inside to prepare for the trip. But he thought that this time they went in while the fumes were strong without protective gear.

He said the recovery effort was difficult but they found some oxygen apparatus on board the ship and were able lower a man into the tank to recover the bodies. It is understood that the bodies of the two men were being returned to Tongatapu this afternoon on board the MV Pulupaki.

http://www.matangitonga.to/article/tonganews/outerislands/20100625_tonga_uata_tuionetoa_deaths.shtml

USA, W.VA, CHARLESTON

JUNE 26 2010.

BEFORE FATAL LEAK, DUPONT SCRAMBLED TO FIX PHOSGENE PROBLEMS

Ken Ward Jr

In the hours before a fatal Jan. 23 phosgene leak at the DuPont Co. plant in Belle, company officials were scrambling to fix problems with the phosgene tanks and hoses involved in the accident, according to a newly released DuPont investigation report.

The day before the leak, DuPont was having trouble with pressure from one of two phosgene cylinders that supplies the chemical building block to a pesticide production unit, according to the report.

DuPont replaced the supply hose on one of the two tanks when it discovered damage that had been covered up by a manufacturer's label, but apparently missed similar damage on the other tank's hose, which eventually leaked, the report said.

Shortly after 2 p.m. on Jan. 23, longtime plant worker Danny Fish was sprayed with phosgene as he conducted a safety check inside a shed where DuPont keeps the phosgene supply cylinders.

DuPont initially said Fish was transported to a local hospital "for treatment and observation as part of the standard protocol for exposure to this material." Fish died the following day.

Phosgene is a valuable building block for making other chemicals and DuPont uses it to produce various crop protection chemicals. But, it is also extremely toxic. It was used as a chemical weapon in World War I, and is considered dangerous even in very tiny levels.

Previously, the U.S. Chemical Safety Board has said the braided-wire phosgene hose that leaked at DuPont showed signs of serious wear, and the federal Environmental Protection Agency reported that it was long overdue to be replaced.

But the new DuPont report provides the most details to date of what happened leading up to the fatal leak that has prompted numerous federal investigations and led Sen. Robert C. Byrd to say he was "alarmed" by safety lapses at the Belle plant.

Last week, DuPont provided a copy of its internal report to various regulatory agencies. Initially, the company insisted that 24 entire pages of the 31-page document contained "confidential business information" that could not be released.

The Gazette-Mail asked the state Department of Environmental Protection for a copy of the entire report. DEP officials reviewed it, and questioned DuPont's broad claim for confidentiality. Earlier this week, DuPont withdrew most of its claims for confidentiality and DEP provided a copy of the complete report.

According to the report, DuPont had begun mixing a batch of chemicals at about 10:45 a.m. the day before the leak. But the flow of phosgene from one of the two tanks -- the one referred to as the "hillside" cylinder -- was "insufficient."

Plant operators began "switching between" the hillside cylinder and a second tank known as the "riverside cylinder," the DuPont report said. "Sufficient flow was obtained from the riverside cylinder, but switching the cylinders did not resolve the low flow issue on the hillside cylinder," the report said.

According to the report, plant operators thought, "the flow issue was due to a problem with the valve on the hillside phosgene hose assembly" because the valve would not open as much as it usually did.

"The operators left the manual valves from the riverside cylinder to the process open after the batch was

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complete," the report said. "The liquid phosgene was not evacuated from the hose and valve assembly."

That evening, DuPont decided to replace the hillside cylinder's hose assembly the next morning before starting another batch of chemicals.

Workers cleared phosgene from the hillside cylinder's hose assembly, and at the same time closed the valves between the riverside cylinder and the pesticide unit, the report said.

At about 9:15 a.m. on Jan. 23, a mechanic replaced the hillside cylinder hose and valve assembly. The next batch of chemicals was started at about 9:55 a.m. using the hillside cylinder.

Workers put the hillside cylinder's old hose into a bucket of water to decontaminate it, the report said. Later, they noticed "there was a section of the wire over-braid approximately one-half inch long that was missing around the full circumference of the hose.

"The missing over-braid on the hillside hose had not been apparent to the operators or mechanics when they removed it from service because it is believed that a manufacturer's tag was tightly wrapped around the hose and covered the area of missing over-braid," the DuPont report said. "The manufacturer's tag was no longer present when the hillside hose was removed from the bucket of water.

"After the missing over-braid was observed on the hillside hose, the operators visually checked the riverside hose for similar damage while it was in service," the report said. "A manufacturer's tag was wrapped around the riverside hose, and no deterioration of the wire over-braid was apparent on the riverside hose."

At about 2 p.m. that afternoon, Fish went into the phosgene shed to check the hillside phosgene cylinder weight on a scale.

"While the operator was checking the hillside phosgene cylinder weight on the scale, he heard a 'pop' and was sprayed with phosgene from the riverside hose, believed to be in the form of a fine mist/vapor," the DuPont report said. "The operator passed away the following day."

<http://wvgazette.com/News/201006250813>

USA, OK, MARLOW

JUNE 28 2010.

2 CRITICALLY INJURED IN EXPLOSION IN SOUTHERN OKLA

Two men were critically burned in an explosion that occurred while they worked on oil field equipment at a south Oklahoma business. Stephens County Sheriff Wayne McKinney says Ricky Faust of Foster and Faron Pierce of Duncan were injured in the explosion at Eagle Iron and Metal just east of Marlow. Pierce is listed in critical condition at a Dallas hospital and Faust is in critical condition in an Oklahoma City hospital. Officials at both hospitals say each man has severe burns over about half their bodies. McKinney says it appears one of the men was cutting with a torch or a saw that sparked the explosion about 2:15 p.m. Thursday.

http://www.tulsaworld.com/news/article.aspx?subjectid=298&articleid=20100626_298_0_MARLOW740859

CANADA, ALTA, SHERWOOD PARK

JUNE 28 2010.

SMALL BLAZE IN STORAGE TANK VENT AT ALBERTA REFINERY QUICKLY EXTINGUISHED

It took just under two hours to put out a small fire that broke out Saturday night in a storage tank roof vent at an Imperial Oil refinery just east of Edmonton. Officials at the scene of the fire at the facility in Sherwood Park refused to comment. A recorded message on a company phone information line said that crews from the refinery responded to a fire just after 10 p.m. in the roof vent of a tank used to store asphalt. The blaze was extinguished just before midnight and there were no injuries. Erin Carrier, an official with Alberta Environment, says the government agency was notified of the incident, noting it was a small blaze that did not prompt any air quality concerns. There's no word on the cause of the fire or the extent of damage.

<http://www.oilweek.com/news.asp?ID=28570>

CANADA, SK, CARIEVALE

JUNE 29 2010.

LIGHTNING STRIKES, TANK EXPLODES

Sylvia MacBean

A lightning strike on the weekend caused an explosion in an oilfield storage tank northwest of Carievale, sending plumes of dense, black smoke skyward that could be seen for kilometres around the area.

The lightning struck a 400-barrel tank of crude oil belonging to Gold River Oil and Gas Ltd. of Calgary at around

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5:30 a.m. Saturday.

Norman Gordon lives 200 metres from oilfield lease, which is located on his farmland.

"I heard the thunder from the lightning strike. I knew it was close and then a little while later an oil worker knocked at my door and said the oil tank was on fire," he said.

"So, I went out to where the Carnduff fire trucks were stationed and watched it burn," he said, adding it burned all day long.

"There were two volunteer firefighters who stayed and watched it all night. The fire truck came this morning and sprayed it down with foam," said Gordon on Sunday.

The Carnduff fire department responded, but firefighters could only keep watch as the oil tank burned and make sure the fire didn't spread to neighbouring cropland.

"It is so wet that the fire couldn't spread anywhere," Gordon said.

Gordon said he isn't worried about the close proximity of the oilfield site to his home.

"The oil battery has been there for five years. I receive a cheque from the oil company once a year. It is for surface rights," he said.

A second lightning strike on the weekend hit another 400-barrel oilfield tank near Stoughton. The fire department from that community responded.

<http://www.leaderpost.com/technology/Lighting+strikes+tank+explodes/3209897/story.html#ixzz0wEq9hT2U>

USA, MO, COLUMBIA

JUNE 29 2010.

FOUR INJURED IN HYDROGEN EXPLOSION AT MU LAB

Four people were injured after an explosion rocked a building on the University of Missouri campus in Columbia on Monday afternoon.

According to school officials, the explosion occurred around 2:20 p.m. in Schweitzer Hall, which houses the university's biochemistry department. According to a statement from MU, the blast is believed to have been caused by a "spontaneous combustion" of gases including hydrogen and nitrogen that were being used in research experiment.

Fire officials say that a 2,000 pound hydrogen tank exploded on the third floor of the building near the intersection of College and University Avenues.

The explosion blew out all of the windows in one corner of the building, which was evacuated following the explosion. School officials say that the building is now closed until further notice.

The four victims were transported to University Hospital in Columbia, where one remains hospitalized in good condition. The school says that the Columbia Fire Department is investigating the explosion.

<http://www.fox4kc.com/news/wdaf-story-mu-blast-hydrogen-062810,0,7624123.story>

USA, OK, KIEFER

JULY 1 2010.

TWO INJURED IN KIEFER TANK EXPLOSION

Two people are injured after a tanker explosion in Kiefer. The explosion took place around 11am Wednesday in Kiefer. The two injured have been life-flighted to Tulsa. Witnesses on scene tell NewsChannel 8 that one man did suffer serious burns. Jim Smith, a nearby landowner, said he noticed a several thousand gallon tank leaking oil and salt water on Monday and he called to report the leak. Crews arrived on Tuesday to repair the leak and had returned today to continue their work when the explosion took place. Smith said he heard two loud explosions and looked out to see the two burned men running away from the fire. We are being told that the crew was using flaming torches on the tank when the fumes caught fire and exploded. Emergency officials on scene are waiting for the fire to burn itself out at this time.

<http://www.ktul.com/news/stories/0610/751073.html>

USA, AZ, PHOENIX

JULY 8 2010.

ASPHALT LEAKING FROM STORAGE TANK AT PHOENIX MANUFACTURING PLANT

Catherine Holland

The Phoenix Fire Department was called out to an asphalt plant early Wednesday morning to deal with what was first reported as an oil leak from a 50,000-barrel storage tank.

Paramount Petroleum Corporation, the largest manufacturer of paving and roofing asphalt products in the

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western U.S., is located at 19th Avenue and McDowell Road.

Firefighters initially shut down McDowell Road between 19th Avenue and the freeway. They re-opened it a short time later after determining there was no hazardous-materials situation.

What was actually leaking from the storage tank was warm liquid asphalt. When in its liquid state, asphalt has a consistency similar to molasses. Once it starts to cool off, which usually happens fairly quickly, it begins to harden.

According to Capt. Scott Walker of the Phoenix Fire Department, the leaking asphalt was being contained in a dyke that's built around the tank just for that purpose.

"Originally, we had a large assignment out here to make sure this oil was going to be contained," Walker explained.

Walker said the facility has the proper systems in place to handle the situation. As soon as the leak was discovered, shortly before 7 a.m., Paramount Petroleum began offloading the liquid asphalt to other storage tanks.

Walker said the dyke around the damaged tank, which was only about 70 percent full, is designed to hold its entire contents -- 50,000 barrel.

"[The liquid asphalt] will not overflow the dyke," he said.

Several firefighters, including a fire-prevention unit, remained on the scene to monitor the situation and the cleanup.

Because asphalt hardens as soon as it begins to cool, just like when a street is being paved, there is no danger of it seeping into the ground and causing an environmental issue, said a Paramount spokesman. That means the leak should not have any impact outside the facility.

Paramount said it has notified all of the appropriate environmental and safety agencies.

The biggest issue Paramount is facing now is cleanup at its facility. The hardened asphalt will have to be pounded into smaller bits -- like when a street is torn up -- and removed.

No injuries were reported in the incident.

<http://www.azfamily.com/news/local/Oil-leaking-from-storage-tank-at-Phoenix-asphalt-plant-97945089.html>

USA, MN, PARK RAPIDS

JULY 8 2010.

FUEL SPILL ADDS TO WEEKEND HEADACHES

An underground fuel tank leaked near the Thomason Law Office in Park Rapids after heavy rains fell in the region Sunday night. Pollution control officials were called in to mop up the smelly mess Sunday. Residents reported 5 to 6 inches of rain overnight, flooded basements and sump pumps running nonstop. Standing water was a common sight.

<http://www.parkrapidsenterprise.com/event/article/id/24247/>

INDIA, LUCKNOW

JULY 9 2010.

SIX WORKERS DROWN IN SAUCE FACTORY TANK

Six workers of a tomato sauce factory, including a woman, drowned in a 12-foot-deep tank filled with the raw material for making the product, in Talkatora area in Lucknow on Wednesday night. The mishap took place when the woman worker of Akansha food products in Mayapuram locality went near the tank to clean the area and accidentally fell into it and her coworkers jumped one after the other to save her, police said, adding six bodies have been taken out. Another injured worker was rushed to the Trauma centre for treatment, they said.

<http://www.ndtv.com/article/cities/six-workers-drown-in-sauce-factory-tank-36397>

USA, CO, ENGLEWOOD

JULY 10 2010.

EXPLOSION KILLS WELDER IN ENGLEWOOD

A worker was killed Thursday in an explosion at a large commercial holding tank in Englewood, authorities said. The blast happened at about 4:30 p.m. at ACI Services on South Raritan Street. ACI Services is an environmental contractor. Marla Wilcox with the Englewood Fire Department said the victim was preparing to weld a 21,000 gallon tank that holds water, gasoline, diesel and/or oil when a spark caused fumes to ignite. The worker sustained serious injuries to his face and was blown off the tank, Wilcox said. Other employees pulled the worker to safety and initiated CPR. The man was transported by ambulance to a nearby hospital. His name was not released. ACI recovers contaminants from businesses, sites, etc. They process the products removing flammables from water for proper

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disposal.

<http://www.kwgn.com/news/kdvr-englewood-blast-txt,0,1512072.story>

USA, TX, WISE CO

JULY 15 2010.

TANK EXPLOSION INJURES 2

Brandon Evans

A tank battery exploded Tuesday afternoon and sent men sailing through the air in northern Wise County. It occurred at a gas well site located off Farm Road 455, several miles west of Farm Road 51.

Firefighters from Greenwood/Slidell and Sanger fire departments arrived around 12:30 p.m. on the scene to find the tank crumpled and burned. The blast moved the massive metal tank several yards. The explosion covered nearby vehicles in oil and mud.

Two men were injured. One was transported to Denton Regional Hospital with first and/or second degree burns. The fire was quickly contained. Workers at the site extinguished the fire by the time fire trucks arrived.

The site was directly behind an Aruba Petroleum office. The site itself is owned by Gilbow Oil Field Services, a drilling fluid and tank truck company based in Bowie.

"Everybody is going to be all right," said owner Jim Gilbow. "They could of all been dead. The impact knocked one big boy about 15 feet."

Gilbow said it's too early in the investigation to know how the explosion occurred. He did say the man sent to the hospital was a private contractor who was welding at the site.

Two Gilbow Oil Field Service employees standing nearby were knocked through the air by the blast. Neither were sent to the hospital.

The explosion roared across the rolling prairie.

"A company doing oil field work about a half mile across the pasture felt the explosion," said Adam North, chief of Greenwood/Slidell Fire Department.

North said it appeared the explosion was caused when the electric welding arc ignited some fumes and blew up the canister.

"It's a wonder we didn't have anyone killed," North said.

One witness said he heard a big boom and saw the long grass in the pasture flattened from the force of the blast.

Gilbow said they are working with investigators from the Texas Railroad Commission. They are also cleaning the site.

The tank probably contained a mixture of water, oil and gas. Gilbow said they've operated at the site for six years and have never experienced any problems there.

North said he expects the injured welder to be released soon, and the injuries were not life threatening.

The incident marks the second tank battery explosion in Wise County this year. A series of tank batteries exploded March 19 at a Devon well site west of Decatur, injuring two people.

<http://www.wcmessenger.com/news/content/EkZAEkuupFIMYdFDBk.php>

AUSTRALIA, NEW SOUTH WALES, SYDNEY

JULY 16 2010.

MAN ON FIRE AT WORKPLACE

A man is in a critical condition in hospital after accidentally setting himself on fire at his workplace. The 25-year-old man was decanting a drum of paint thinners at a sheet metal fabrication business in South Windsor, north-west Sydney, when he slipped in a puddle of the flammable liquid about 12.30pm (AEST) yesterday. Sparks from a nearby lathe ignited his clothing, enveloping him in flames. His colleagues attempted to put out the flames with a hose and fire extinguisher. The man was taken to the Royal North Shore Hospital suffering from serious burns to 40 per cent of his body. Police and workcover are investigating the incident.

<http://www.heraldsun.com.au/news/breaking-news/man-on-fire-at-workplace/story-e6frf7jx-1225892479899>

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AUSTRALIA, QUEENSLAND, MACKAY

JULY 22 2010.

MAN DIES WELDING FUEL TANK

A man has died in an industrial explosion at Mackay in central Queensland. A spokeswoman for the Queensland Department of Community Safety said the explosion in the Mackay suburb of Paget about 2.40pm (AEST) on Wednesday lifted the roof off of a factory. The blast is believed to be linked to the welding of a fuel tank. A fire was extinguished, the spokeswoman said. Police and fire investigators remain at the scene.

<http://news.ninemsn.com.au/national/7932946/man-dies-welding-fuel-tank>

USA, WASHINGTON DC, JULY 22, 2010. CSB ISSUES REPORT ON 2009 EXPLOSION AT VEOLIA ES TECHNICAL SOLUTIONS, L.L.C. HAZARDOUS WASTE FACILITY; WASTE INDUSTRY URGED TO IMPROVE SAFETY STANDARDS; RECOMMENDATIONS ISSUED TO ENSURE SAFER SITING OF BUILDINGS

A U.S. Chemical Safety Board (CSB) case study released today on the 2009 explosion and fire at the Veolia ES Technical Solutions L.L.C. facility in West Carrollton, Ohio, calls on the industry to improve safety standards covering hazardous waste processing, handling, and storage facilities. The Board also recommended that fire protection codes be revised to require companies to determine safe distances between occupied buildings and potentially hazardous operating areas.

The accident occurred on May 4, 2009, when flammable vapor was released from a waste recycling process, ignited, and violently exploded. The blast seriously injured two workers and damaged 20 nearby residences and five businesses. CSB investigators found that the north wall of the lab and operations building – where the victims were injured – was less than 30 feet from the waste recycling processing area where the flammable vapor was released.

CSB Chairman Rafael Moure-Eraso said, “This accident should not have happened. Our report notes that OSHA cited the company for inadequate attention to process safety management practices in the handling of flammable liquids. But in case of an accident, I believe it is absolutely critical that buildings at chemical facilities be sited safe distances from process equipment to maximize the safety of workers. We are making recommendations that would help ensure that operating areas with occupied buildings such as control rooms be sufficiently separated from process areas containing flammable liquids and gases that have the potential to explode.”

The Board issued a recommendation to the National Fire Protection Association (NFPA), which develops codes and standards for industry, urging NFPA to require companies to perform engineering analyses to determine safe separation distances between buildings occupied by administrative and other personnel not essential to process operations, and buildings housing the potentially hazardous process equipment.

The Board also revised a previous recommendation to the Environmental Technology Council, a hazardous waste industry trade group, to petition the NFPA to develop a standard specific to hazardous waste treatment, storage and disposal facilities. This would include guidance on reducing the likelihood of fires, explosions, and releases of hazardous waste.

Dr. Moure noted, “The Environmental Technology Council did not respond adequately to our 2007 recommendation, which we issued following an explosion and massive fire at the Environmental Quality hazardous waste facility in Apex, North Carolina, to work for more stringent standards in the hazardous waste industry. I strongly urge the industry to act now. These facilities, by their nature, contain wide varieties of flammable and toxic materials that can cause significant injury to workers and threaten the well being of nearby communities. Facility owners and operators need stricter technical requirements to improve the safety of life and property.”

The report notes that after a normal run of the tetrahydrofuran (THF) solvent recovery process at the Veolia facility, the unit operator began a routine shutdown. Completing the process required blowing nitrogen back through the circulation piping to clean it, prior to closing valves.

CSB lead investigator Johnnie Banks said, “At the time of the shutdown, witnesses reported hearing the sound of a sudden, loud vapor release and smelling a very strong odor of THF solvent which knocked several employees to their knees. It was a matter of just a couple of minutes until the highly flammable vapor ignited.”

The vapor drifted to the laboratory and operations building and found an ignition source inside the building. A worker in the control room reported being enveloped in a fireball that went through the building. The first explosion knocked over a bank of lockers, severely injuring an employee and pinning him underneath.

Because of the extensive fire damage, the CSB was unable to conclusively determine the exact initiating event for the vapor release, concluding one of two possible scenarios likely occurred. In the first scenario, air may have been drawn into a tank containing THF residue and peroxides, causing increased pressure in the tank and forcing flammable vapor from the tank to escape through a manway cover or a vacuum breaker.

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In the second possible scenario, CSB investigators believe a line hose, intended to send pressurized nitrogen into a different tank, may have instead been connected to a tank containing unprocessed, flammable liquid. When the nitrogen was applied, it forced flammable vapor out through the tank vent. In either scenario, the vapor drifted to the operations building and ignited, causing the injuries.

In addition to issuing recommendations to NFPA and the hazardous waste industry, the Board also issued recommendations to Veolia, which is rebuilding the plant. The CSB called on the company to restrict occupancy in buildings in close proximity to the operating plant to personnel trained in the safe operation and orderly shutdown of the plant. The Board also called on the Center for Chemical Process Safety, a division of the American Institute of Chemical Engineers, to revise control room siting guidelines to address the characteristics of all Class 1B flammable liquids.

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. Visit our website, www.csb.gov