

Appendix D

Narratives from the OSHA IMIS database¹ for fatal overhead power line injuries, 2000-2011.

On August 10, 2006, Employee #1 was using a truck-mounted auger to install a road sign. While Employee #1 was at the auger controls, the auger boom contacted overhead electrical distribution lines. Employee #1 received an electrical shock and was killed at the scene.

Employee #1 was installing a marker on a guy wire when the guy wire broke. The guy wire fell over the power line and became energized. The end of the guy wire then landed on the employee, and he was electrocuted.

On April 11, 2004, Employee #1 was working alone on a high-voltage line. As he replaced a fusible link of the high-voltage line, while working from a bucket truck, he was electrocuted and killed.

On February 13, 2005, Employee #1, a firefighter captain, responded to a residential structure fire. The fire department was knowledgeable of a severed power line and had demarcated an area with yellow caution tape but had not set up any barricade or other means to keep exposed workers clear of the hazard. During the extinguishing of the structure fire, Employee #1 made contact with the energized 12,000-volt high voltage power line, which was hanging from a tree. Employee #1 was electrocuted.

On November 3, 2004, Employee #1 and a coworker, the senior ground worker, installed an 8 ft earth anchor to the end of an auger bit attached to the head of a boom truck. The anchor was to be installed under a 7,200 VAC primary line approximately 22 ft from grade. The anchor was to connect guy wires to a support guy pole for a new power pole. The boom with its auger and rig was 2.5 to 3 ft from an overhead line. They dug a 19-in. deep pilot hole to gain line clearance and to avoid handling the anchor to get it started into the earth. Employee #1 began to install the anchor from the boom truck. The auger rig being double-jointed began to wobble, causing the boom to sway back and forth. Employee #1 returned to the anchor to manually stabilize the rig, when the swaying boom head struck the overhead power line. The coworker saw Employee #1 approach the anchor but was unable to stop him from making contact. Employee #1 was electrocuted and died.

At approximately 8:01 a.m. on September 6, 2004, Employee #1, a police officer, was dispatched to investigate an accident in which an automobile struck a utility pole. The motorist involved in the accident left the scene and informed the sheriff's department, by telephone, of the accident. Employee #1 arrived on the scene and the 7,200 volt overhead power lines were drooping to approximately 3 feet above the ground. He came into contact with the downed power lines and was electrocuted.

One supervisor, one city employee, and an employee working for the city through a federal program were using a 0.7-metric ton Chevrolet pickup truck fitted with a Skylift aerial lift to remove athletic shoes from a three-phase overhead power line. The shoes were hanging by their laces. The 7-kilovolt (phase-to-ground) power line ran diagonally across the outfield in a baseball field in a city park. The employees feared that the wind blowing on the shoes would deflect the power line conductors into each other. Working from the aerial lift, the city employee was using a tool to dislodge the shoes. The tool got too close to the power line, and the employee was electrocuted. He had entry and exit wounds on both hands. Witnesses lowered the aerial lift bucket, removed the injured employee, and tried unsuccessfully to revive him.

¹ Spelling and grammar have not been edited.

Employee #1 was driving a sanitation truck, when he contacted an overhead power line with the truck. He initially escaped the truck but then went back to the truck to retrieve something. When he touched the grab rail, he was electrocuted.

On September 13, 2006, a five-man crew was surveying an area. Two employees in the crew were cutting a line (clearing the line of sight), for surveying from point to point. Employee #1 was using a machete to cut down a stalk of bamboo, at an area off the paved roadway, across a ditch, and on the far side of a barbed wire fence. The bamboo stalk was 30 feet, 3 inches high. Power lines ran along the same side of the road, next to the barbed wire fence and the bamboo. The power lines were 27 feet, 5 inches high. When Employee #1 cut the bamboo, he was still holding the stalk as it fell into the power lines. Employee #1 received an electrical shock, which killed him. Employee #2 was working behind Employee #1 and reached out to help Employee #1 when he called out. Employee #2 received an electrical shock; he was treated and released.

On April 14, 2011, Employee #1 and a coworker had been inspecting galvanized steel highway mast arm structures. The inspection included checking the material conditioning of the structures. The last phase of the inspection process required that the entire structures and intersection be photographed from an elevation. At approximately 5:30 p.m., Employee #1 was photographing the mast arms over an intersection, from an aerial lift mounted on a pickup truck. He contact an overhead power line and was electrocuted and killed

On June 23, 2005, Employees #1 and #2 were operating a drilling rig to obtain soil core samples for highway improvements. As the 55-ft-long metal pipe casing was lifted from the drill point, it contacted a live 13,200-volt primary overhead power line that was within 10 ft of the base of the drilling rig. Employee #1 was electrocuted. Employee #2 was hospitalized for electrical shock and burns.

At approximately 5:00 p.m. on July 21, 2003, a maintenance employee was repairing downed power lines following a storm. A thunderstorm had com through the area earlier in the day that damaged power lines and utility poles from falling tree branches. Most power to the park was out from blown fuses or broken power lines. At the time of the accident, the maintenance crew was working on a power line near amusement rides and a water slide on the east side of the park, which had been closed to the public. The employee and a coworker were working in a bucket truck approximately 30 ft from the ground on a line that was presumed to be deenergized; therefore no electrical protective equipment was used. Three other coworkers were working on the ground several feet away clearing downed tree branches. The line had not been tested prior to the repair to ensure it was deenergized. While reaching over to connect a jumper wire to the main line, the employee contacted an energized part of a fuse cut out with his shoulder and received an electrical shock. The employee was killed.

On March 25, 2003, the groundskeeping superintendent of a professional football team was using a lawn mower to cut the grass around the football field. When he moved a portable goalpost to mow under it, the uprights came in contact with a power line, and the groundskeeper was electrocuted.

On June 4, 2003, Employee #1, a performer, was electrocuted and Employees #2, #3 and #4 were shocked when the equipment contacted an overhead power line while setting up for a performance. Employee #1 was killed while Employees #2, #3 and #4 were hospitalized and treated for electric shock.

A nine-employee crew of rigging grips was assembling a Patent scaffold behind an apartment. The scaffold was to be used during the filming of a television show. The scaffold had two levels. The first level, which was 3.05 meters high, was at street level. The second level extended another 9.15 meters

for a total height of 12.2 meters. The upper portion of the scaffold was 1.2 meters below and 305 millimeters to the side of a 4800-volt overhead power line. Two employees on the crew (Employee #1 and #2) were sitting astride an upper crossmember of the scaffold near the top of the structure. An upright weighing 16.7 kilograms had just been handed to Employee #1. As he started to place it in its socket, it tilted. Employee #2 tried to help hold it upright. As he did, the pole fell into the power line. The pole remained in contact with both the scaffold and the power line. Employee #2 received an electric shock and was burned between his legs. He fell to the ground, breaking multiple ribs, puncturing a lung, and fracturing his spine. Employee #1 also fell to the ground, but remained in contact with the leg of the scaffold. Attempts to move him resulted in others receiving electric shocks. Another employee, who was a certified paramedic, immediately administered first aid, including cardio-pulmonary resuscitation, until emergency medical services arrived. Unfortunately, Employee #1 died of electrocution. All crewmembers were taken to local hospitals for observation and were treated and released, except for Employee #2, who was hospitalized. (None of these employees were listed on injury lines on the original form, except for Employee #2.)

An employee placed a portable lighting unit in a parking lot of a nightclub to provide lighting for departing customers. The employee extended the 9.1-meter-tall light, and it contacted a 7500-volt overhead power line. The employee, who was holding onto a wench, maneuvering the light, was electrocuted.

On June 6, 2000, Employee #1 was in charge of the security of the Hidrogas Plant. The employee went to the backyard of the plant. In the outside part of the fence in the backyard, there were some mango trees. There were some branches of the mango trees that were at an approximate 6 ft to 8 ft of distance from a segment of power distribution lines energized with 38,000 volts phase to phase. Employee #1 used a stainless steel tubing of 20 ft long to reach the mangoes. The lines were at an approximate 23 ft to 25 ft of height from the place the body was found. The employee received an electric discharge when came in contact with the power lines. The employee was found dead by other plant employees.

At approximately 9:30 am on September 17, 2008, Employee #1 was performing maintenance duties from a JLG aerial lift at the Xcel nuclear plant located in Monticello, MN. He was an employee of United Rentals and had arrived onsite earlier in the morning to perform a standard maintenance check on the lift to ensure it was in good operating condition. The lift was owned by United Rentals and was being leased to Xcel Energy on that particular jobsite. While extending the 60 ft boom from the operator station located near the left rear tire of the machine, the basket came into contact with an overhead power line running from an adjacent substation and Employee #1 was electrocuted.

At approximately 6:45 a.m. on August 2, 2007, Employee #1 was a maintenance technician for a construction equipment rental center. He was servicing an aerial lift at a customer's worksite, which was an electrical substation. The lift was parked on the site access road, approximately 75 yds from on-site job trailers. Workers in the job trailers saw an arc flash that illuminated the inside of the job trailer and caused the lights to momentarily dim. The workers saw the basket of the lift approximately 1 ft to 5 ft beneath an overhead electrical transmission line energized at 115 KV. Employee #1 was lying in the basket. Workers lowered the basket using the ground controls for the lift. Employee #1 was burned on the upper half of his body by the arc flash. Employee #1 was hospitalized for treatment of his injuries until he died on August 9, 2007.

On July 15, 2010, an employee was working on the ground. He was electrocuted when he made contact with an energized wrecking ball. It was believed the crane was energized by making contact with a power line.

At 10:06 p.m. on April 16, 2008, a fatality (electrocution) occurred at Hill Carne Services, Inc. The employer had total of 66 employees and was unionized (International Union of Operating Engineers, Local-12). At the time of accident, Employee #1 was operating a mobile crane (Terex Crane, Model T340XL, Serial Number 51634, license number ZRN561) under overhead high voltage power lines (12 kilovolt). The boom of the crane was extended to load K-rails to a flatbed truck, while the portable tower light was off. Employee #1 was backing up after the fourth K-rail was loaded when the boom of the crane contacted the overhead high voltage power lines and energized the crane. The boom knocked down two of the three conductors. Employee #1 jumped out of the cab, grabbed a shovel, and tried to put out the resulting fire with dirt from underneath the crane truck. Employee #1 noticed the fire in the rear section of the truck. As Employee #1 went to look underneath the crane on his hands and knees, inadvertently he touched the energized outrigger and collapsed. Employee #1 was pronounced dead at the hospital at 10:49 p.m.

At approximately 8:59 a.m. on February 5, 2004, Employee #1 and Employee #2, full-time mechanics of Herigstad Equipment Rental were replacing the rear differential of a TEREX, Model TS248035, Serial Number 70-143 scraper. When the small hoist utilized to maneuver the differential contacted an energized overhead electrical transmission line (12,000 volts) at an elevation of 20-feet and 7-inches. Employee #1 and #2 were in or under the back end of the scraper working with the replacement differential when the high voltage contact occurred and both Employee #1 and Employee #2 died as a result of electric shock from this incident. It was reported that the TEREX scraper, prior to the breakdown, was being used for mass grading and site preparation for a commercial development consisting of 44.5 acres of undeveloped property.

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On January 10, 2002, Employees #1, #2 and #3, all carpenters with T & M General Contractors were on a jobsite where a hydraulic truck crane had just finished setting trusses for a new single-family home. The crane operator swung the boom 180-degrees, in order to place it back in the cradle prior to leaving the site, when the six-foot long double loop wire rope sling hanging from the load ball hook contacted a 7.2-kv overhead line. The rear tires of the truck caught fire, Employees #1, #2 and #3 tried to extinguish the flames by throwing sand on the tires, they received electrical shocks. Employee #1 died from electrocution, Employee #2 was hospitalized as a result of unspecified injuries received from electrical shock and Employee #3 received treatment for burn injuries but did not require hospitalization.

Four employees were using a crane to lift a box onto the bed of a trailer. It was raining. One employee was operating the crane. Two others were on the trailer to guide the box onto the bed. The fourth

employee was standing in the mud on the north side of the trailer with his hands on the trailer frame. The crane operator swung the boom into a 115-kilovolt overhead power line, electrocuting the employee standing on the ground.

Employee was hanging outdoor Christmas light on a cedar tree. Employee was standing and working from a basket of a bucket truck. A 14,400 volt overhead powerline was located 14 feet from cedar tree. The basket of the bucket truck was positioned between the cedar tree and overhead powerline. When a string of Christmas lights being placed by the employee on the cedar tree contacted the overhead powerline, the employee was electrocuted.

On October 24, 2008, Employee #1, a window washer, was assembling a metal extension pole, when it contacted an overhead electrical power line. He was found kneeling on the ground and having difficulty breathing. He was transported to the hospital, where he died.

On June 7, 2005, Employee #1, the president of an electrical services contracting firm, was replacing a light bulb on a light pole located on a tennis court at a private residence. He used a 1986 Ford F350 truck equipped with a Telsta aluminum aerial lift to reach the bulb, which was approximately 17 ft above the ground. Employee #1 contacted an overhead 15,000-volt electrical power line that was approximately 20 ft above the ground and was electrocuted. He had been trained how to operate the aerial lift and wore fall protection.

Employee #1, a window-washing worker, was raising or moving a 30 ft aluminum extension ladder. He lost control due to footing or wind, causing the ladder to make contact with an overhead 7,200-volt power line. Employee #1 was electrocuted.

A power line worker was replacing a fuse on a 7200-volt overhead power line. He climbed the utility pole on which the fuse was located, and another employee went to their aerial lift truck to get a live-line tool. The power line worker, who was not wearing head protection or rubber insulating gloves, continued climbing the pole. His head contacted the power line, and he was electrocuted.

On August 23, 2005, Employee #1, of Stormy Weather, was trimming a tree in a residential area. While trimming the tree, approximately 30 feet high, he contacted a 13,200 volt electric power transmission line and was electrocuted.

At approximately 11:45 a.m. on February 2, 2005, Employee #1 and a coworker, maintenance workers, were working from a roof of a building removing vines that had grown up the wall. Employee #1 was using an aluminum pole to push the vines down. Attached to the pole was a short hook made from reinforcing rod. Employee #1 turned the pole over and was using it with the hook at the top. The pole broke at one of the two joints, and the top heavy pole fell onto a 13.2Kv power line approximately 11 ft from the building. Employee #1 received an electric shock, entering his hand and exiting at his hip. He was transported to a burn hospital and died on March 3, 2005.

An employee moved a JGL Model RTS-40 Sizzor Lift from the street location where it had been dropped by an equipment rental firm to a 0.24-square-kilometer parking lot. The parking lot had been leased so that 25 automobile dealerships could have a sale. The employee attached a vertical banner to the handrail of the scissor lift and, from the lower operator station, elevated the work platform into a 34.5-kilovolt overhead power line. (An organizer of the event noticed the platform was approaching the overhead line and shouted a warning, but the employee did not hear it because of the noise of the scissor-lift motor.) The employee sustained an electric shock and was rendered unconscious. A nurse in

the crowd immediately administered cardiopulmonary resuscitation. Emergency medical services arrived but were unable to revive the employee. At 8:45 am, he was pronounced dead of electrocution at a hospital.

Employee #1 and a coworker were dumping a load of dirt and mulch from a dump truck. The coworker positioned the vehicle directly below 7,200-volt power lines. Employee #1 was positioned near the rear of the vehicle. The coworker raised the dump bed up to empty the load and pulled forward to clear the debris pile. While moving forward the top of the dump bed made contact with the overhead power lines. Employee #1 came into contact with the now energized truck bed and was electrocuted. The coworker was able to exit the vehicle without injury.

Two employees were delivering roofing shingles to a residence. Upon arrival at the house, the employees backed their truck, a GMC flatbed C8500 with a Clearfield conveyor system, into the driveway and extended the conveyor boom. A tree in the front yard kept the employees from swinging the boom to the roof, so one of them moved the truck forward while the other employee acted as a signaler. The signaler, who was standing to the side of the bed of the truck on the driver's side, gave the signal to stop, and the driver did so. Because the truck was loaded and the driveway was slanted, the truck rolled more than desired and contacted a 7200-volt overhead power line, electrocuting the signaler, who was apparently touching the bed of the truck.

Two employees were delivering a diesel fuel tank to a job site. When they arrived at the job, workers at the site directed the placement of the tank. With their truck in place, the two employees rigged the tank so that one of them could use the pillar crane on the truck to lift the tank. As the operator raised the boom of the crane to bring the load line to the tank, the top side of the boom brushed against a 13.6-kilovolt overhead power line. His coworker had just unhooked the boom from the truck and was leaning up against the truck bed, waiting for the boom to move into position. He was electrocuted. The crane operator jumped from the truck and was not injured. The employees had not been aware that the power line was there.

An employee driving a tractor-trailer exited a dock area after making a delivery at the rear of a shopping center. He drove his rig under guys for structures supporting an overhead power line. He stopped for another vehicle traveling in the opposite direction. When the other vehicle passed, the employee drove the tractor trailer forward and pulled down a guy. The guy, which was still touching the truck, contacted the power line. The employee exited the tractor cab and was electrocuted. Electric current ignited the truck and the employee's feet. Emergency responders could not douse the flames and had to wait for the power line to be deenergized before they could reach the employee.

At approximately 12:15 p.m. on October 2, 2003, an employee was utilizing a boom truck to off load dry wall products for a residential housing contractor. The boom of the truck made contact with a 7,620 volt powerline. The employee jumped from the boom truck. His right hand was touching the outrigger of the boom truck when he made contact with the ground and he was electrocuted.

At approximately 4:00 p.m. on April 3, 2002, Employee #1 trying to tap into a 12,000 Volt overhead power line. He was working in an almond orchard cutting down trees. He took the front end loader and drove .10 mile West and 1 mile South to the pole of the power line. He raised the bucket up and gained access to the bucket. He used tree branches tied together to place an extension cord over the 12,000 Volt line. He was electrocuted. Shortly thereafter, he was found by a coworker. Emergency medical service, the fire department, the coroner's office and Pacific Gas and Electric were called. Pacific Gas and

Electric disconnected the wire from the employee and the employee's body was taken by the coroner. Employee #1 had been killed.

On September 2, 2005, Employee #1, of Recycle-It, was uncoiling the hoist line from the drum on a mobile crane. A coworker operating a crane was booming the rig up and moved the rig coming into contact with an overhead power line. Employee #1 was electrocuted when his foot came into contact with the hoist line attached to the energized rig. No further information was provided.

A concrete construction firm contracted with a construction materials company to deliver gravel to a strip mall construction site. A 7600-volt overhead power line ran across the entire east end of the site. The concrete firm received notification and several warnings that no work was to be conducted under the power line until it was deenergized and moved. On August 11, 2000, a supervisor working for the concrete firm directed several gravel hauler tandem-rigs into the east end of the site to deliver crushed gravel. The supervisor directed a 24-year-old truck driver to position his tandem dump truck in the area under the power line. The driver dropped the first load, then pulled forward and unhitched the empty box. The supervisor directed him back under the power line and instructed him to raise the truck bed. The driver was electrocuted when the truck bed contacted the power line. He was pronounced dead at the scene.

temporary driver and a helper were delivering a load of roofing material. The 1994 Ford Truck L8000 had a Clearfield Conveyor-Boom installed at the rear of the flatbed on the truck. The delivery site was a residence, and the delivery had to be made from the backyard, where an overhead power line was located. After the driver backed the truck into the yard, the two employees unsecured the boom from its traveling position and swung it around behind the truck. They then backed the truck on an angle to the house going between two groups of trees. When the truck was close to the house, they raised the boom so that it would reach the upper roof area. They unloaded a skid of shingles and then lowered the boom to a lower roof area, where they unloaded felt paper. The rest of the delivery was to be placed in the front yard. To do so, they planned to back the truck up the driveway and unload the truck by hand, stacking the load on the ground. After the helper came down from the roof, the driver moved the truck forward a short distance and stopped. The helper lowered the boom a little bit so it would not hit the edge of the house. With the helper on the ground, the driver drove the truck down to the driveway, stopping it when the cab was almost at the end of the yard. (The helper did not believe that the boom was within 3 meters of the power line at this point.) Thinking that the boom was too high, the helper climbed up on the flatbed to the controls for the boom. He tried to lower the boom, but could not. The boom had contacted the power line. The helper heard a humming sound and felt an electric shock. He jumped as far as he could from the truck. The driver, who was in the cab, opened the door and stepped out. He was electrocuted. (His clothing also ignited.) The engine, the cab of the truck, and the tires ignited. The helper complained of a tingling in his back and shoulders. Emergency medical services transported him to a hospital, where he stayed overnight for observation. He was released the next day. (The helper did not return to work because of psychological problems caused by the accident.)

On November 24, 2006, Employee #1 was driving a flat-bed boom truck delivering construction materials. Employee #1 arrived at the job site shortly before 12:30 p.m. to deliver two pallets of shingles. Employee #1 parked in the driveway of the residence, directly underneath overhead power and communication lines. Employee #1 successfully moved one pallet of shingles onto the roof, by using a remote control device to operate a HIAB Model Number 300 truck-mounted boom, while standing in the street behind and on the left side of the truck. As Employee #1 moved the second pallet, the tip of the boom contacted the 2.7-kilovolt power line, at a point on the line approximately 31 ft 5 in. above the

ground, and approximately 29 ft from the house. The line arced and broke free. The tires on the truck began to smoke, and Employee #1 ran to the driver's door of the truck. Employee #1 received a major electric shock on contact and was thrown to the ground, where he was caught in a voltage gradient. The truck tires burst into flame, and Employee #1 was electrocuted or burned to death.

On May 21, 2011, Employee #1 was assisting in the removal of a felled tree. When the tree was felled, it struck a power line and caused its wire to fall to the ground. The voltage on the power line was 7,200 volts. The employer was using an excavator to remove the tree. As Employee #1 participated in the tree removal, he contacted the power line and was electrocuted.

An employee was at a landfill, preparing his trailer for transport by covering the load and tying the truck bed's tarp down. He parked the trailer beneath a 115-kilovolt overhead power line. The power line was only 2.4 meters above the top rim of the trailer bed. The employee contacted the power line and received an electric shock and severe burns over 70 to 80 percent of his body. He died of his injuries 3 days after the accident.

Employees #1 and #2 were installing a steel street light pole. While they were setting the light pole onto the base, the pole made contact with the overhead electrical lines. Employee #1 was electrocuted, and Employee #2 was seriously injured.

On June 21, 2008, Employee #1 and Employee #2, electricians, were preparing to change out high-voltage electrical lines on a utility pole. A new utility pole was placed beside the old pole so that the existing high-voltage lines could be attached. Earlier in the day, Employee #1 and Employee #2 cut power to the electric lines leading to the utility pole that was to be worked on. At around 10:30 a.m., Employee #1 was elevating himself in an aerial lift when his shoulder came in contact with an electric line. Employee #2 brought Employee #1 to the ground and administered CPR. Employee #1 did not respond and had been electrocuted. Neither Employee #1 nor #2 performed any testing prior to approaching the high-voltage electric lines. The electricians failed to disconnect all of the jumpers at the pole down the line from the one they were preparing to work on. A jumper crossed from one side of the pole to the other to electrically connect the lines. A single jumper remained connected, which left one of the lines energized. Employee #1 came in contact with that line.

At approximately 9:30 a.m. on August 11, 2004, Employee #1, of MP Dumesnil Construction, was helping to install a new water line under a highway intersection. A natural gas pipeline that belonged to Dow Chemical also ran under the intersection. Employee #2, who worked for Dow, was there to make sure the pipeline was not damaged. A coworker using heavy equipment to dig a trench came too close to a power pole and undermined it. This caused an energized 28-kilovolt overhead power line to drop to the ground, striking Employees #1 and #2 as it fell. Employee #2 was killed; Employee #1 sustained second- and third-degree burns and was hospitalized.

Two power line workers were repairing a 7200-volt overhead power line that had been damaged by a storm. High winds from the storm took down a tree, and the falling tree broke the three phase conductors, which ran along a highway. After a job briefing, one of the two workers elevated himself in an aerial lift to cut the conductors at the cutouts on a utility pole. He discovered that the cutout for the middle phase was too close to the one on the eastern phase, and the second worker joined him in the aerial lift bucket to provide assistance. Both workers were wearing rubber insulating gloves without rubber insulating sleeves. The workers did not install any insulation on the phase conductors, jumpers, or cutouts. The aerial lift bucket was between the center and eastern-most phase conductors, and the conductors and cutouts were about chest high. After moving the cutout for the middle phase conductor,

the employees hoisted all three phase conductors and the neutral, and then connected them. One of the power line workers unrolled the center phase jumper, which was energized, and connected it. Then, the two workers pulled on the eastern jumper to connect it. An electrical fault occurred, and both employees received electric shocks. The ensuing electric arc burned both workers. One of them collapsed into the bucket. The coworker also lost consciousness. The circuit recloser reenergized the line twice before deenergizing it. The first employee, was transported to a hospital, could not be revived, and was pronounced dead. The coworker was treated at a different hospital for electric shock and burns to both elbows. The employer had a full time safety director and provided training and personal protective equipment to qualified employees. A supervisor was on site at the time of the accident. (The original form did not list the nonfatally injured employee on an injury line.)

A power line worker employed by an electric cooperative was in an aerial lift, disconnecting a 7200-volt overhead power line. The employee apparently contacted the power line, received an electric shock, and lost consciousness. When a coworker did not get a response from the worker in the aerial lift, the coworker used the lower controls on the aerial lift to lower the injured employee. The coworker administered cardiopulmonary resuscitation and used an automated electronic defibrillator supplied by an onsite inspector from the cooperative. Emergency medical services arrived on the site and transported the injured employee to a hospital, where he was pronounced dead. He had been electrocuted.

On December 2, 2008, Employee #1, a 45 year-old-male with Arizona Public Service Company was performing corrective maintenance on the Wave Trap Unit. Employee #1 was working from a blue Genie Lift and made electrical contact with an energized circuit. Employee #1 received numerous electrical burns on the left side of his body from the upper chest down to the ankle. The electrical voltage level at time of incident is unknown however; the transmission lines in this area normally operate at around 500-KV. Paramedics responded and Employee #1 was pronounced dead on the scene. According to the on-site supervisor, the power was dead, de-energized, grounded and checked for any voltage.

On November 10, 2008, Employee #1, a 37 year-old-male electrician, working for Salt River Project, was working with a coworker and at elevation on a wooden power pole, changing out a bell insulator on an energized 12kv line. The insulator appeared to have been damaged from a previous lightning strike. Both employees were belted to the pole, at about the 25-to-30 feet off the ground. Employee #1 had just finished performing some rubber glove work and stepped back down to a lower elevation on the pole to then use a live-line tool. Employee #1 had removed his rubber gloves and was waiting to receive a live-line tool from the coworker, who was positioned on the other side of the pole. It was reported that rubber gloves are not used when working with live-line tools. While Employee #1 was leaning back against the belt awaiting the live-line tool, Employee #1 raised his right hand to the same level as his head and an electrical arc occurred that went into Employee #1's right hand, stopping his heart.

On September 20, 2008, Employee #1 was working from a bucket truck, installing the connection for a 110 volts line. As he performed the task, he contacted an overhead power line and was electrocuted.

On August 22, 2008 a lineman and a coworker were repairing a downed overhead power line during Tropical Storm Fay. A pine tree had been blown onto a single-phase 7,200-volt overhead power lines and the neutral-phase line, breaking the two lines between utility poles Number 5 and Number 6. Their job was to remove the pine tree from the road, and to reconnect the two lines. While the coworker used a chain saw to cut the pine tree into smaller pieces, the lineman elevated himself in an aerial bucket of their utility truck to the top of utility pole Number 5. The lineman told the coworker that he was going to

check to determine if the line was energized. The coworker heard the lineman yell and saw him being electrocuted. The two workers did not deenergize the lines prior to working on them, and they did not install protective grounds on the lines. In addition, the lineman did not wear his rubberized insulated gloves.

At approximately 5:30 p.m. on August 18, 2008, an apprentice lineman, was pulling new wire and dead-ended it by attaching it to a neutral. At time of the accident the lineman was wearing leather gloves not the approved safety rubber gloves required for working with energized wires. The clearance between the new wire being pulled and the energized wires was approximately 3 feet. The lineman was working from a vehicle-mounted articulating boom, fiberglass bucket and was raised approximately 40-ft high. The lineman was pulling new wire by cranking the cable tensioners. While doing this, his back accidentally came in contact with one of the 7,200-volt energized wires. He was electrocuted. An investigation concluded that the electrician would have survived if he had worn approved safety rubber gloves and if he had used better insulated line hoses on the energized wires.

On July 30, 2008, a journeyman lineman was in an aerial lift positioned over a 14-Kw electrical power line when the bucket contacted the primary line. The current flashed to a metal hydraulic fitting on the boom. The lineman suffered second- and third-degree burns on 40 percent of his upper body, and later died due to complications associated with his injuries.

On March 9, 2008, Employee #1 was working on a phase conductor from a 4,800-volt delta-connected distribution line that had come down during a storm. He had already attached one conductor, and he was attempting to attach a second conductor, when it became caught up in debris. Employee #1 picked up the line lying in the road with his bare hands and was electrocuted.

On March 7, 2008, Employee #1 was working as a lineman for Delaware Electric Cooperative, Inc. He was on call, and he got a call to bypass a faulty meter at a residence in Dagsboro, DE. Employee #1 went to the house and disconnected the incoming power (two 120-volt lines) before removing the meter and installing a temporary bypass in place of the meter. He then went back up in the aerial lift and restored the power by reattaching the two lines. Employee #1 was electrocuted when he contacted the two connections with his hands. It is believed that Employee #1 contacted the wires as he was pushing them away from the bucket before descending. Employee #1 was not wearing insulated gloves, insulated sleeves, or fall protection at the time of the accident, and he was working alone.

Employee #1 was part of a crew replacing structural components of the primary electric system. The employees believed that the line did not have power and started to perform the work. Employee #1 made contact with the line and was electrocuted.

On October 23, 2007, Employee #1, a Lineman, was setting a new 50 ft power pole, when he was electrocuted. Employee #1 was killed.

At approximately 2:05 p.m. on August 21, 2007, Employee #1 was an apprentice lineman. He was working from a pole approximately 16 ft above the ground. He was positioned on the pole wearing metal gaffs on his feet. His feet were positioned directly above the communication lines that were also on the pole. He was moving the secondary lines from an old pole to a new one which was installed approximately 2-ft away from the old pole. The lines were a triplex cable with two 120 volt lines and a neutral in the bundle. Employee #1's left forearm contacted the 120/240 volt line above his insulated glove. The electrical current exited through his right calf. Employee #1 was electrocuted.

On August 1, 2007, Employee #1 and a coworker were power line workers and were working from separate elevated buckets. They were rephasing and upgrading copper and aluminum overhead power lines, which were approximately 40 ft above the ground. The employees had covered the conductors with rubber insulating line hoses and had placed one of two rubber insulating blankets on the insulator. The second insulator was not blanketed. Employee #1's back contacted the unprotected 4-kilovolt power line. He was electrocuted.

At approximately 11:15 a.m. on July 9, 2007, an employee, working with a four man crew, had installed a new pole and moved the lines to the new pole prior to the accident. The primary line had been covered with insulated line hoses and blankets. The crew positioned the equipment to remove the old pole. A choker was attached to the pole to lift the pole and the pole grabber on the line truck was hooked around the pole. The pole was then lifted approximately 12 to 18 inches up. The foreman then instructed the employee, a groundman, to cut off the pole with a chain saw. When the cut was made, the bottom of the pole kicked out toward the road, where the employee was standing. The employee tried to use his hands to push the pole back from hitting him. When the pole kicked out, the top of the pole contacted the energized primary line. The employee, who was not wearing required PPE, rubber gloves, was electrocuted.

On September 28, 2006, electrical workers were upgrading a 13.5-kilovolt (kV) line to a three-phase system along State Highway West. As they were attempting to lift and turn a telephone pole, the jaws on the boom made contact with the outside phase of the energized line. Employees #1 and #2 were touching the truck, while standing on the ground. Employee #1 was killed. Employee #1 sustained electrical burns and was hospitalized. Four other workers in the area, including the operator, were not physically injured by the electrical contact.

On July 25, 2006, Employee #1, a 56-year-old lineman from an electrical utility company, was walking through a heavily wooded area. The metropolitan area had experienced a major power outage, after a huge storm on July 19, 2006. Employee #1 was trying to locate a downed overhead power line, in an effort to restore power in the neighborhood. Apparently, Employee #1 inadvertently walked on the 7,200-volt overhead power line, causing him to be electrocuted and killed. Employee #1 was working alone, and weather conditions were favorable but hot at the time of the accident.

A foreman for a power line crew was looking for damaged overhead power lines. Upon finding a jumper hanging down from a power line at a utility pole, the employee climbed the pole to make repairs. He was not wearing a hardhat or rubber insulating gloves. While working on the energized jumper, he contacted an energized part and received an electric shock and severe burns on his hands, chest, abdomen, back, and right foot. The injured employee was transported to a medical center, where he underwent medical treatment, but later died from his injuries.

At approximately 10:55 a.m. on January 30, 2006, Employee #1, a power company lineman, was standing on the ground when he was struck by the energized A-phase of a 13.2-KV primary line that had separated into two lengths. Employee #1 was fatally electrocuted.

At approximately 8:30 a.m. on June 8, 2005, Employee #1, a lineman, was in an aerial lift approximately 20 ft from ground working on a power line. He had just finished jumpering out the top of two cut-outs on a utility pole and was relocating to transfer power to a utility pole approximately a quarter mile away. Employee #1 contacted a 7,200 volt distribution line and was electrocuted. His left hand, right forearm, and right wrist had electric burns.

At approximately 11:30 p.m. on May 13th, 2005, crews were finishing repairs for a relatively minor storm damage. Employee #1, a lineman, responded to an outage call and arrived at a three-phase breaker (oil circuit recloser (OCR) location). The assisting apprentice arrived in a separate vehicle shortly thereafter. Upon arrival, Employee #1 told the apprentice that the center phase was open. The apprentice remained at the OCR location while Employee #1 patrolled the line. At approximately one-half mile east of the breaker pole, Employee #1 found a downed field phase. Employee #1 called the apprentice by radio. He told the apprentice that he had arrived at the downed phase and instructed him to open (deenergize) the two outer phases. After the apprentice opened the two outer phases, he drove to the downed line location to begin assisting Employee #1 with ground man duties. Employee #1 maneuvered the bucket between the neutral and road/center phases, as the apprentice assembled materials to be hoisted to Employee #1. As the apprentice was looking down at his hoisting materials, Employee #1 made bodily contact with the energized center phase. The Apprentice looked up, as Employee #1 made contact. He saw a flash, and Employee #1 fall back into the bottom of the bucket. The apprentice immediately called emergency medical services (EMS) and contacted another crew in the area to request help. He then put on his rubber gloves. After considering the possibility that the bucket truck was energized, the apprentice boarded the bucket truck in the approved manner. He then began lowering the boom out of the primary area. Two journeyman linemen, who had been working on nearby storm damage, arrived in time to witness the apprentice jumping aboard the bucket truck. The three employees rushed to retrieve Employee #1 from the bucket and immediately began CPR, which was continued until EMS personnel arrival. Employee #1 was transported to St. Clare Hospital in Crawfordsville, IN, where he was pronounced dead at 12:20 a.m.

On May 10, 2005, six employees were replacing old power poles with new poles at a job site. As an operator on the pole truck was off loading a pole from the line truck, the boom of the line truck contacted the primary power line directly above it. Employee #1, who was leaning against the back of a truck, was electrocuted when this contact occurred. Employee #1 went into cardiac arrest at the scene and died enroute to the hospital.

Employee #1, a lead lineman, and a coworker were working on a single phase 14.4 kV power line that had been partially pulled off a utility pole by a fallen tree. Employee #1 cut the tree free from the power line. It was dusk, it was raining, and the wind began to pick up. Employee #1 then climbed the pole. He was carrying tools, a hand line, and rubber gloves. He was also wearing a hard hat, climbing hooks, and leather gloves. He cut the sagging part of the neutral line. After climbing higher on the pole, he contacted the live primary power line with his right hand and was electrocuted.

On June 14, 2004, a lineman crew was trying to locate the cause of a power outage at a residence. One crew member, Employee #1, was electrocuted and killed when he contacted a downed energized power line or a conductive object contacting the power line.

On April 13, 2004, Employee #1 and two coworkers were repairing a downed power line. The power line was damaged during a storm when a tree limb fell on it. Earlier in the day, another crew pulled the primary line back into position, leaving the neutral on the ground. Employee #1 and the two coworkers, part of the regular maintenance crew, was sent to finish the job. The power line was deenergized; however, the line was left open at a point downstream from the damaged area. As Employee #1 and the two coworkers worked to take the slack out of the primary line, using a rope that all three crewmembers grabbed a hold of, Employee #1 was electrocuted and killed. The incident investigation determined that the crew had not tested the line to ensure it was deenergized, nor were grounds installed on the line prior to beginning the work.

On March, 19, 2004, Employee #1, with Carbon & Light Inc was working as part of a four-man crew, who were making modifications to a 12.4 KV electrical transmission line system. Employee #1 was working from an aerial lift truck basket when he came in contact with an energized line and also in contact with a guy cable to the ground. Employee was electrocuted.

Hurricane Isabel caused numerous power outages throughout Maryland. Out of state electrical power repair crews came to Maryland to assist BGE in restoring power. One of the many companies was Entergy Mississippi, Inc. They brought 132 employees with them. On September 20, 2003, a crew of seven went and finished the job they had started a day before. While they were doing that, an Entergy official and a BGE official went to this crews next work site to check out the situation. They inspected the work area; discussed what repairs were to be done, and decided what materials and vehicles needed too be brought to this work site. This next work area was located in a wooded area that had a stream running through it. The area was located behind houses on Cranwood Court and Pumpkin Seed Court in Pikesville, Maryland. It was noted that a tree had fallen and snapped the electrical lines and that the downed electrical lines were hot. The Entergy official returned to where this crew was working; they had finished their work and they all went to lunch. After lunch and before they left for the next work site they had a brief tailboard meeting where they discussed the type of work that was to be done there. The crew of seven, the Entergy official, and the BGE official traveled to the next site and parked their vehicles on Cranwood Court. Entergys eight employees and the BGE employee all walked behind one of the homes down into the wooded area to a section that was somewhat cleared. This was on a sloped hill on the far side of the stream and away from the downed power lines. This area gave a good overview of the work area. An in depth tailboard meeting discussing the work to be done was held where everything was explained and reviewed. The different electrical poles were pointed out and the area where the downed lines were was pointed out. Everyone was told at least three times that there were downed electrical lines and that they were all considered to be hot or live. The electrical pole located behind the home was to be the last pole worked on. Everyone in the crew indicated that they understood. Two Entergy crews totaling five employees and the BGE employee went to the Stevenson Road work area where the power to the whole area including the wooded area was to be turned off. When they were done there they would give an all clear over their walkie-talkies. Everyone had been told that no work was to start in the wooded area until the all clear was given and received. After the all clear was given the third crew of three employees would go to work on the poles and lines in the wooded area. When the two crews went up to Stevenson Road the third crew remained in the wooded area where the meeting had taken place. This third crew consisted of foreman and a linemen and an employee. Staying on the far side of the stream away from the downed lines the foreman and the lineman walked a short distance to the east to decide which pole would have the grounds installed. The employee walked back up to the trucks on Cranwood Court and started to put on his tool belt and get other equipment. With the foreman staying in the wooded area the lineman walked up to the trucks on Cranwood and started gathering the equipment he would need. Two different residents talked to these two men with the second one asking if they thought the power would be back on by nightfall. The employee who was in front of one of the trucks stated that he did not think the power would be back on. After that the lineman continued to gather his equipment going into two different trucks. While he was doing that the lineman heard the circuit operate as did the foreman who was in the clearing in the woods. The lineman heard two screams and the foreman heard one scream. The foreman ran back to the trucks on Cranwood Court and met the lineman; they both thought the screams that had been heard over the walkie talkies had come from one of the Stevenson Road crews. For whatever reason, the employee,

At approximately 2:15 p.m. on August 14, 2003, a crew of three was tasked with setting a new electrical utility pole that was intended to eventually raise the overhead electrical utility line from the

current height position. The hole for the pole was first dug using the auger attached to the boom of the truck. Once the hole was dug, the new utility pole was picked up by attaching a steel link chain sling around the pole and attached to a hook that was lowered from the boom truck nylon rope. The pole was lifted between the east primary wire, 4.8kv phase to ground, and the center neutral. The pole was set and dirt was back-filled and tamped into place using a hydraulic tamper. Two crew members were accomplishing shoveling of dirt into the hole and tamping of the back-filled dirt. The boom operator at this time was attempting to disengage the steel chain sling from the pole that had hung up on the pole. In an attempt to release the sling, the operator lowered the boom so that the sling would release. As the boom was lowered, the hydraulic hoses that are strengthened with steel coil came into contact with the east primary energizing the boom truck and subsequently the hydraulic tamper being operated by a crew member electrocuting him.

On June 11, 2003, Employee #1 was on a service call to repair electrical power lines downed from storm damage. Employee #1 came into contact with a live conductor on a 3-phase system that was hot. The contact with the live conductor wire resulted in fatal electrical injuries to Employee #1.

Two electric equipment repairers were installing a ground wire on a new 45-foot utility pole. One was holding the ground wire in his left hand and taking it up the pole in an aerial lift, when his left shoulder came into contact with a primary power line energized at 7,200 volts. The bucket he was in became caught in the primary wires until rescuers brought it down. He was then transported to Jennie Stewart Medical Center, where he was pronounced dead. Neither employee was wearing personal protective equipment, and the power lines were not covered with insulating equipment.

At approximately 2:00 p.m. on March 27, 2003, a crew of four lineworkers was finishing the scheduled changeout of three oil-filled circuit reclosures (or reclosers) on a utility pole. Employee #1 and another lineman were in the baskets of two aerial trucks. While replacing a jumper connector on the center phase reclosure's load side, Employee #1 dropped the "C" connector from the basket. A district lineman looked for the connector in the grass. In the meantime, another district lineman, who was working with Employee #1 and was in charge of the crew, tossed another "C" connector up to Employee #1. As he attempted to catch the connector, Employee #1 came into contact with energized parts on the roadside phase. He received an electric shock and burns, and he was hospitalized for his injuries. On April 3, 2003, Employee #1 suffered a cardiac arrest and died.

A two-person power line crew was switching auger bits on a digger-derrick. The employees had parked the truck beneath a 7200-volt, three-phase overhead power line. The area had had about 50 millimeters of rain in the past 2 days. The crew had swapped auger bits and was hoisting the larger auger back into the carrying cradle on the left side of the truck body when the tip of the boom contacted the power line. The boom operator immediately lowered the boom free of the power line. The employee working on the ground had been standing clear of the truck at the moment of contact. The boom operator could not see his coworker, so he jumped clear of the truck bed and ran to his partner. The ground worker initially stated that he was fine, but he appeared to be in shock. Apparently, he had received an electric shock from potential gradients in the earth. His condition rapidly deteriorated, and he went into cardiac arrest. The boom operator immediately began administering cardio-pulmonary resuscitation. Emergency medical services arrived shortly afterwards. There efforts to save the injured employee were to no avail, however; he died of electrocution.

A journeyman power line worker and an apprentice were assigned to repair the downed primary and neutral conductors on a 12.96-kilovolt (7200-volt-to-ground) overhead power line located in a very rural

area toward the end of the service. The recloser-type oil circuit breaker feeding the general area was open (according to the power line worker), and the conductors, which branched off the incoming line, had fuses that were open. The employees reconnected the downed primary, secured it to the far pole, and sagged the conductor. The conductor was then ready to be jumpered to the feeder line. At this point, a second crew, which stopped by to drop off supplies, began to assist in the operation. Wearing pole climbers and a harness, the apprentice climbed to the top section of the utility pole. In position on the pole, he started to don his insulated gloves when he appeared to lose his balance. He reacted by throwing his arm in the air and apparently contacted the incoming line, which was supposedly deenergized by the open circuit breaker. His coworkers heard arcing, indicating that the line was energized. The apprentice asked for someone to help him and then slumped back with his harness holding him in place. The second crew ran to the truck, drove it through a fence, and used it to rescue the injured employee, whereupon they administered cardio-pulmonary resuscitation. Emergency medical services arrived and tried to defibrillate the apprentice. However, their efforts to revive the employee were unsuccessful, and he died of electrocution.

One employee was electrocuted, one employee was burned, and two other employees were injured in an accident involving a broken utility pole. The pole supported a 120/240-volt overhead power line 1.8 meters from the top of the pole and a 7200-volt power line at the top. The burned employee was hospitalized for his injuries. (The original form did not indicate how the accident occurred.)

A lineworker for an electric cooperative was replacing a step voltage regulator for the "C" phase of a power line energized at 7,620 volts phase-to-ground. The regulator was capable of operating at 438 amps. The line was supposed to be deenergized for the operation. Each of the three phase conductors had its own regulator, and system neutral was connected to all three of the regulators in the regulator bank. The neutral connection started at the "A"-phase regulator and proceeded by a wire to the "B"-phase regulator. Then, a separate wire connected the "B"-phase regulator to the "C"-phase regulator. A separate wire connected the regulator neutral to the overhead system neutral. For the work being done, the "B"- and "C"-phase regulators were bypassed, while the "A"-phase regulator was left operational. Thus, the neutral line was carrying current through all the regulators to make a path for the "A"-phase regulator's regulating current. None of the lines (line, load, or neutral) leading to or emanating from the regulators were tested or grounded, nor were such steps required, according to the employer's training, actual practices, or written procedures for changing out regulators. The line and load wires were taken off the regulator without incident. When Employee #1, standing on a ladder, disconnected the current-carrying neutral line, an arc occurred, according to other workers. He fell, hitting his head and chest hard, breathed for a short period, and died after CPR attempts. The coroner determined that the cause of death was electrocution.

Three workers were changing out a secondary service utility pole. Employee #1, the lead man, was clearing weeds around the base of the pole to be replaced. Unknown to the lead man and the other two workers on the jobsite, a downed guy wire was energized at 480 volts. The lead man contacted the energized downed guy wire with both hands and collapsed. The two other employees on the jobsite called for emergency medical assistance and administered CPR until help arrived, but it was to no avail. Employee #1 had been electrocuted.

Employee #1 was working as a utility lineworker. As he was repairing a downed deenergized 12-kilovolt distribution line from the ground, a crossarm on a utility pole broke, and the 12-kilovolt line went up and into an energized 25-kilovolt line. The 12-kilovolt line was energized, and Employee #1 was electrocuted. Two other employees were injured, but there was no mention of them on the injury line.

crew of seven power line workers had been sent to replace a faulty recloser/circuit breaker on the field side conductor of a 14.4-kilovolt overhead power line. Two power line workers working from bucket trucks positioned to afford access to opposite sides of a pole were disconnecting the old breaker and installing a new one. The lead power line worker, Employee #1, boomed up to the load side of the recloser. The second power line worker's boom malfunctioned and would not elevate. As the second power line worker and two other employees worked to repair the problem, Employee #1 began removing the existing breaker from service. He used his hot stick to close the knife switch on the line, allowing the current to bypass the breaker and permitting the removal of the load side stinger. The boom was repaired on the second truck, and the second power line worker boomed to the source side of the breaker. The second worker thought that Employee #1 had completed the required work on both sides of the pole to isolate the field side breaker and that it was ready to be removed. The second worker noticed that the circuit breakers for the center and roadside conductors were close to Employee #1. The second worker and Employee #1 isolated the center and roadside breakers, and the second worker boomed back over to the field side breaker. Thinking that the breaker was isolated, the second worker attempted to remove the ground. Employee #1 informed him that he had already disconnected it. The second worker then loosened a bolt on the breaker with a wrench. Employee #1 passed a small socket to the second worker, and as the second worker put the socket on his hydraulic drill, an arc occurred. Employee #1 had contacted exposed energized parts of the field side conductor breaker. He was electrocuted. The source side stinger, which was above the second line worker's head, had not been disconnected. A cluster of pine tree limbs, in the background in the angle from which the employees made their original assessment, camouflaged the stinger. The employees did not test the breaker to insure that it had been deenergized.

A power line crew of six workers arrived at a worksite at approximately 8:00 a.m. and conducted a job briefing. At the briefing, the six employees decided which tasks each person would perform. The foreman was still on the site when the employees were conducting the job briefing. The power line workers split up to perform their tasks, and the foreman left. Two of the power line workers were moving an overhead power line from an existing utility pole to a new one. The two line workers had installed one or two sections of rubber insulating line hose on each phase conductor and a rubber insulating blanket on the hot-wire tap on the road-side phase conductor. One of them, Employee #1, was working on the south side of the existing pole, untying the tie wire from the center-phase pole-top pin insulator. Employee #1 apparently got too close to an exposed energized part, and an electric arc occurred, which evidently ignited Employee #1's clothing. The workers lowered his bucket. Once he was on the ground, Employee #1 jumped out of the bucket and sat on its edge. Emergency medical personnel removed him from the bucket, cut his clothing off, and transported him to Westchester Medical Center in Valhalla, NY. According to the medical examiner's report, Employee #1 had partial- and full-thickness burns covering 64 percent of his body surface. He required skin grafts, and he lived another 4 weeks. He died on August 5, 2001, with the causes of death being burns to the body, sepsis, and multiple organ system failure.

Employee #1 was working as an electrician and power transformer installer. He was in an aerial lift, attaching deenergized conductors to a pole, while other conductors, energized at 7,200 volts, were still attached to the pole. The energized conductors were not insulated, and while holding a deenergized conductor in his hand, Employee #1 contacted them. Employee #1 was electrocuted.

Two power line workers were installing a new three-phase service for a customer. One of the power line workers was in an insulated aerial lift. The other worker was on the ground. The aerial lift bucket contacted a 12.5-kilovolt overhead power line. The circuit breaker for the power line tripped and reset

twice. The worker on the ground did not see the contact, but heard it. He called for help and lowered the bucket with the lower-level controls. The employee in the bucket had been electrocuted. The employee on the ground received an electric shock and sustained burns. (The original form did not describe how he was injured.) He was hospitalized for his injuries.

A power line crew was in the final phases of construction of a new double-circuit overhead power line. The lower circuit was energized to the west side of the second utility pole supporting the new power line. An apprentice line worker climbed the pole to remove protective grounds on the east side of the pole. He contacted the energized side of the 7200-volt (phase-to-ground) power line, received an electric shock, and was knocked from the pole. He fell 9.8 meters to the ground. He died of his injuries.

A power line crew was repairing a storm-damaged utility pole and a 345-kilovolt overhead power line supported by the pole. The power line was deenergized and grounded. The line conductors were bonded together and grounded to a pole ground. There were two static wires supported by the structure, but they were not grounded or bonded. The employees moved the static wire from the damaged pole to an adjacent center pole. After the crew moved the static wire, two employees went up in an aerial lift to the center pole to connect the static wire to a fitting on the pole. One of employees removed his leather work gloves and grabbed the static wire. He was electrocuted.

When a two-person power line crew arrived at a work site, the employees noticed that the B-phase of a 7200-volt overhead power line was down. They positioned their aerial lift under the power line near the utility pole supporting the line. Working on the ground, the crew spliced the downed conductor on the east side of the pole. They then pulled the conductor toward the pole. One employee entered the aerial lift bucket and elevated himself into position at the top of the pole. He raised the conductor to the top of the pole; and, as he was pulling on it, he contacted the A-phase conductor located on the north side of the pole. He was electrocuted.

A power line crew was installing a utility pole. They raised the pole into contact with a 14.4-kilovolt overhead power line. Two employees were holding onto the pole as it was being set in its hole. One of them was electrocuted. The other one received an electric shock and sustained severe burns. (The second employee was not listed on an injury line on the original form.)

A power line worker was working from an elevated aerial lift. He was bringing a conductor from the ground to a dead-end connection at the pole for installation of a new service. He was holding one end of the new conductor, and the other end was touching the ground. The employee was not wearing rubber insulating gloves or using insulating protective equipment on the 4800-volt overhead power line on the pole. As he was maneuvering the aerial lift, an uninsulated portion of the bucket contacted the power line. The employee was electrocuted.

A cable television line worker was working from an aerial lift, installing fiber optic cable at a utility pole. He contacted a 7200-volt overhead power line. The employee received an electric shock, and his clothes ignited. The injured employee was transported to a burn center, where he was hospitalized with burns over about 65 percent of his body. He died approximately 4 weeks after the accident.

At approximately 7:30 p.m. on June 15, 2005, Employee #1 was installing new coaxial cable at a residence. To extend a cable over a group of 10-ft-tall bushes, he tied the cable to a rubber ball and a nylon rope. When Employee #1 tossed the rubber ball, the connected cable contacted a primary high voltage line approximately 7 to 8 ft above the bushes. Employee #1 was electrocuted.

Employee #1 was in the bucket of an aerial lift checking a cable TV amplifier. For unknown reasons, he boomed the lift straight up into the overhead lines that were approximately 10 feet above the area he was working on. He was electrocuted.

On September 9, 2003, an employee was pushing and pulling new cable line over and the top of oak trees with a nonconductive pole. The pole contacted overhead power lines. The employee attempting to pull the cable line was electrocuted due to the energized cable line which was routed through the nonconductive pole.

An electrical or electronics technician was removing a cable television line trap that was located on a wooden utility pole. He was working from an extension ladder, approximately 18 feet above the ground. The pole's grounding wire had been severed, and it had come into contact with a conductor energized at 1,200 volts. The employee placed his left hand on the energized grounding wire and his right hand on the cable television trap, completing a circuit. He sustained an electric shock, and possibly he was electrocuted. In addition, he fell, landing on his head or face. He was killed, either from electrocution or from injuries he sustained in the fall, but the report is not clear on the cause of death.

Two employees of Infinity Cable Corporation, dba Twin Star Cable, were removing the slack from a television cable line that had been installed approximately one year earlier. The cable was drooping as the result of a recent storm, and the two Twin Star Cable employees were pulling the line and taking up the slack. Employee #1 had parked an aerial lift truck parallel to the cable run, which was 20 feet above ground level and 9 feet, 6 inches below an overhead power line energized at 19,920 volts phase-to-ground. The vehicle was parked both on (the passenger side) and off (the driver side) the pavement facing the opposing traffic lane. After Employee #1 and his coworker exited the vehicle, the coworker climbed onto the back portion of the truck. He was positioning the boom and basket, neither of which was insulated, from the cradled position, in which the basket was at the front of the vehicle, to a position behind the truck. The coworker operated the boom controls and extended the boom as he raised it. He then rotated the boom counterclockwise, turning it toward the overhead power line. Employee #1, the job foreman, was on the ground on the driver's side of the truck. He contacted the driver's side door at the same time the boom basket contacted the single overhead primary line. Employee #1 was knocked backward and into a depression on the shoulder side of the roadway, coming to rest approximately 10 feet from the driver's side door. Employee #1 was transported by ambulance to Exeter Hospital, where he was pronounced dead.

A cable television installer was installing a cable on a utility pole that already held some three-phase conductors. The installer placed a J-hook attachment on the pole between the three-phase conductors and a neutral line. The employee contacted a 12,470-volt phase conductor with the left side of his head while his right hand was in contact with the TV cable. The installer was electrocuted and was dead on arrival at the hospital. Apparently the J-hook had not been installed correctly, as the attachment point, when measured, was found to be thirteen inches from the 12,470-volt phase conductor.

On June 8, 2004, Employee #1, a photographer for a newsperson, was setting up his live van in Hearne, TX. He was preparing to transmit a story regarding a flash fire at an oil well outside of Franklin, TX. Employee #1 projected his broadcast mast into an overhead power line, causing him to be electrocuted and killed. Contact with the power line also set the news van on fire.

On June 13, 2003, an employee and two coworkers were dispatched to replace a broken utility pole located in the back yard of a residence. The pole had been damaged in a thunderstorm the night before. A new hole was dug by hand next to the broken pole and a new pole was set into place using a Pitman

Panther, Digger and Derrick, Model Number D722E, Serial Number YKBXL719KCB. Once the new pole had been set, the employee and coworkers were backfilling around the pole and tamping it down. The employee went around to the controls of the Digger and Derrick to retract the boom. At this time, the boom point sheave assembly of the machine made contact with the overhead primary 7,600 volt power line. The employee was straddling the left front outrigger with the inside of his left leg making contact. The employee was killed due to electrocution. The two coworkers were not injured.

On July 1, 2010, Employee #1 was raising a neutral power line with a wet wooden push broom into and/or near the energized power lines above. The employee sustained a severe electrical shock and was transported to the local hospital. He was later transferred to a larger hospital in Lubbock, Texas for treatment. Employee #1 died from the injuries of the electrical shock on August 7, 2010.

On April 29, 2003, Employee #1 was the driver/operator a trash dumpster truck. He was off-loading a mobile trash dumpster. He was operating the controls while standing in water. When the metal container contacted live overhead electrical wires, Employee #1 was electrocuted. He was killed.

At 1:46 p.m. on February 12, 2010, Employee #1 was working for a local trucking and storage firm in Tucson, AZ. He was using a pressure washer to clean a Compact Model Number 3368RT scissor lift. When he raised the lift, the lift came into contact with an overhead power line. He was electrocuted.

On May 12, 2006, a Feed truck driver had finished making a delivery and was returning the paddle wagon back to its carrying position. It came in contact with the 7200 VAC overhead power lines. Employee was standing on the ground working the controls mounted on back of the truck and was electrocuted. He died.

On October 28, 2008, Employee #1 was cutting down a dead oak tree in his own yard. He located a bucket truck next to the tree and had an individual occupy the bucket to attach a wire rope around the branches of the tree. The wire rope was to prevent the branches from falling onto the power lines. He then raised the boom of the boom truck and swung the boom towards the tree. At this time, the boom came into contact with the power line. The individual in the bucket stated that he saw the sparks, when the boom contacted the power lines. He then turned to yell to Employee #1 and saw him shaking uncontrollably with sparks coming from his hands and his feet. While he was descending with the boom, he saw Employee #1 suddenly went limp and fell to the ground (this was when the fuse back at the pole tripped). When he got to him, Employee #1 was unresponsive and not breathing. He had another individual summoned the emergency medical personnel. The Tiverton Fire Department responded to the scene and attempted to revive him. He was transported to the hospital, where he was pronounced dead.

On April 25, 2008, Employee #1, a driver for a trucking company, was delivering a load of gravel to a site near the corner of Highway 80 and Chatfield Road. When he pulled onsite, he decided to dump his load underneath a power line. As his trailer lifted into the air, it was apparently entangled in the power lines. Employee #1 was killed from an electric shock.

A truck driver for a container company was picking up a container filled with scrap from a customer. (The truck driver had delivered the empty container earlier that day.) The driver parked his truck and tilt-frame trailer directly under an overhead power line. As he was operating the lift controls near the front of the driver's side of the trailer, the tilt frame contacted the overhead line, electrocuting the truck driver.

On December 30, 2004, Employee #1 was dumping rock salt from a semi dump trailer at a municipal water treatment facility. The truck bed was raised and struck a 7,500 volt power line. He stepped out of the truck, making contact with the ground and the truck. Employee #1 was electrocuted.

On September 18, 2003, an employee, a truck driver was making a delivery of feed to a Dairy Farm with a pivoting boom truck. Once the storage bin was full, he was directed by the farm owner to empty the rest of the product in the overflow pit. The employee emptied the truck. While setting the boom back into the truck to secure for traveling, the boom came into contact with an energized 7200volts power line. The employee was found lying on the ground by the Dairy owner who notified emergency services. Emergency services arrived and attempted to revive the employee. Once the employee reached the hospital, the Emergency Room doctor pronounced the employee dead.

At approximately 11:00 p.m. on Nov. 24, 2001, Employee #1, a 36-year-old male, of O.H.K. Transport LLC, was raising a 28-foot auger boom to unload cattle feed into a 9-foot high holding tank, when the boom hit the overhead high voltage power line. Employee #1 was electrocuted and was taken to the Fresno County Morgue.

On November 1, 2001, a truck driver was loading soil into the back of his Peterbilt dump tractor trailer when some of the soil partially buried a section of his load cover, affecting the tarp storage and applicator bracket. He drove his truck to the back of a shop area, where a mechanic repaired the problem. Part of the tarp, however, was still underneath the load, so the driver drove his truck to a remote area. There, with the bracket repaired, he was attempting to free up part of the tarp that was buried. The truck was below an overhead power line, and as the truck body was raised, the storage bracket was also raised. It came into contact with one of the power lines. The driver appeared to have heard the arching, and when he stepped out of the truck to see what the problem was, he became part of the path for the current. The driver was taken by air to Orlando Hospital, where he succumbed to injuries on November 4, 2001. He had been electrocuted.

A bus washer had cleaned a bus and had driven it to a parking area at a touring company's bus compound. He was parking the bus between a van and another bus near a utility pole. As he was backing the bus, it ran over the guy for the pole. The utility pole moved, and one of the phase conductors of an overhead power line supported by the pole broke. The conductor started a fire when it hit the ground. The bus washer was electrocuted as he tried to extinguish the fire with a wooden stick.

On August 26, 2008, an apprentice electrician of Mountain Power Construction was replacing the wooden crossarm on a power pole. He deenergized the power line feeding the transformer, but was unaware of the distribution network where a second transformer fed the first. He did not test the distribution network to verify that it was deenergized. When he touched the secondary line, he was electrocuted.

The owner of a sign company and an employee were using a truck crane to load a sign onto the bed of a pickup truck. As the crane boom rotated to position the sign, the boom approached too close to an overhead power line. The employee, who was holding onto the sign to guide it into position, was electrocuted.

A part-time welder's helper and another part-time coworker were on the roof of a supply building, using a 13-millimeter-diameter hemp rope to pull a 25-millimeter-diameter, 6.4-meter-long, galvanized steel pipe to the roof. A 13.8-kilovolt overhead power line was located 3.2 meters from building (3.9 meters to the center phase conductor). When the pipe reached the top of the roof's parapet wall, 11.8

meters above the sidewalk, the welder's helper grabbed it with both hands to bring the pipe over onto the roof. He pressed down on end of the pipe nearest him, leveraging it against the parapet wall. The far end contacted the power line. The employee, who had received an electric shock, fell back onto the roof, breaking contact between the pipe and the power line. Personnel at the scene administered cardio-pulmonary resuscitation until emergency medical services arrived. Emergency medical services transported the injured employee, who had a faint pulse, to a hospital. However, further efforts to stabilize him at the hospital failed. The employee was electrocuted. Burn marks were found on the center phase conductor and on the outside phase closest to the building, but only the 60-ampere line fuse for the outside phase opened.

On January 24, 2008 Employees #1 and Employee # 2 of Voeller Mixers, Inc. were in a parking lot using a mobile hydraulic crane to load concrete hoppers onto a truck. Employee #1 was standing about five feet up on a cross bar of the 9 foot hopper waiting to grab the metal chain sling from the crane to rig it to the hopper when Employee #2 swung the crane around toward the hopper and the crane contacted the overhead power lines. Employee #1 grabbed the metal chain sling not knowing it had contacted the power lines and when he made contact with the chain was electrocuted and fell off the hopper. Employee #1 was taken to the local hospital where he was pronounced dead.

At approximately 12:30 p.m. to 1:00 p.m. on September 18, 2001, two employees were removing the last of four jib poles approximately 21 feet long that were used to raise a roof on a modular home. The pole contacted an overhead power line. One employee was electrocuted, and the other received an electric shock. The only employee mentioned on the injury line is the one who was electrocuted.

In January 14, 2008, Employee #1, a ready-mix concrete truck driver, was delivering ready-mix concrete to a jobsite along with two other ready-mix trucks. Employee #1 backed into position and had his chute lowered over the hopper for the concrete boom pump truck. Employee #2, another ready-mix driver, had emptied his ready-mix truck out and had pulled out of the way to wash out his truck. Employee #3, a concrete boom pump operator, was operating the concrete boom pump by remote control. Apparently employee #3 inadvertently guided the boom against overhead power lines at the edge of the job. Employee #2 was on the top of the ladder at the back of his ready-mix truck. Employee #2 looked over, saw the boom pump hose on fire, then looked over where employee #4, a ready-mix driver, was standing and noticed a fire on Employee #4's truck under the front tandem tires. Employee #2 already had a water hose in his hands and started hosing down under the tire. Employee #4 tried to flip the switch to wind his truck down and received a shock. Employee #2 threw down the water hose, ran around the truck and saw Employee #1 on the ground. Employee #2 reached for Employee #1 to pull him away from the burning truck tires and received a shock which threw him backwards eight feet. Other Employees pulled Employee #2 away from the trucks and yelled to everyone to get away from the trucks. Rescue personnel arrived as well as the power company to shut down the power. Employee #1 died as a result of electrical shock. Employee #2 received an electrical shock and was hospitalized, but was not seriously injured. Employee #4 was slightly shocked, checked out at the hospital and released. Employee #3 was not injured.

On July 14, 2004, Employee #1 was driving a 1987 Ford concrete mixer equipped with a Theam 39-foot belt conveyor. After delivering a full load of concrete, Employee #1 backed down a one-lane gravel country road and stopped to wash the rear chute and conveyor with a spray hose and onboard water. Using a radio remote control, he then started to fold the conveyor to its stored position, along the top of the truck. As he did so, the conveyor contacted a 7,200-volt primary distribution line that crossed over

the road at an angle. The back of Employee #1's head contacted the edge of the chute on the rear of the truck, completing a circuit with the ground. Employee #1 was killed at that location.

On August 24, 2001, management representatives and employees of Enercon Services, Incorporated, were at a jobsite to pour a concrete slab. The "roving superintendent" was onsite in the morning, when a concrete pump truck arrived. The concrete pump truck had its boom raised, and the pour was done in the presence of the supervisor, who stated that he believed that the required distance between power lines and equipment was about 75 feet. The concrete pump truck was positioned so that a portion of the truck was positioned under a 14,400-volt power line that was approximately 29 feet, 4 inches above ground level. Additionally, the boom was erected adjacent to the power line. The pour was completed, and as the pump truck operator was lowering the boom, the boom contacted one of the 14.4-kilovolt conductors. The pump truck operator was electrocuted. Other Enercon employees onsite were also exposed to an electrocution hazard. They were standing in wet concrete and holding the flexible end hose of the pump, while the pump was being operated in an area where there was potential for contacting energized conductors. They were not injured, though.

A temporary employee was removing a vent pipe from the outside of a building. He was using a 6.1-meter section from a metal extension ladder. A 7200-volt overhead power line was located about 6.4 meters above the ground and 2.5 meters from the metal wall of the building. As the employee was maneuvering the ladder, it contacted the power line, and the employee was electrocuted. His body was found about 2 to 3 hours after the employee was last seen.

On May 13, 2006, Employee #1 and a coworker was attempting to hook up a log-loader to a semi-tractor. The loader was parked under the overhead powerlines. The owner was operating the loader when the boom of the loader came in contact with the overhead powerlines. The employee was standing on the ground near the fifth wheel of the loader when the current entered the employee's body through her feet. She died.

On September 12, 2005, Employee #1, owner of Ken Bertz Forest Products, was operating a skidder/forwarder. He was moving the skidder/forwarder when it came into contact with 14,000 volt phase wires. When Employee #1 left the cab of his vehicle, he was electrocuted as his feet came into contact with the ground.

On April 21, 2008, Employee #1 was operating the grain auger boom of a Navistar model 2500 "glider," with company Serial Number 8. He was filling grain silos with turkey feed. Employee #1 was at the rear of the truck, operating the controls. The truck became energized when its boom came into contact with the uninsulated "C" phase conductor of a single-phase overhead power line, which was energized at 7,200 volts. The line was on the electric utility's Milford 24-01 circuit, between poles 64187s42132 and 64216s42112. Employee #1 was pronounced dead at the scene. He had been electrocuted.

Two employees were loading one-ton straw bales on a haystack of one-ton alfalfa bales to keep rainwater off the alfalfa. One employee was training the other. The straw was being brought in on a truck driven by the employee doing the training. The employee being trained was learning to operate a farm implement known as a Road Runner Bale Squeeze. This machine looks like a large forklift, except that in place of forks, it has a hydraulic squeezing mechanism for squeezing two one-ton bales together and placing them on the haystack. The truck was positioned on the west side of the stack, which was the stack's narrow end. The bale squeeze picked up some straw bales from the truck bed and went between two haystacks to position the bales on top of one of the stacks. The stack started with 16 feet of alfalfa at the bottom, and a 4-foot-tall straw bale was being positioned on top, making the stack 20 feet tall.

The mast of the Hay Squeeze was above the top of the bale. Between the two stacks ran a three-phase power line to energize the center-pivot, electric-drive equipment that waters an irrigation circle. The line was approximately 21 to 22 feet above the ground. The line was 33 feet from the haystack on which the trainee was stacking the straw. The trainer was in the cab of the truck and was not in visual contact with the trainee. On the previous day, the trainee had touched the power line with the Hay Squeeze, and he had been warned by the trainer about touching the line. The supervisor visited the site at about 6:00 p.m. and warned the trainee to be careful of the power lines. At approximately 6:20 p.m. the trainee was moving the last load of straw for the haystack. The trainer said he heard the line shorting out and saw sparks flying from the power line. He ran to the area between the haystacks and saw the line sparking and the trainee in the operator's seat. He yelled at the trainee to get out of the cab. The rubber wheels were smoking, and the trainer could tell that a fire was going to result. The trainee jumped to the ground and collapsed. The overhead power line broke and fell to the ground. A fire ensued, and soon the hay and straw were on fire. The trainer pulled the trainee from the area; he was not breathing. The trainer called the office on his truck radio, but no one answered. He called the trucking supervisor using his personal cell phone and reported the accident. A passing neighbor saw the accident and called emergency dispatch to send emergency medical technicians at about 6:22 p.m. The EMTs arrived at the scene and began to administer CPR at about 6:47 p.m. The trainee could not be revived and was transported to the funeral home. He had been electrocuted. The company supervisors and employees said that they had not had training in the hazards of overhead power lines or approach distances. They also stated that they had not had training in CPR or first aid.

On June 7, 2010, Employee #1 and #2 of Premier Maid Service, Inc., had been power washing a 3 story home all day. The employees were soaking wet. It was explained that the employees had tied a 40 ft aluminum ladder to two other small aluminum extension ladders ("daisy chain") to extend the ladder approximately 40 ft. The employees were working on the second tier of the home trying to access the upper most area in the peak of the triangle. Employee #1 was on the ladder and came down while Employee #2 took the ladder to move it. It was believed that Employee #2 lost his hold and the ladder went back, hitting the primary conductive power line which was approximately 13, 800 Volts. Employee #1 tried to help, but was knocked to the ground and was later taken to the hospital for treatment at the burn unit. Employee #2 was electrocuted.

On October 9, 2008, Employee #1 was operating a Versalift (Serial Number 139167, Model Number SHV36PI) truck mounted aerial lift to set a pole on private property, so that the power company could run power from an existing 7,200 volts line to a new mobile home on the property. The Versalift had a fiberglass bucket and was rated at 6,900 volts. The home owner had already dug the hole for the pole. The owner of the company sent Employee #1's coworker, a helper, to another site, leaving him to set the pole alone. Employee #1 positioned the truck at the corner of the mobile home, a little over 20 ft from the 7,200 volts line. He attached the pole to the truck's bucket. Using the aerial controls from inside the bucket, he positioned the pole. As he performed the task, he contacted the bottom of the bucket against the neutral line and the top rim of the bucket against the hot line and, according to responders, had a hand on the hot as well. The electric current electrocuted Employee #1, ignited the bucket, and burst the hydraulic line. The bucket separated from the mast and fell to the ground with Employee #1.

At approximately 4:15 p.m. on July 30, 2008, a worker was operating a gravel dump truck. Upon reaching the area in the park where the gravel was to be dumped, the employee raised the truck bed and continued south approximately 30 ft until all the gravel had been dumped on a dirt path, which was being converted to a walking trail. At this time, for reasons unknown, the employee continued to drive

with the bed of the truck in the up position. He contacted a 7,500-volt energized overhead electrical line. One line fell onto the cab of the truck and the second line was tangled in the bed of the truck. The cab started to burn and the worker exited the cab. He then proceeded to step on the ground, and since he was holding on to the door of the cab, he became the ground for the circuit and was electrocuted. The handle for the cab was found lying next to the employee. The overhead lines were not marked and no signs were posted to alert drivers of their existence and location. According to the park manager, that was the second time a construction vehicle had come in contact with this overhead line. There was no clear answer as to why precautions were not taken after the first incident to prevent future accidents. The weather on the day of the accident was sunny and dry. There was no indication that the sun was in the employee's eyes as he headed south. The worker was pronounced dead at the scene from electrocution.

At approximately 2:00 p.m. on July 6, 2007, Employee #1, of Utility Services Company, was in the bucket of an aerial lift truck, splicing more support wire to a lasher. This is a device that wraps the fiber optic cable around the support wire that is then strung between the individual utility poles. As Employee #1 was positioning the aerial lift up and over a tree to reach the lasher when he contacted a primary 7,620-kilovolt power line that was 7 ft 10 in. above the support cable line. Employee #1 was electrocuted. Splicing the cable support line to the lasher was a normal and routine aspect of installing fiber optic TV cable line, and it was performed frequently, depending on work conditions. Employee #1 had operated the aerial lift bucket truck ninety percent of the time. There was no formal written safety program; training was conducted on the job along with weekly safety meetings. All coworkers were aware of the company's safety requirements, such as proper personal protective equipment and keeping a distance of at least 40 in. from any electrical lines.

On April 19, 2007, Employee #1, of Mid-State Dewatering Equipment, Inc., was pushing a 20 ft long aluminum rod on the ground to open a well point when the rod contacted an energized overhead power line. Employee #1 was electrocuted.

At approximately 12:30 p.m. on September 15, 2006, Employee #1, who worked a billboard painting company, was on a catwalk situated directly above a 7,200-volt overhead power line. He was pulling on a painting spray hose so it would reach the work area when he struck the power line and was electrocuted. A coworker rushed to help him and Emergency Services was called. The Fire Department responded and transported Employee #1 to the hospital, where he was pronounced dead. He had been using proper fall protection equipment and had received basic safety training, but nothing related to the hazards associated with overhead power lines. His employer had been in the trade for more than 10 years and should have been knowledgeable about the safety requirements for working around power lines, but it had not scheduled any special provisions for this job site. The employer had apparently acknowledged the power lines once he was on the job site and positioned the truck at the opposite end, but Employee #1, who was in his third week with the company, was directly over the line at the time of the accident.

On August 26, 2006, Employee #1 and a coworker were erecting a 24 ft by 40 ft aluminum building in Westfield, NC. Employee #1 was walking along the top plate of the building, installing structural supports. His coworker handed him an approximately 6 in. wide by 20 ft long piece of head channel to install as part of the structural roof support. Employee #1 was putting the head channel in place when it contacted an overhead power line. He sustained an electric shock that knocked him 13 ft 9 in. to the next lower level. Employee #1 was electrocuted but he sustained secondary internal injuries in the fall.

On February 21, 2006, Employee #1 and coworkers were installing a 10 ft tall chain-link fence. Employee #1 was standing on an aluminum ladder situated on moist ground and he was using a 10 ft long metal rod to tension the fencing while a coworker secured it to the post. As they were working, Employee #1 raised the pole into an overhead power line carrying 7,200 volts. He was electrocuted.

On December 5, 2005, Employee #1 was working from a metal aerial lift bucket, pulling stranded cable when the cable became tangled. In an effort to clear it, he whipped the line up and down. The cable struck the primary electrical power line, electrocuting Employee #1.

On October 14, 2004, Employees #1 through #3 and several coworkers were moving a tent with six legs across an open field. Employee #1, who was in charge, decided to lift the tent over two temporary fences that had been put up for a special event that weekend. A coworker suggested taking the fences down first, but Employee #1 said, "No we can lift the tent over the fence." As they raised the tent, the center pole contacted a 7200-volt overhead power line. Employees #1 to #3 were electrocuted. The other workers sustained severe burns, for which they were hospitalized. The power line was directly over the fence and was apparently not noticed by the crew. Employee #1 was wearing cowboy boots, Employee #2 was wearing safety toe shoes, and Employee #3 was wearing mountain climbing shoes. Employees #4 through #6 were wearing tennis shoes.

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On June 3, 2004, Employee #1 and a coworker were part of a crew moving a core drilling rig to a grassy surface in an equipment yard to confirm that repairs had been made to the mast. The work had required that the mast be raised. The coworker drove the rig toward the area indirectly because other equipment was in the way. Employee #1 followed, saw that the rig was about 4 ft from an overhead power line, and alerted his coworker. A supervisor and Employee #2 heard the warning, and the rig was moved away from the power line. The crew was then beginning to lower the mast, with Employee #1 holding the cable lines to keep them taut and Employee #2 operated the controls, when it apparently contacted the power line, resulting in an arc of electric current. Employee #1 was electrocuted. Employee #2 received a severe shock and was hospitalized with burns and internal injuries.

Employee #1, a journeyman lineman for Pacific Gas and Electric, was part of a five-man crew changing out high-voltage power poles in Los Banos, CA. The crew had set new anchor rods, tested the lines to ensure they were de-energized, and grounded them to earth in two directions with ground rods. They changed the poles, transferred the power lines, and were finishing the jumper on the last pole by connecting the guy wires and removing the old poles. Employee #1 put a chain ratchet on the "T" of a ground rod, then walked over to the pole where the east guy wire had already been temporarily pulled. He picked up the west guy wire below the grip and walked back to the ratchet that was laying on the ground rod. When Employee #1 grabbed the ratchet, he became part of the circuit and was electrocuted.

On May 8, 2003, Employee #1 and a coworker were conducting a sinkhole investigation at a private residence in Port Richey, FL. This involved using a small drill rig and vertical extendable drill rods, which were used to take core samples of the ground near the client's home. The employees set-up the SIMCO 2400 drill rig in a pre-determined spot, which was located directly beneath overhead power lines. The workers started the core drilling process with a 5 ft 9 in. drill rod that contained the drill bit. During the course of their work, the employees added one 12 ft extension and two 10 ft extensions, for a total vertical drill rod of 37 ft 9 in. At the time of the accident, the workers were pulling out the extended drill rod when it contacted the top two phases of the overhead power lines, each of which was carrying 7,200 volts. Employee #1 was electrocuted. During subsequent investigation, the top phase of the power lines was measured to be 37 ft from the ground, and the second phase was 34 ft from the ground.

At approximately 9:45 a.m. on February 11, 2003, Employees #1 through #3 were using a Dresser 30-ton capacity hydraulic boom crane, model #150FA, to move welded rebar mats onto a flat bed trailer. The rebar was located under a 13.8-kilovolt transmission line. The operator was moving the crane in reverse to position it for another lift, and the other two workers were guiding the spreader bar, when the back wheel rode up approximately 12 in. on the pavement of the existing highway. This resulted in the boom dipping forward until the rear tire broke away some of the asphalt, causing the crane to drop and the boom to bounce. As the boom went up, it came close enough to the overhead lines for the electricity to arc between the power line and the top of the boom. This energized the cables, spreader bar, and crane. Employee #1 was electrocuted. Employees #2 and #3 both received electric shocks and suffered electrical burns; Employee #2 required hospitalization and Employee #3 was treated and released.

On December 10, 2002, Employee #1 and two coworkers were carrying an aluminum extension ladder, extended approximately 35 ft 3 in. and in the upright position, laterally between a building and overhead electric lines. The clearance between the top corner of the building and the overhead lines was 7 ft 10 in. The three workers were moving the ladder to the left when it contacted the power lines, which were rated at 7,600-volt AC phase-to-ground and 13,200-volt AC phase-to-phase. Employee #1 was electrocuted.

On March 30, 2002, Employees #1 and #2, and four coworkers were extending the frame of a restaurant sign so that a new sign could be installed above it. They were using a fabricated frame scaffold that was five bucks high. The workers extended one side of the frame, and then began to move the scaffold to work on the other side of the frame. To move the scaffold, three employees positioned themselves on one side of it, and three employees were on the other side. The scaffold legs were set on 2 in. by 10 in. boards. The six employees began sliding the entire scaffold on the boards when the top of

the scaffold contacted an overhead electrical distribution line that was within 4 ft of the frame of the sign. All six workers received electric shocks. Employees #1 and #2 were killed.

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t approximately 1:000 p.m. on August 24, 2001, Employee #1, a lineman, and a coworker, who was serving as a groundsman and as the bucket truck driver, were installing fiber optic cable on utility poles at a height of approximately 24 ft 4 in. The poles also carried energized, 13.6-kilovolt, phase-to-phase, electrical power lines located above where they were working. Employee #1 had finished with the cable anchor point at one utility pole and was ready to move to the next pole. He told his coworker using the bucket-to-truck intercom that he had rotated the boom and work platform of the metal Cable Placer bucket away from the utility pole and was ready to go to the next one. The coworker began to drive slowly, at almost idle speed, along the level, paved street. He was approximately half way between the poles when he noticed that the high voltage line nearest the street was bouncing. The coworker stopped the truck, got out, and saw Employee #1 collapsed in the bucket. He used the ground controls to lower the bucket and removed Employee #1 before radioing for assistance. Employee #1 was transported by ambulance to a hospital emergency room that was two to three blocks away; he was pronounced dead at 2:16 p.m. Subsequent investigation found that at the point in the roadway where electrical current had passed through the rear tires of the truck and into the street, the height of the street-side phase, where Employee #1 apparently contacted the powerline, was approximately 24 ft 9 in. This was only 5 in. above the height of the cable that Employee #1 had been working on at the previous pole.

Three landscaping employees were placing a 13.1-meter-tall palm tree into a holding box that was 1.1 meters high. One of the employees was operating the boom on a boom truck. The other two employees were on the ground, guiding the tree into place. A 220-kilovolt overhead power line from a generating plant was located 13.7 meters above the ground near where the employees were working. As the employees raised the tree and rotated it to place it in the box, the tree contacted the power line. One of the employees guiding the tree was electrocuted. The other received an electric shock and sustained third-degree burns to his hand and foot. He was hospitalized for his injuries.

Employees were raising the 9.1-meter-tall boom of a drill rig to drill a test well. The boom contacted a 26-kilovolt overhead power line that was 8.7 meters above the ground. An employee who was removing an auger from a toolbox on the drill rig truck was electrocuted.

Two employees of a mobile home mover and set-up corporation were apparently using a boom truck to raise an aluminum flagpole. The pole fell into a 24-kilovolt overhead power line, and the electric current blew out the truck tires. The truck driver-operator climbed out of the truck and was electrocuted. He was pronounced dead upon arrival at the hospital.

On May 11, 2004, Employee #1, part of a sign crew for Winchester Construction, was on a catwalk helping to remove a billboard. The sign was located approximately 4 ft 10 in. south of a 13.2-kilovolt overhead power line with a phase to ground of 7,620-kilovolts. He was at the northeast corner of the

catwalk, removing a 9 ft tall metal conduit when it contacted the south and middle phases of the power line. Employee #1 was electrocuted and fell 36 ft 3 in. to the ground. He was wearing a fall protection harness and lanyard, but the lanyard was not secured to the catwalk.

At approximately 9:17 a.m. on August 21, 2003, Employees #1 through #3 were using a truck crane to demolish a concrete plant in Telford, PA. They were driving on the site and had reached a desirable location to load scrap into the truck. Employee #1 was apparently parking when, unbeknownst to him, the crane's boom contacted a 31 ft 1 in. high 7,200 VAC, B phase, #2 ACSR uninsulated primary conductor that was within the right of way. When Employee #1 stepped from the cab, he created a conduction pathway with the ground through his right hand and foot was was electrocuted. Employee #2 attempted CPR on Employee #1, while Employee #3 called 911 and returned to the accident scene with concrete plant employees. Employee #3 then simultaneously touched the energized truck crane and the back of Employee #2, who was still performing CPR, creating an arc of current that electrocuted both Employees #2 and #3 as well.

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On November 19, 2007, Employee #1, a supervisor, was raising a light tower to provide illumination for coworkers in a trench when he contacted the energized, 11,400-volt power lines. An explosion ensued and he was electrocuted.

At 12:31 p.m. on August 7, 2007, on a hot, sunny afternoon following rain showers, Employee #1 and two coworkers were working in a 5 ft deep by 4 ft wide by 9 ft long trench when the boom of the excavator, operated by a third coworker, struck and broke a 7,200-volt, C-phase electrical line. The broken line struck Employee #1, electrocuting him. It had rained earlier in the day and there was water at the bottom of the trench and the soil was saturated throughout the trench and around it. No other injuries were reported. The excavator was operating within 10 ft of the energized power lines.

t approximately 1:00 p.m. on February 28, 2007, Employee #11 and coworkers, of Perry County Construction, were moving half of a modular home to a homeowner's site in Berlin, PA. They had transported the unit along paved roads as far as possible. The company owner then began using a Caterpillar 953C tracked front-end loader to tow it between one-quarter and one-half miles across a field to the pre-existing foundation. Employee #1 was serving as a spotter to guide the loader while a friend of his drove a pickup truck that belonged to the owner of Perry County Construction. The president of Perry County Homes, who sold the modular unit, was driving a second pickup truck. The Caterpillar and the two pickup trucks were proceeding slowly across the field when the loader reached an existing home and outbuilding on the property. The loader operator stopped because the overhead utility lines were too low. These consisted of an 11 ft 11 in. high telephone line, a 13 ft 3.5 in. high neutral electrical line, and a 20 ft 6.5 in. high primary 7,200-volt electrical line. Employee #1 climbed onto the track of the front-end loader, lifted the telephone line, and placed it on the roof of the vehicle. The loader operator then moved several feet until the home encountered the electrical wires. Using a ladder belonging to the homeowner, Employee #1 climbed onto the roof of the modular home, which was between 13 ft 3 in. and 14 ft 8 in. high. The homeowner used a plastic rake to push the telephone line and the neutral line up to him, with a warning to stay low. Employee #1 was standing on the roof, holding the telephone and neutral lines in his left hand at about waist height when he apparently raised his right hand and contacted the high voltage primary line. He was electrocuted.

At approximately 1:35 p.m. on April 24, 2006, Employee #1 and his employer, a trade contractor, were boring a hole and installing pipe under Highway 64, a mile west of Webbers Falls, OK. when they heard about pending bad weather. They decided to pack up and leave. They used an excavator to move a welding cart and bottles over to their trailer. Employee #1 and his employer were alerted to the close proximity of the overhead power lines. For some reason, the boom of the excavator made contact with a power line. Employee #1, who was near the welding cart, was electrocuted. Employee #1 was killed.

On July 30, 2004, Employee #1 and a driver/coworker were using a 10-wheeled dump truck with a box spreader to apply oil and stone on a private driveway. A tanker truck was ahead of the spreader applying liquid asphalt to the road surface. Employee #1 was walking along the rear driver's side of the dump truck as it backed up to spread stone. He was holding a steel adjustment lever with his left hand when the truck driver raised the dump box, contacting a 7200-volt, phase-to-phase overhead power line. The driver saw Employee #1 fall to the ground and immediately stopped the truck. He jumped out to help him, not realizing that the dump box had contacted the power line. Another coworker shouted at the driver to call 911, and he returned to the truck cab to get his cell phone. With his left foot on the ground, he placed his right foot on a footrest while holding the handle of the energized cab. The coworker received a severe electrical shock, for which he was hospitalized.

On July 2, 2002, Employee #1 was attempting to steady a secondary wooden joint-use pole as it was being pulled out of the ground by the front bucket of a tractor-backhoe. He was electrocuted when the pole contacted a 7,200-volt, single phase, overhead power line.

In late December 2000, a severe ice storm in east Texas and southwest Arkansas damaged a large number of overhead power lines. The electric utility hired several companies to help with the restoration. One of the companies, an excavation contractor, had been working on the restoration project since the beginning. Initially, employees working for this contractor (Chandler Construction) used earthmoving equipment to help the electrical contractors access work areas. Later, toward the end of January 2001, the Chandler Construction's employees were cleaning up scrap material and debris. On January 27, approximately seven employees of Chandler Construction were cleaning up alongside some

roadways. At least two of the employees were assigned work in the immediate area of a downed, energized 7200-volt power line. One of the employees contacted the power line and was electrocuted. Before the start of this operation, the employer observed the downed power line three or four times, but did not take any measures to ensure that the power line was deenergized.

On March 26, 2007, Employee #1 and a coworker were using a JLG aerial lift with a 60 ft reach to raise an aluminum window frame. Employee #1 was inside the building and the coworker was in the boom basket, using the platform to support the frame. Employee #1 was grabbing the window frame when it contacted an energized primary utility line. Employee #1 was electrocuted and the coworker suffered an electric shock.

At approximately 1:10 p.m on September 25, 2008, Employee #1 and two coworkers of the International Construction Company were pushing a scaffold across a dirt surface, when the scaffold contacted a high voltage power line. One coworker was knocked away from the scaffold and received burns and other serious injuries. Another coworker attempted to knock Employee #1 away from the scaffold and received electrical burns. Employee #1 was stuck to the scaffold and was electrocuted. The other two coworker were transported to a local hospital in Midland, TX and later transported by helicopter to the Lubbock Burn Center. One of the coworkers was released from the burn center on September 26, 2008. The other coworker remained in very critical condition with burns, an amputated leg.

At approximately 1:30 p.m. on July 27, 2004, Employees #1 and #2 were part of a team of steel erectors installing 18 ft 5 in. long by 6 ft wide pieces of insulation on the outside wall of a steel-framed building. They were in a scissor lift, and Employee #1 was holding the insulation at the top and letting it hang down so two coworkers in a manlift on the outside of the building could place screws to hold it in place. Employee #1 was waiting for the coworkers to catch the other end of the insulation when a gust of wind blew down the corridor of the building. It caught the sheet and blew it out away from the building. The sheet struck a 7,620-volt overhead power line while Employee # 1 was trying to control it by holding it against the steel girt of the building. He was electrocuted. Employee #2 sustained second-degree burns to his right forearm, for which he was hospitalized.

On November 20, 2003, Employee #1 was using a rough terrain forklift to raise a portable generator onto the roof of a building when the boom contacted a 4,800 volt overhead power line. Employee #1 was electrocuted when he exited the forklift.

Employees #1 and #2 were part of a crew that was unloading structural steel in preparation for a building project. Prior to the accident, the crew had unloaded steel from flat bed trailers and a crane had stacked one trailer atop the other for removal from the job site. The crew was preparing to remove the load line from the main boom of the crane and reinstall it on the jib. At the same time, Employees #1 and #2 were working near the crane, placing rigging in the tool box of the crane. The crane operator was lowering the boom to the ground when the jib contacted a primary power electrical line. Employee #1 was electrocuted and Employee #2 suffered an electric shock, for which he was hospitalized.

Some employees were using a 54-metric-ton truck crane to move structural steel parts. The crane operator was positioning the crane. Another employee was holding onto the sling, walking along with the crane. A portion of the crane rigging contacted a 13.8-kilovolt overhead power line. The employee holding the sling was electrocuted.

Three employees were moving 6.1-meter-long pieces of angle iron (truss supports) to the roof area of a building under construction. One employee was on ground level; one was on the metal pan stairs, about 6.1 meters above the ground; and the other one was in a sitting position, straddling a steel I-beam that was 12.6 meters above the ground. A phase conductor for a 7200-volt overhead power line was located 3.4 meters horizontally from the center of the beam. The neutral conductor was about 75 millimeters higher and 2.6 meters from the center of the beam. The employee sitting on the beam brought an angle iron into contact with the phase conductor and was electrocuted.

On March 17th, 2010, Employee #1 of Lujan Drilling was raising mast on water well drilling truck when mast came in contact with high voltage overhead lines fatally electrocuting Employee #1.

On November 14, 2007, Employee #1 and his coworkers, of an irrigation systems repair and supply company, were removing a pump from an existing agricultural irrigation water well. While raising the boom of the well servicing rig, it contacted a 12.5-kilovolt overhead power line supplying an oil field pump-jack. The initial contact did not shock the employees. However, when Employee #1 returned to the vehicle to lower the boom, he was severely burned and electrocuted.

At approximately 8:50 a.m. on May 4, 2006, Employee #1 and coworkers were hydro-drilling a well using a Caterpillar excavator that had a 20 ft long, 4 in. thick steel pipe attached to the bucket using an 8 ft wire rope. The work was being done near 76-kilovolt overhead power lines. Employee #1 was standing on the ground, holding and moving the pipe, when part of the excavator contacted one of the power lines. Employee #1 was electrocuted.

At approximately 7:41 p.m. on August 15, 2003, Employees #1 and #2, father and son, respectively, were drilling a well for a homeowner in Leighton, PA. They were using a truck-mounted drilling rig situated approximately 6 ft from a 7,200-volt overhead power line. The rig was sitting in mud and the ground around it was saturated from rain water. Additional water was being pumped into the hole to lubricate the bit. The leveling jacks had been extended to steady the rig when the ground collapsed under the right rear jack, causing the rig to tip into the overhead power line. The boom contacted the line and the neutral, causing a dead short. The electricity was transmitted through the drill to Employees #1 and #2. Both workers were observed laying in the mud behind the machine. The Carbon County Coroner was summoned and pronounced both employees dead at the scene from electrocution.

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On March 20, 2003, Employees #1 and #2 were operating a drill rig to drill a well. In the course of their work, the rig contacted an overhead power line. Employee #1, the drill operator, was electrocuted. Employee #2 received an electric shock and sustained injuries that required hospitalization.

On November 8, 2001, Employee #1, a driller's helper, and Employee #2, the drill site supervisor, were using an Ingersoll-Rand TW-4 Waterwell Driller to drill a domestic water well. Employee #2 was acting as

a safety observer and directing elevation of the derrick. Employee #1 was raising the derrick using the rear control panel, while relying on hand signals from Employee #2 to maintain safe clearance. Employee #2 gave a "thumbs-up", signaling to elevate the derrick and he then proceeded towards the drill rig. The derrick struck a 21-kilovolt overhead power line and Employee #1 was electrocuted. Employee #2 received an electric shock and sustained serious injuries, for which he was hospitalized. The vertical clearance between the derrick and the overhead line was determined to be 15 ft.

Employee #1 and Employee #2 were repositioning an ornamental concrete deer located next to a well at a private residence. They attached a synthetic web sling to a hook on a hoist and wrapped the sling around the deer. Using the controls located on the back of the truck, Employee #1 was moving the boom. Employee #2 was guiding the deer by placing one hand on the chain of the hoist and one hand on the head of the deer. While positioning the deer, Employee #2 pulled it and the load line cable located on the boom toward the back of the concrete pad. The cable came in contact with overhead power lines, and Employee #2 received an electric shock. Employee #1 saw this and immediately left the controls to help. While pushing Employee #2 off the cable, Employee #1 was himself shocked. Employee #1 was transported to the hospital, where he was later pronounced dead. Employee #2 was pronounced dead at the scene. Both had been electrocuted.

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An employee was operating a drilling rig to remove the suction pipe from an existing well. He had placed the boom directly over the well and had attached the load line to the casing adapter with a nipple. The nipple broke away from the casing adapter, at the threads, and the load line flipped up into an overhead power line, electrocuting the employee.

On March 15th, 2010, Employee #1 and Employee #2 were removing 1 inch metal pipe from a drilled hole in the road. The pipe was constructed of 10 ft. segments. Both employees pulled 30 ft. of the pipe out of the hole and made contact with the overhead power line in the process resulting in the electrocution of Employee #1 and burns to Employee #2.

On September 3, 2008, Employee #1, a 25-year-old male, came in contact with a 14,000-volt high power line while using a twenty-foot concrete smoothing pole while pouring a concrete slab. Employee #1 died as a result of electric shock from this event.

On July 31, 2007, Employee #1 was finishing a concrete slab when he took the bull float finishing tool over to the side to wash it. While washing the 20 ft-long tool with a water hose, Employee #1 raised it up and either contacted or came close to contacting an overhead 13,800-volt power line. He was electrocuted and died at the scene.

At approximately 2:20 p.m. on February 12, 2007, Employee #1 was handling a metal crane cable with his bare hands during hoisting operations when the cable came in contact with the overhead energized 7,620-volts power line and was electrocuted. Employee #1, a Hispanic laborer who spoke only Spanish, was assisting the crane operator by attaching the hoisting cable to wooden trusses to be placed on top of a residential construction site. At the time of the accident, Employee #1 was not wearing any protective equipment, nor was any available at the site. The company owner and the site foreman indicated that Employee #1 had not been provided any safety related training. At the time of the accident, weather condition were overcast and starting to rain, according to one source, although other employees interviewed did not think it was a contributing factor in the accident. Employee #1 was killed.

At approximately 11:00 a.m. on November 27, 2006, Employee #1, a concrete pump truck operator, was holding a water hose approximately 5 feet behind his CIFA K3Z pump truck, apparently washing the truck off after completing a pumping operation. He was operating the 36 meter boom with a wireless remote when it contacted energized 12,000-volt overhead power lines. Apparently the electricity traveled through the boom, the truck, and the wire-mesh-reinforced water hose into Employee #1, who was standing on wet ground. A few minutes later, the hydraulic tanks and lines on the truck failed, resulting in a large fire that engulfed Employee #1. He was pronounced dead at the scene. There were no witnesses to the actual accident or operation of the boom, although a DOT employee saw the incident a few seconds after the initial contact with the lines. Employee #1 was fully trained and experienced in the operation of the truck. He had put the truck in the only place he could, given the work he had to do, and had set up the pumping operation himself. Because of the truck's location and the reach of the boom, the truck and its parts were capable of coming in contact with live electric lines. Apparently, the accident was partly caused by Employee #1's misjudgment of the position of the boom and its ability to come into contact with the wires.

On November 3, 2006, Employee #1, of Manuel Franco Construction, was directing a concrete pumping hose. The pumping unit was operating adjacent to some overhead power lines and an electrical arc flashed to the pumping boom. Employee #1's were ignited and he sustained fatal burns.

On June 16, 2006, Employee #1 was using an aluminum bull float at the site of a concrete pour. He had carried the float to a new position and was lifting the handle well above his head when it contacted an approximately 7,620-volt overhead power line. Employee #1 was electrocuted. The power lines passed over only part of the work area and were encountered only at the end of the pour. Initial reports indicated that Employee #1's brother, a coworker, received an electric shock when he knocked his brother away from the energized handle and to the ground.

At approximately 3:30 p.m. on January 13, 2006, Employee #1, a concrete laborer, was readying a portable lighting tower to move to another site. At approximately 1:00 a.m. that morning, the tower had been parked under a 24 ft 4-1/2 in. high overhead power line and left extended at about 25 ft, with the generator and the lights on. The 18-person concrete crew gathered before 5:00 a.m. and began pouring the first slab. They turned off the generator at approximately 6:00 a.m. At about 3:00 p.m. Employee #1 began preparing the light tower for transport. He started retracting the tower by loosening a setscrew on the mast that was used to keep the lights directed. When the mast was loosened, it rotated the tower. The two-light bar tree mounted at the top of the turret contacted the 7,500-volt overhead line. Employee #1 received an electric shock and died shortly afterwards.

At approximately 9:30 a.m. on January 9, 2006, Employee #1, a trainee, and a coworker, the driver/trainer, arrived at a construction site to pump concrete. They had been at a construction site a

few blocks away, and their truck was parked 30 ft away and parallel to a power line. While they were waiting for the concrete truck to arrive, Employee #1 told his coworker, who was sitting in the driver's side of the truck, that he was going to set up the outriggers on the truck. After they were in place, Employee #1 began unfolding the boom, which struck the 14,400-volt overhead power line. The coworker, seeing that the truck was on fire, got out and began walking to the rear of the vehicle. He told Employee #1, who was standing on top of the truck, that he had struck the power line. Employee #1 dismounted and joined his coworker in back of the truck. At some point he tried to enter the vehicle again and was electrocuted.

On July 8, 2005, Employee #1 was raising the boom on a concrete pump truck when the it struck some overhead power lines. The truck caught on fire and, as Employee #1 was fighting the blaze, he came in contact the truck. Employee #1 was electrocuted. Employee #2, from another company, attempted to rescue Employee #1. He sustained injuries that did not require hospitalization.

On May 4, 2005, Employee #1 was pouring concrete on an embankment under a bridge. He had a remote control around his neck, which operated the boom and pump of a concrete pump truck. The truck itself was parked on the bridge with the outriggers in place and the boom extended over the guardrails, pointed at the area to be covered. There were overhead power lines about 50 ft from the approximately 105 ft long boom. Apparently, a section of the boom contacted the power lines. Electricity traveled through the boom and the electrical cord on Employee #1's remote control, electrocuting him. Employee #1 was pronounced dead at the scene by the Justice of the Peace.

On February 3, 2005, Employee #1 was assisting a coworker, the employer, who was operating a hydraulic crane attached to the back of a truck. The coworker was lifting a steel cage, while Employee #1 was loading wooden forms on the truck. The crane struck an overhead power line, and Employee #1, on the ground, was electrocuted and died.

On October 22, 2004, Employee #1 was assisting the lifting of concrete molds. The molds were lifted by a crane in close proximity to a 7,200 volt power line. Employee #1 was touching the metal mold to guide it into place, when the cranes line touched the power line. Employee #1 was electrocuted and died four days later after being removed from life support.

On August 23, 2004, Employee #1, who was a co-owner of Lancaster Poured Walls, Inc., and a coworker were using a pumper truck to pour concrete into a foundation in West Conshohocken, PA. Employee #1 was holding a hose connected to the truck when the truck's boom, which was being operated by an employee of another company, contacted an overhead power line. Employee #1 was electrocuted. The coworker was standing nearby and sustained an electric shock, for which he was treated at the scene. The pumper truck had been set up over the power lines and contact was made when the pressure on the pumper was turned up.

On January 22, 2003, Employee #1, of Pumilia Contractors, Inc., and the company owner were working together to complete pouring of a concrete slab. The operator of a concrete pump truck set up adjacent to the site and boomed over energized power lines that were about 60 to 70 ft from the slab area. The company owner was positioning the boom over the framed area and pouring concrete when the boom contacted the overhead power lines. The owner reported feeling a shock and he released the pumping hose. Immediately upon letting go of the hose, Employee #1 grabbed it. He was electrocuted. The company owner reported that he was wearing rubber boots.

A concrete contractor and his crew were working with a concrete truck operator, pouring and finishing a concrete slab foundation for a convenience store and restaurant. They were using a Putzmeister concrete pump truck (Model No. BSF 36.16H). A 7200-volt overhead power line was located nearby. The boom on the truck contacted the power line, electrocuting an employee who was holding onto the rubber hose extension on the boom.

An employee was delivering concrete to a house under construction. He stopped his concrete pumping truck and got out. Standing on the ground, he was using a remote control device to move the boom. The boom contacted an overhead power line, and the employee was electrocuted.

An employee was operating a concrete pumping truck by a remote control box strapped to his chest. The truck was parked approximately 7.6 meters from a 7620-volt overhead power line. A city employee located across the embankment yelled to the operator that his boom was too close to the power line. In spite of the warning, the boom contacted the power line, and the concrete pumping truck operator was electrocuted. The city employee ran to the operator to remove the control harness from his body. The city employee received an electric shock. The city employee was air lifted to a hospital, where he was admitted and treated for his injuries. The operator had worked for the company for 4 months. He had had on-the-job training on the operation of the pumping truck. Operator's manuals warning against operating the boom within 5.2 meters of overhead power lines was located in the truck. (The city employee was listed on an injury line under the inspection number for the concrete contractor.)

On September 9, 2011, Employee #1 was working for a roofing company. Employee #1 was standing on a 40-foot aluminum extension ladder and had replaced approximately 10 feet of white aluminum fascia on the rake edge of a church roof. Employee #1 descended the ladder and attempted to lower the extension ladder. The ladder came within close proximity of an overhead 7200-volt power line located approximately 32 feet above ground and within approximately 10 to 13 feet of the eaves of the church building. The ladder became energized and Employee #1 was electrocuted.

An employee was moving a fully extended ladder to the rear of a building, when the top of the ladder came into contact with overhead power lines. The ladder was missing the rope on the pulley that would have allowed the ladder to close easily. The employee sustained severe burns to his chest, and he was taken to a hospital. He died as a result of his injuries a week later.

On March 25, 2010, an employee and a coworker were moving an aluminum ladder. The employee was electrocuted when the ladder came in contact with overhead power lines.

On August 25, 2009, Employee #1, of Affordable Fast Gutter Company, LLC, was preparing to install gutters on a three-story building. While setting up the aluminum extension ladder, it made contact with an overhead 7,620 volt power line. Employee #1 was electrocuted.

A carpenter working for a gutter company was hanging a piece of aluminum gutter 14 feet long. He was working from a 28-foot aluminum extension ladder, and he was approximately 20 feet above the ground. Suddenly, the aluminum gutter he was holding contacted an overhead power line energized at 13,200 volts. He sustained burns to his hand, chest, arms, and legs around both knees. He then fell approximately 16 feet to the ground. He was transported to Howard County General Hospital, where he was pronounced dead on arrival. He had been electrocuted.

On December 8, 2007, Employer #1 and a coworker were erecting a pole section of a pump jack scaffold to continue siding a condominium under construction in Lowell, MA. They lost control of the

pole section and it struck an approximately 7,600-volt powerline running adjacent to the construction site. Employee #1 was electrocuted and was pronounced dead at the scene. His coworker suffered only minor injuries.

On October 17, 2007, Employee #1 was placing an aluminum extension ladder against the edge of a roof when the ladder contacted some overhead power lines. He was electrocuted. Employee #1 was the owner of a roof contracting company and was an experienced worker.

On July 25, 2007, Employee #1, age 17, and two coworkers, were dismantling an aluminum pump jack scaffold. He was lowering the pole when it contacted a 25,000-volt overhead power line. Employee #1 was electrocuted.

At approximately 11:38 a.m. on or about June 11, 2007, Employee #1 was removing spanish tile from the outer side of the roof parapet on a building in Oak Lawn, IL. He was working in the northwest corner of the roof directly below a 7,200 volt overhead power line. As it passed over the corner of the building, the height of the line varied between approximately 7 ft 8 in. and 8 ft 1 in. Employee #1 was using a shovel with a fiberglass handle to dislodge the tiles. He was reaching over the parapet to access the tiles when the metal end of the shovel apparently contacted the overhead line. Employee #1 was electrocuted.

On May 21, 2007, Employee #1 and a coworker were installing a section of aluminum gutter on a residential structure. The section of roof where they were working was adjacent to a 120/240 electrical drop. Employee #1 was standing on the ground handing up a section of gutter to the coworker on the roof, who was connecting it to the fascia board. During the transfer, the gutter contacted the electrical drop. The current bypassed the coworker and traveled through the gutter to Employee #1, who was electrocuted. He had worked for the company for approximately six years and had frequently performed his job duties in the exact kind of environment. In this case, the weatherstripping or coating on the electrical drop had worn off, exposing bare conductors.

On May 11, 2007, Employee #1 and his coworker/foreman were using a two-section metal extension ladder to descend from the roof of a two-story warehouse. The ladder had been extended to 34 ft. Employee #1 was pulling in the ladder extension when he suddenly encountered a gust of wind. It caught the ladder and blew it into the nearby power lines. The lines were about 12 ft away from the building, and about the same height as the top of the 31 ft tall parapet. Employee #1 was in full cardiac arrest when paramedics arrived on the scene. He was transported to Long Beach Memorial Hospital, where he was pronounced dead. The employee's direct supervisor was not at the work site at the time of the accident, but was aware, according to statements, that the roof was being accessed from the exterior of the building using an extension ladder in proximity to the power lines. The employer was cited for a serious, accident-related violation of T8CCR 2946(b)(2), for employee contact with high voltage lines, and a serious violation of T8CCR 1675(1), for the use of metal ladders in proximity to electrical installations.

At approximately 2:30 pm on December 21, 2006, Employees #1 and #2 and coworkers were disassembling a pump jack scaffold. Employees #1 and #2 were holding one of the scaffold poles when the foreman, who was on the roof, removed the pole brace. They lost control of the pole and it struck a 24.4 ft high, 7,200-volt conductor of a three-phase, 12,470 Wye system. Employee #1 was electrocuted and Employee #2 sustained serious injuries, for which he was hospitalized.

On November 28, 2006, Employee #1 was using an aluminum extension ladder to remove the support bracket for a pump jack scaffold when the bracket contacted a 7,206-volt primary power line. Employee #1 was electrocuted and fell 22 ft to the ground.

On November 8, 2006, Employee #1 and a coworker were on two ladder jack scaffolds, using an aluminum ladder hoist for material transport while installing shingles on the face of a two-story detached garage. The company owner had contracted with the homeowner to replace the shingles, gutters, soffit, and fascia. They had finished their work on the front of the building and decided to dismantle the scaffolds and ladder hoist before going to lunch. Concerned about an overhead power line that was approximately 13 ft from the building, they rotated the hoist onto its side rail before standing it straight up, positioning the ladder parallel to the power line. They were walking the hoist down when the top of the ladder contacted the primary line. Both workers sustained electric shocks. The coworker was thrown from the ladder hoist, but Employee #1 remained frozen to it by the current. The owner of the company saw the incident, ran over, and knocked Employee #1 free. He then noticed that Employee #1 was struggling to breathe, so he ran to the house and told the homeowner, who was a nurse, to dial 911. She then came out and administered first aid and CPR. Paramedics arrived shortly thereafter and took over the rescue operations. Employee #1 was transported to a local hospital, where he later died.

At approximately 1:15 p.m. on November 2, 2006, Employee #1, of A-One Seamless Gutters, was standing on an aluminum ladder while helping to install a 25 ft 8 in. long aluminum gutter at a height of 28 ft on the side of a building. He was moving the gutter when it contacted a 7,620-volt overhead power line. Employee #1 was electrocuted. The power line was 26 ft high where the contact was made, and 11 ft 8 in. from the side of the building.

On October 23, 2006, Employee #1, a 20-year-old day laborer at his first day on the job, was moving a metal ladder when it contacted an overhead power line. He was electrocuted.

At approximately 4:00 p.m. on October 4, 2006, Employee #1 and a coworker, both gutter installation workers, were working from a ladder jack scaffold when the gutter they were placing contacted a high-voltage overhead power line. Employee #1 was electrocuted.

On August 1, 2006, Employee #1 was installing vinyl siding from a pump jack scaffold when he apparently contacted 120- to 240-volt overhead power lines. He fell approximately 25 ft to the ground and suffered severe head trauma. Employee #1 was transported to the hospital, where he died three days later from his head injuries and the results of the electric shock.

On May 8, 2006, Employees #1 through #3 were using a 40 ft tall aluminum ladder to install metal roof decking. They were moving the ladder when it contacted an overhead power line. All three employees received electric shocks and were knocked about 10 ft away from the ladder. Employees #1 and #2 were transported by Emergency Services to Memorial Health University Medical Center in Savannah, GA, where Employee #1 was pronounced dead and Employee #2 was admitted. Employee #3 was taken to the hospital in a privately-owned vehicle driven by his boss. He was also admitted for treatment.

Employee #1 was removing and lifting trusses from a pile with the use of a crane. The crane line touched an overhead power line. Employee #1 made contact and was electrocuted.

On March 10, 2006, Employee #1, an employee of Zeke & Son Roofing and Siding Specialists, was working on an aluminum pole pump jack scaffold that was erected within 4 ft of 4,000 volt, high-tension overhead power lines. Earlier, high winds had blown the energized lines together, causing them to arc

and burn. Several electrical transformers in the area had also exploded, prompting the roofing company workers to leave the site. When the utility company responded to the downed power lines and electrical outage, the utility company supervisor noticed that the scaffold was entirely too close to the electrical lines. He contacted the roofing company and told them to have their workers return to the site and remove the scaffold before the utility company reenergized the power lines. The roofing crew arrived, and the utility company supervisor explained to them the dangerous situation and the need to dismantle the scaffold. The roofing company employees removed all components, except for one 31 ft aluminum pole. Power was then restored and the utility company left the site. Immediately thereafter, the roofing company foreman ordered the scaffold to be erected again in the same area and to resume work. Approximately one hour later, Employee #1 was handling a piece of aluminum fascia from the residential home when he contacted the power line and was electrocuted. Employee #1 was killed.

At approximately 11:18 a.m. on August 11, 2005, Employee #1 was part of a crew installing gutters and downspouts at a house under construction in Atlantic Beach, NC. He was on a ladder when he touched a 7,200-volt power line with a piece of aluminum downspout. Employee #1 was knocked off the ladder by the shock and fell 25 ft onto the concrete floor, striking the back of his head on the floor as he landed. Employee #1 was not breathing when Emergency Services arrived, but they were able to revive him. Employee #1 was transported to the hospital, where he died 5:00 p.m. that same day.

At approximately 4:40 p.m. on June 22, 2005, Employee #1 was using a JLG aerial lift to install trim around the doorways of newly built townhouses. He was moving the lift when he contacted a 7,400-volt overhead power line. Employee #1 was electrocuted, sustaining second-degree burns to his head, back, and right arm. Employee #1 had completed jobs similar to this one during the seven years he worked for Roof-Spec, Inc., and the company had a written safety program that addressed preventing electrocutions when working near power lines. The company also had a written safety program that covered wearing fall protection when working from aerial lifts, but Employee #1 was not wearing a harness and lanyard.

On June 24, 2005, Employee #1 and a coworker were working at ground level, setting up an aluminum pump jack scaffold against a three-story apartment building in preparation for replacing a soffit. One of the scaffold's support poles contacted an overhead power line in the work area. Both workers received electric shocks and were thrown to the ground. Employee #1 went into cardiac arrest and died later that evening. The coworker refused medical attention.

On June 22, 2005, Employee #1 was standing on a piece of plywood being held at a height of 30 to 40 ft by a rough-terrain vehicle. A coworker was feeding him a 54 ft long piece of metal gutter. The owner of the company was operating the vehicle and acting as an observer, since there were high-voltage overhead power lines 10 to 12 ft away. The observer noticed that Employee #1 was pulling the gutter in the direction of the power lines. He keyed the mike on his radio to warn Employee #1, but he never had a chance to finish the warning before the gutter contacted the 7,600-volt power line. Employee #1 was electrocuted and his coworker sustained severe injuries.

At approximately 5:30 p.m. on April 7, 2005, Employees #1 and #2 were installing vinyl siding at a house in Floral Park, NY. They were taking down 30 ft tall pump jacks when one of the poles struck the primary KeySpan wire, sending 7,620 volts of electricity through the pole to the ground. Employees #1 and #2 were electrocuted. They were transported by local fire department and EMS personnel to Winthrop University Hospital. Employee #1 was pronounced dead at 6:22 p.m. and Employee #2 was pronounced dead at 6:20 p.m.

At approximately 5:30 p.m. on April 7, 2005, Employees #1 and #2 were installing vinyl siding at a house in Floral Park, NY. They were taking down 30 ft tall pump jacks when one of the poles struck the primary KeySpan wire, sending 7,620 volts of electricity through the pole to the ground. Employees #1 and #2 were electrocuted. They were transported by local fire department and EMS personnel to Winthrop University Hospital. Employee #1 was pronounced dead at 6:22 p.m. and Employee #2 was pronounced dead at 6:20 p.m.

A crew foreman and another employee were at an apartment complex inspecting and repairing a leaking roof. They erected an aluminum ladder and extended it to about 10.4 meters to reach the 8.5-meter-high roof. The employees climbed to the roof, inspected it, and took photographs of the area in need of repair. They then descended to the ground. As they were moving the ladder, it contacted a 7.6-kilovolt overhead power line located 10.3 meters above the ground and approximately 4 meters from the building. Both employees were holding the ladder when it contacted the power line. The crew foreman received an electric shock and sustained severe burns on his hands and feet. His burns resulted in the surgical amputation of his lower left leg, several fingers, and one toe. He was hospitalized for his injuries. The second employee was electrocuted.

An employee was installing vinyl siding on a garage. While he was working, he moved a 12.2-meter-long aluminum ladder. He had lifted the ladder off the roof and into a vertical position. He lost control of the ladder, and it tipped backward into a 19.92-kilovolt overhead power line located 9.1 meters above the ground. The employee was electrocuted. A coworker tried to pull the employee to safety. However, he received an electric shock and moved away. The coworker was transported to a hospital, where he was examined and released.

On July 2, 2004, Employee #1 was removing shingles from the front of a home when he apparently contacted an incoming overhead power line and received repeated shocks. A coworker, who was also the company owner, saw the accident and broke the power line by striking it with a 2 ft by 4 ft board. When the current stopped, Employee #1 fell approximately 15 ft, landing on his head. He died as a result of his injuries.

On October 8, 2003, Employee #1 and a coworker were replacing missing and damaged flashing on the 22,000 sq. ft roof of a building. They set up a 32 ft tall aluminum extension ladder on the building's east side, placing its feet on a concrete sidewalk for stability. The coworker realized they needed more nails, so he sent Employee #1 back to the shop for them as well as a roll of trim coil. The coworker then climbed the ladder and went to work. Employee #1 returned approximately 30 minutes later with a box of nails. He climbed to the top of the ladder and put the nails down on an 18 in. tall parapet wall. He was stepping from the ladder on to the roof when he contacted a phase A, 13 kilovolt overhead power line and received a 7,620 volt electric shock. Employee #1 yelled, "I got shocked, I got shocked," and managed to finish stepping from the ladder onto the roof. He took a couple of steps, started shaking, and fell on his stomach. The coworker, who was sitting on the roof with both arms over the parapet, also received a shock, but was not injured. He gave Employee #1 mouth-to-mouth resuscitation and CPR until paramedics arrived. Employee #1 was transported to the hospital, where he died. The ladder had been set up under power lines that ran the length of the building's east side. There were no electrical lines on the other three sides. The coworker had worked at the site at least six times in the previous 18 months and had set up the ladder in the same place each time. He did not think he was close to energized electric lines because he assumed that the lower lines, which were not insulated, were support cables. The overhead power line that Employee #1 contacted was 28 ft 4 in. above the ground, but only 12 in. from the edge of the building. The line may have been even closer to the ladder, which

could have easily been set up on the building's north side where there were no electrical lines and flat footing existed for the ladder's feet. The work area, including the overhead power lines, had not been reviewed and discussed with the employees. In addition, employees had not been trained against setting up ladders near electrical lines or about the hazards of using an aluminum ladder near power lines.

On September 23, 2003, Employee #1 had finished a roofing job and was working alone to remove material handling equipment from the building. He was pulling the equipment away from the structure when he contacted an energized 12 kilovolt overhead power line. Employee #1 was electrocuted.

On August 18, 2003, Employee #1 was working from on an aluminum pump jack scaffold. He was holding a 10 ft 2 in. long piece of aluminum fascia when it contacted a 7,200-volt overhead power line. Employee #1 sustained a electric shock and he fell approximately 19 ft 2 in. through the scaffold onto the concrete sidewalk. He suffered additional trauma when his head struck the pavement as he landed. Employee #1 was killed.

At approximately 8:47 a.m. on or about January 1, 2003, Employee #1 was assisting coworkers in the removal and replacement of metal roof decking on a 3-in-12 pitched roof. He was holding a section of 9 ft 4 in. long by 3-1.2 in. wide sheet metal roofing when it contacted a three-phase overhead power line carrying 7,200 volts of current. Employee #1 was electrocuted. The lines were not covered, protected, or de-energized and grounded. The line that was contacted was 5 ft 6 in. above the roof surface and 4 ft in from the roof edge. The building owners knew that there would be work conducted near the power lines, exposing the workers to the hazard of electric shock.

On December 6, 2002, Employee #1, a coworker, and the job foreman were moving a laddervator into position against a building to bring roofing materials from the ground to the roof. They had placed it between the building and energized overhead power lines. Employee #1 and the coworker raised the laddervator while the foreman provided kick-up bracing by placing a foot on each its feet. Employee #1 grasped the laddervator and pushed up from a high position, while Employee #2 grasped and pushed up below and in front of employee #1. Just before it reached a full vertical position, the laddervator apparently contacted the overhead lines. Employee #1 was electrocuted. The coworker suffered electrical burns, for which he was hospitalized. The foreman sustained no apparent injuries. Clearance from the lines was estimated to have been less than 5 ft.

On July 26, 2002, Employee #1 and coworkers were part of a roofing subcontractor crew that was engaged in roof work at a church restoration project in Canon, GA. Several workers were moving a 40 ft tall aluminum extension ladder when it contacted residential power lines located within 10 ft 6 in. of the church. Employee #1 was electrocuted, and two of his coworkers were injured.

On June 17, 2002, Employees #1 and #2 and a coworker were manually moving a mobile scaffold around a building when it contacted a 7,200-volt, C phase, overhead power line. Employee #1 was pulling the scaffold from the front and was electrocuted. Employee #2 was pushing the scaffold from the left rear and suffered only a mild electric shock. The coworker was pushing the scaffold from the right rear but was not actually touching it at the time of contact, and was not injured.

At 10:15 a.m. on April 15, 2002, Employee #1, another roofer, and their manager were at a two-story church youth center to repair a leak in the roof. The Manager instructed the employees to set up their ladder on the side of building; he then left with a client representative to inspect the interior of building. The employees removed a 40 ft aluminum extension ladder from their truck, and carried it to the side of

the building. While raising the extension, the ladder scraped paint from the side of the building. In response, Employee #1 pulled the ladder to a vertical position while his coworker pulled the rope to extend the ladder. Wind and/or the weight of the ladder caused it to fall backward and into some nearby electrical power lines. Employee #1 was electrocuted.

On January 14, 2002, Employees #1 and #2 were erecting a 30 ft tall pump jack scaffold pole when they contacted a 7200-volt overhead power line. Employee #1 was electrocuted and Employee #2 sustained serious burns. The energized line was not insulated.

On December 10, 2001, Employees #1 and #2, who worked for different companies, were standing next to a truck delivering roofing materials. The operator of the boom conveyor on the truck was moving it into position to load materials from the truck to the roof on a residential house. There were trees in the area that made moving the boom conveyor to the roof difficult and that contributed to it contacting a 7620-volt power line. Employee #1, who was standing adjacent to the truck, was electrocuted. Employee #2, who was standing nearby, he received an electric shock; he sustained injuries that required hospitalization.

A roofing contractor was hired to repair the flat roof of a two-story apartment building. The contractor's employees were in the first phase of the repair, removing the old tarpaper. At the end of the first workday, the employees descended from the roof on a 7.3-meter metal extension ladder. The last employee down was apparently removing the ladder when it contacted a nearby overhead power line. He was electrocuted.

A self-employed siding contractor erected a ladder-jack scaffold to install siding, fascia, and soffit on a new house. The scaffold was near an overhead power line. The contractor apparently contacted the power line and was electrocuted.

The owner of a roofing company was carrying a section of aluminum gutter up a ladder. He was electrocuted when one end of the gutter contacted a 19-kilovolt, single-phase overhead power line.

Three employees were installing a tile roof on a three-story residence. A 19.9-kilovolt (phase to ground) overhead power line ran 1.8 meters above and 0.9 to 1.2 meters horizontally from the eave. One of the employees was positioning a 3-meter length of flashing and contacted the power line. He was electrocuted. (He also fell to grade level.)

A roofing crew was working at a shopping center under construction. One crewmember was working on the ground on the east side of the building, helping offload pallets holding tubes containing roofing tar. The six pallets were resting on the bed of a GMC truck (Model No. TC-792; Serial No. 4V2JCBD3NR813502). A Terex RO Stinger crane (Serial No. 4900897480) was mounted on the back of the truck. The load line on the crane was equipped with a Guiffre fork attachment, which was used to lift the pallets from the truck. The truck was parked near a street that was about 6.0 to 7.5 meters from the side of the building. An 8000-volt overhead power line ran next to the street. One of the two overhead power line conductors was supported along the top of the utility pole, 9.1 meters above ground. The second conductor was located 7.1 meters above the ground. As he was offloading the third pallet, the employee on the ground touched the metal forks and stepped back toward the street. The load line came too close to the power line, and the employee was electrocuted. The crane operator, who witnessed the accident, said that the employee had been also helping him spot the power lines. However, the supervisor on the job said that he did not believe that anyone was spotting the power line.

Two employees were setting up two 9-meter-long aluminum extension ladders to install gutters on a new apartment building. One of the ladders contacted an overhead power line. The employee handling that ladder was electrocuted. His coworker, who was putting up the other ladder near the first one, rushed to help the other employee. He was also electrocuted.

Two employees were setting up two 9-meter-long aluminum extension ladders to install gutters on a new apartment building. One of the ladders contacted an overhead power line. The employee handling that ladder was electrocuted. His coworker, who was putting up the other ladder near the first one, rushed to help the other employee. He was also electrocuted.

Two employees were standing on the flat roof of an office building, assessing the roof for repairs. They were about 9.1 meters above the ground. One of the employees found a 3-meter-long piece of metal conduit on the roof to use to unclog a drain. Both employees were standing in accumulated water about 450 millimeters deep. When the employee used the metal conduit to unclog the drain, he brought it into contact with a 13-kilovolt overhead power line that was located about 2.3 meters above him and 1 meter from the side of the building. He was electrocuted. (He also fell off the roof, struck his neck on the spikes on a metal fence, and was decapitated.) The other employee, who was standing on another portion of the roof, received an electric shock.

Two employees were moving a 12.2-meter-long aluminum extension ladder. The ladder contacted a 7620-volt overhead power line, and both employees were electrocuted.

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Two employees were replacing the roof on a residential structure. They were raising an 11-meter Reimann & Georger Corporation platform hoist (Model No. PL250) alongside the structure to hoist roofing materials. The metal ladder section of the hoist contacted a 7200-volt overhead power line located approximately 9.9 meters above the ground. Both employees received electric shocks. One employee was pronounced dead of electrocution on arrival at a hospital. The other employee was hospitalized with burns to his hands, chest, and feet.

An employee was framing out the rough opening for a replacement window. The employee fell from the opening approximately 6.7 meters to the ground. During the fall, the employee struck the single aluminum plank of a pump-jack scaffold erected approximately 2.1 meters below the window opening, then pitched backward falling to the concrete sidewalk. He struck his head on the sidewalk. He was later pronounced dead at the hospital. The coroner's report indicated that the employee had received an electric shock. Further investigation revealed that the employee, who had his foot on a cast-iron radiator, had been holding a steel tape measure. The tape measure had contacted a nearby 7.2-kilovolt overhead power line. The coroner ruled cause of death as blunt trauma with an additional cause of electrocution.

On December 29, 2008, workers employed by J. Henn & Son were working at a residential home, located in Baltimore, MD. They were installing aluminum window wrapping to the third floor windows. The owner climbed a ladder carrying an aluminum strip, approximately 5-ft long and 12-in. wide. At the top of the ladder, the aluminum strip the owner was holding blew upward in the wind, and into electrical power lines running parallel to the residence. The owner received an electrical shock from the 7,620 volt power line and lost his grip on the ladder. He fell approximately 30 ft to the ground.

Emergency responders were called and the owner was transported by ambulance to the University of Maryland Shock Trauma Unit in full cardiac arrest. He later died of his injuries.

At 9:40 a.m. on December 13, 2007, Employee #1 was installing aluminum around newly-placed windows on the second floor of a building undergoing renovations. A coworker on the first floor was cutting the aluminum to the required size and another coworker was bringing the pieces up to Employee #1. He was inside of the building but would lean out the window to install the aluminum. Employee #1 was apparently moving a 6 ft long piece of aluminum out a window when he leaned against the wall below the sill. The aluminum piece contacted an energized 12-kilovolt primary overhead power line, electrocuting him. Emergency Services was contacted and Employee #1 was transported to John Stroger Hospital in Chicago, where he was pronounced dead.

On November 14, 2005, Employee #1, the company owner, and a worker from another company, were power-washing a residential building in preparation for painting. Employee #1 was moving a 40 ft aluminum ladder when either he or the ladder contacted a 7,200-volt transmission line at the front of the building. Employee #1 was electrocuted.

On February 5, 2005, Employee #1 was rigging a load of plywood for hoisting from a flat bed delivery truck. He was electrocuted, when the cable from a truck crane contacted a 7,200 volt overhead power line, and died.

A bundle of trusses was lying below a 13.8-kilovolt (phase-to-phase) overhead power line that was 10.7 meters above the ground. An employee was going to use a 1988 Grove crane (Model No. TMS 528B, Serial No. 71550) to lift the trusses. The boom had been positioned about 24.4 meters above the ground at an angle of approximately 60 degrees. The employee had attached a synthetic web sling to the hook and was running the sling through the trusses to the hook. He pulled on the load line as he was attaching the sling, and the load line contacted the power line. The employee was electrocuted.

On December 3, 2001, Employee #1 and a coworker arrived at a worksite and were instructed to continue the lathing job started months ago at the same location. It was Employee #1's first day at the site. They were using an approximately 36 ft tall stationary metal scaffold to access the top section of the building; the scaffold was situated near an energized, 16,000-volt overhead power line. At the time of the accident, the coworker was on the roof putting screws in the air conditioning frame and talking with Employee #1, who was between 3 ft and 6 ft away. Employee #1 was standing on the northeast corner of the scaffold, holding a 10 ft long metal milker. He was handling the metal strip when it contacted the overhead power line, creating a spark. The coworker heard an explosion and saw the spark. He stood up just as Employee #1 fell off the scaffold to the ground. The coworker ran down and screamed for help. Another coworker, who was having lunch in the front of the building and saw the spark, went to investigate. He found Employee #1 lying on the ground, face up, and the coworker trying to help him. This second coworker called emergency services and Employee #1 was transported to UCLA Medical Center, where he died the following morning. The employee's supervisor was not onsite at the time of the accident. The employer did not ensure that operations, erections, handling, or transportation of tools, machinery, materials, structures or scaffolds, the moving of any house or other building, or any body parts maintained safe clearances from energized overhead lines. The employer was cited for a violation T8CCR 2946 (b)(2), provisions for preventing accidents due to proximity to overhead lines.

An employee was performing thermal insulation work. He was installing a jacket around an insulated cooling pipe. The pipe was located alongside the exterior wall of a building. The employee elevated

himself in a JLG aerial lift to reach the pipe, which was approximately 6.1 meters above the ground. He swung the aerial lift away from the building. As he was going slowly upwards, he contacted a 12-kilovolt overhead power line and was electrocuted.

On August 23, 2008, a masonry worker employed by J&J Masonry Cleaning was standing on a 24-ft aluminum extension ladder. He was using a 6-foot aluminum handled scraping tool to clean brick on the exterior wall of a newly constructed three story residential building. The worker contacted a 12-kV overhead power line with the aluminum handle of his scraping tool. The electric shock caused him to lose his balance on the ladder, and he fell approximately 19 ft. The worker died from non-specified injuries.

On March 2, 2007, Employee #1, the foreman for the job site, and coworkers were constructing an approximately 16 ft tall block wall. He was working from a 14 ft tall fabricated-frame scaffold. Employee #1 was dropping an approximately 15 ft long reinforcing rod into the wall when he either contacted an approximately 27 ft high, 34.5 kilovolt overhead power line or the line arced to the rebar. Employee #1 sustained an electrical shock and died 45 minutes later. Personal protective equipment was made available by the company and Employee #1 was wearing safety boots and had work gloves in his possession at the time of the accident. He was well trained in scaffolding and had completed a masonry apprenticeship.

Employees #1 and #2 were erecting a metal scaffold. One of the employees inadvertently touched the power line with this body, or the end frame of the scaffold they were setting up contacted a primary 7,200 volt line, resulting in an electric shock. Employee #1 fell approximately 20 ft onto a paved driveway and was killed. Employee #2 was hospitalized for treatment of burns to both hands, his right wrist, and his stomach. The scaffold was erected within 2 1/2 in. of the energized line.

On June 18, 2003, Employee #1, a foreman for a plastering company, and a coworker apprentice were in the basket of an aerial lift installing 8 ft sections of a facade on the east side of a new building. They were maneuvering the basket when they accidentally contacted a 7,200 volt overhead power line. Employee #1 was severely injured. The basket was lowered to the ground, and several attempts were made to resuscitate him. Employee #1 was transported by ambulance to a local hospital, where he was pronounced dead. The cause of death was electrocution. Weather conditions did not contribute to this accident.

On April 16, 2003, Employee #1, who worked for a masonry/concrete company, was involved in pouring a foundation at a new residential construction site. The boom of the concrete pump/boom truck was positioned in close proximity to a 19,900-volt overhead power line. Employee #1 was holding a rubber hose that was connected to the steel piping on the boom of the pump truck. The rubber hose was constructed of an inner rubber tube with multiple steel wire wrap reinforcement and with an outer rubber carcass. The outer carcass was damaged and torn, exposing the multiple steel wire reinforcements. While directing the flow of concrete to pour the foundation, he was controlling the hose by grasping it with both arms and holding it against his chest. The boom of the pump truck struck the high voltage power line and Employee #1 was electrocuted. Employee #2, the driver of a concrete truck, had backed his vehicle up to the pump truck and was pouring concrete from his vehicle into the hopper of the pump truck. He was located at the left rear of the truck and was operating the controls for delivering the concrete into the hopper when the boom struck the power line. Electricity flowed from the pump truck to the concrete mixer, and Employee #2 received an electrical shock. He suffered severe electrical burns, for which he was hospitalized.

t 7:00 a.m. on October 2, 2002, Employees #1 and #2 arrived at the employer's facility in New Haven, CT, met with the company owner, and took a company work truck to return to the site of a job they were completing, to remove all the tools and to power wash the front of the building. Once there, they were working at the northeast corner of the building, Employee #1 in the aerial lift basket, Employee #2 on the ground. At approximately 12:30 p.m. to 12:45 p.m., workers at the building observed the two employees working on the front of the building, but closer toward the northeast corner, with the aerial lift at approximately the second-story level. A short time later, another worker leaving for lunch saw Employee #1 in the lift basket with his hand draped over the railing; when she returned from lunch at approximately 2:00 p.m., she saw him in the same position, leaning up against the side of the lift with his right hand hanging over the edge. At 4:00 p.m., one of the workers in the building who was leaving for the day, saw the aerial lift basket about halfway up the height of the building, but did not notice the employees. She got to her car, realized she had forgotten something, and returned to the building. She noticed that the lift basket was approximately three-quarters of the way up the building, and that the power washer was still running and had a large pool of water around it. At 4:30 p.m., two building workers returned from a late lunch and noticed Employee #1 was in the same position as when they had left, 20 minutes earlier. When they looked out through the window, they saw him maintaining the same crouching position in the lift basket and called 911. The Meriden, CT, Fire Department responded, and a captain, a lieutenant, and six firefighters arrived in two separate engines at 4:38 p.m. They found Employees #1 and #2 lying in opposite corners of the elevated lift basket, with the power washer and aerial lift still running. The top of the aerial lift was 2 ft to 3 ft directly below overhead high power lines. The lieutenant later stated that if the employees were standing up in the basket they could have contacted the power line. The firefighters ensured that basket was not in contact with the power line and lowered it. By the time the basket was down, Hunters Ambulance had arrived. Firefighters removed Employees #1 and #2 and placed them on the ground. Employee #2 had significant rigor mortis and resuscitation was not performed. Employee #2 was evaluated by the paramedics, who made the determination not to resuscitate. Firefighters placed sheets over the bodies of both workers. Neither employee was wearing a full body harness or body belt when removed from the aerial lift basket. There was no water on the ground underneath the aerial lift or in the basket of the lift when it was brought down, and neither man's clothing was wet. After the scene was measured and inspected, a local funeral removed the Employees #1 and #2. The aerial lift was taken into custody by the Meriden Police Department at OSHA's request. The lift was moved and transported by the Meriden Police Department using a Department of Public Works flat low-boy bed trailer and taken to the Police Department's impound yard. The aerial lift stayed in the impound yard until it was inspected on October 9, 2002.

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On May 15, 2002, Employee #1, of Lambert Erectors, Inc., was working from a 28 ft extension ladder that was raised to 20 ft. He was preparing to put in the last piece of flashing on a metal roof, and was approximately 12 ft from a 7,620-volt overhead power line. Employee #1 was moving the ladder into position when it contacted the 19 ft 6 in. high energized line and he was electrocuted. A coworker in close proximity stated that he felt a shock go through his drill, and when he looked around he saw Employee #1 on the ground.

On December 18, 2001, Employee #1 and a coworker were pouring the footings for a building. They were using a 42-meter Schwing Pump truck that was parked near one of the footing. The pump truck driver was using a remote control to operate the boom, while Employee #1 was holding and directing the hose connected to the boom. The footing on one side of the site was near a 29 ft 9 in. high overhead power line; if they had been on an equal plane, the power line would have been 18 in. away from the footing. As the two employees poured the concrete footings, they eventually moved near the power lines. The boom of the pump truck contacted the 7,200-volt power line, energizing the boom and the hose. Employee #1 was electrocuted. A hazard assessment was not done prior to the pour to determine the existence of electrical hazards such as power lines.

An employee was working from an extension ladder about 12.2 meters above the ground. The ladder was approximately 450 millimeters from an overhead power line. The employee contacted the power line and fell from the ladder. He was electrocuted.

On October 14, 2011, Employee #1 and Coworker #1 were installing new coax span cable between two poles in a residential community. Employee #1 was working in a bucket of a 1994 GMC 7500 Top Kick Truck with a Telsta T40C boom, and Coworker #1 was located on the ground. The coax span cable was positioned below two existing power lines: a primary power line positioned at a height of 31 feet, 2.5 inches from the ground that was energized to 19,900 volts and a secondary power line positioned at a height of 21 and a half feet from the ground that was energized to 120 volts. The coax span cable was being installed at a height of approximately 17 to 18 feet from ground level. At the time of the accident,

Employee #1 encountered a tree while installing the new coax span cable approximately 30 feet down the line. Coworker #1 provided Employee #1 with a pair of pruning tools to trim branches away from the location where the coax cable was to be installed. Employee #1 instructed Coworker #1 to get back into the truck. Coworker #1 sat down inside the truck and while closing the door, he heard a loud buzzing sound. Coworker #1 looked out of the truck and saw Employee #1 lying inside the bucket, which was located next to the primary power line. Coworker #1 attempted to communicate verbally with Employee #1 but was unsuccessful. Coworker #1 operated the manual controls and lowered the bucket to the ground. Coworker #1 contacted emergency services. Emergency services arrived and determined that Employee #1 had been killed.

On July 20, 2011, Employee #1 was working as a lineman. Employee #1 climbed an electrical distribution pole, and was wearing the appropriate personal protective equipment as indicated in the National Electrical Safety Code (NESC) C2-2007. Employee #1 reached his designated working position and shifted his weight on the pole in order to pull up the insulating blanket from below. Employee #1's back right shoulder blade made contact with the high side of a cutout fuse (also called a "stinger") just behind his insulating arm protector. The cutout fuse was energized at 7,600 volts. Employee #1 was electrocuted.

A power line worker was in an aerial lift, installing new overhead power line conductors as part of a project to upgrade an existing 12.47-kilovolt overhead power line (7.2 kilovolts to ground) to a 34.5-kilovolt line (19.9 kilovolts to ground). The employee was lifting a new conductor onto a dolly when his spotter saw an electric arc. The power line worker fell to the bottom of the aerial lift bucket, and the spotter lowered the injured employee to the ground. The employee received cardiopulmonary resuscitation on site and was airlifted to a hospital, where he died. He had been electrocuted.

On August 13th 2009, Employee #1 of Advanced Utility Service, Inc. was working as a journeyman electrical lineman and was elevated in an aerial lift. Employee #1 was working to upgrade the three phases of an existing electrical distribution line to larger conductors in a residential area. Employee #1 was working at a pole with Employee #2, an apprentice electrical lineman, also elevated in a different aerial lift at the same pole and a groundman was assisting on the ground. During the process of hoisting and moving the existing energized "A" phase, Employee #1 contacted energized conductors and he was exposed to 7620 volts of AC voltage. Employee #1 was severely injured and burned. He was airlifted to a regional hospital where he survived for 6 days before he was taken off life support and he died.

On December 22, 2008, Employee #1, a 44 year-old-male, was installing an aluminum flagpole. While he was installing the pole, the pole contacted an overhead power line, which caused electricity to travel down the pole and electrocute Employee #1.

On June 4, 2008, Employee #1 and a coworker were on site while standing up a light pole that had previously been knocked over. The light pole was 34-ft 4-in. tall and had a 23-ft 10-in. long arm extension. As the coworker (foreman) was lifting the pole with a rigging attachment on a bucket truck, Employee #1, working from the ground, was holding the bottom of the pole to position it onto the break away base. As the pole was being lifted, it came in contact with a 13.2-KV overhead power line. Employee #1 was holding the pole and suffered a severe electric shock. Employee #1 was hospitalized and died on August 5, 2008.

Employee #1, an electrician, was electrocuted while working from a bucket truck repairing a low voltage circuit on the pole. Employee #1 apparently contacted a 34,500-volt line with his head and his right side was touching a ground line. Employee #1 was killed.

On December 1, 2007, Employee #1 and a coworker, of the New River Electrical Corporation, were using a JLG aerial lift to install new electrical equipment. At the time of the accident, they were removing the ground from a 345-kilovolt electrical line. The coworker was holding the hot stick and, once the JLG basket had been raised and positioned between two overhead conductors, he began to remove the ground. Employee #1 was reaching over to assist him when he contacted an overhead conductor and was electrocuted. The coworker holding the hot stick felt a tingle, but he was not injured. The area the employees were working in was very congested and too small for the lift they were using. This caused them to violate the minimum approach distance. The line was de-energized, however induced voltage was still present. A secondary ground had not been installed to protect the employees from induced voltage. The employees were not familiar with working with high voltage and were not clear on the hazards of induced voltage. The workers in the JLG lift were fourth- and fifth-step apprentices. The assigned foreman for the site, a seventh-step apprentice, had left the site temporarily to obtain fuel and there was no other supervision available to observe the job task.

At approximately 1:30 p.m. on September 20, 2007, Employee #1 and two coworkers were installing a new power line. A line truck was used to dig the hole for a new pole; the hole was located beneath an existing 7,200-volt primary service line. The crew was attempting to screw in a ground anchor, which was positioned at an angle on the truck. Employee #1 was holding the anchor and guiding it into the newly dug hole when the pole claws on the truck boom contacted the overhead line. He was electrocuted. Employee #1 was transported to a local hospital, where he was pronounced dead.

Employees #1 and #2 were installing communications cable at the Wild Waves Amusement Park in Federal Way, WA. They were working from an elevated manlift basket when they accidentally struck a 72 kilovolt high voltage power line. Employee #1 was electrocuted and died at the site. Employee #2 sustained serious injuries and was airlifted to Harborview Medical Center in Seattle.

On April 30, 2007, Employee #1, an apprentice, and coworkers were setting up a new wood pole for a 7200 kilovolt distribution line. They first drilled the hole with the insulated boom situated under the lines and at full extension. The crew then retracted the boom fully, making it uninsulated, and began to unload the replacement pole from the truck. While maneuvering the pole, the signalman allowed the boom to violate the approach distance of 25 in. The operator started to boom down and before the signalman could react, had touched one phase line. The operator immediately boomed back up, breaking the conductive path. At the moment of contact Employee #1 was moving around the truck to help the signalman. He was apparently trying to steady himself while climbing over a pallet of power cables, and had one hand on a grab bar of the truck and the other hand on a metal garage door. The electrical current entered the palm of Employee #1's left hand and exited through the fingers of his right hand. He was able to take one or two steps and respond to a question before collapsing. Coworkers and the responding paramedics administered CPR, but Employee #1 died.

On January 11, 2007, Employee #1, a foreman and electrical lineman, was in an insulated bucket changing service to a customer from a two-phase to a three-phase, 7,200-volt AC. In the process, he contacted both the hot line and the neutral line. Employee #1 was electrocuted. At the time of the accident, he was not wearing any PPE, which was found in his truck. Employee #1 was an experienced electrical lineman and had worked in this business for his entire career.

On December 5, 2006, Employee #1 and a coworker were in the elevated bucket of an aerial lift when Employee #1 contacted a 7,200-volt energized line. He was electrocuted. Coworkers started CPR and rescue personnel continued it en route to the hospital, where Employee #1 was pronounced dead.

At 8:30 a.m. on June 6, 2006, Employee #1 was working with a crew to upgrade an existing overhead power line on a property in Mount Jackson, VA. This entailed replacing an existing 14,400-volt line/pole with a new one. Employee #1 was in a bucket truck when he apparently contacted an energized line and was electrocuted.

On either May 8, 2006 or May 15, 2006, Employee #1 and four coworkers were dispatched to a work site to install new electrical service to a shed. A transformer was lifted by the boom of a digger derrick and then hung by a lineman working from the bucket of the digger derrick and by Employee #1, who was working from the pole. After the transformer was hung, Employee #1 removed his insulated gloves to move around the pole. The lineman then completed the installation of the circuit ground and began to lower his bucket to the ground. During this process the lineman felt Employee #1 reach into his bucket to retrieve a tool. As Employee #1 pulled the tool from the bucket, he contacted the cutout on the 14,400-volt line. The current entered through his leather gloves and exited through his foot to the pole ground, which ran between his climbing gaffs. Employee #1 was electrocuted. At the time of the accident, he was not wearing his insulated gloves or sleeves.

At approximately 5:45 p.m. on September 12, 2005, Employee #1 and a coworker were reinstalling electric service to a house that had been damaged by Hurricane Katrina. Employee #1 climbed the pole at the rear of the house while the coworker at the house hooked up the weatherhead. Employee #1 then pulled the service up on the pole end. He had made the neutral up and was waiting for the coworker to make the house end up so he could energize the service. Employee #1 was moving around the pole to get into a better position when he contacted the 220-volt secondary service cable that was also on the pole. The coworker heard Employee #1 grunt and then saw him go limp, but his safety equipment became caught on the telephone/TV cable and prevented him from falling to the ground. Employee #1 was rescued from the pole and administered CPR, but he could not be revived. Employee #1 died of electrocution.

At approximately 11:30 a.m. on August 2, 2005, Employees #1 and #2, both journeyman linemen for an electrical construction contractor, were in a truck-mounted aerial lift basket raising a 10 ft crossarm to install it on a new power pole. They were raising the crossarm above the existing 12-kilovolt power line when the hardware/copper bonded wire around the crossarm contacted the overhead line. Employee #1 was electrocuted; he was taken to Desert Valley Regional Medical Center in Victorville, CA, where he was pronounced dead. Employee #2 sustained flash burns was transported to Arrowhead Regional Medical Center for treatment. Neither employee had been wearing insulated rubber gloves, gloves with sleeves, or the equivalent protection from high voltage.

On July 22, 2005, Employee #1 was part of a crew replacing an old overhead power line pole. As he was working, he contacted an energized line and suffered an electric shock. Emergency Services responded and transported Employee #1 to the hospital, where he died.

On May 16, 2005, Employee #1, of Quest Construction, cut several pieces of soffit on the ground for his co-workers who were working from a pump jack scaffold. He then began to move a 32 ft tall aluminum extension ladder that was propped against the south side of a single-family home under construction. Because this ladder did not have a rope, he had to move it while it was extended. Employee #1 was carrying the ladder when it fell backward into a 7,620-volt phase-to-ground distribution line and he was electrocuted. The power line was about 18 ft from the house and 10 ft from the base of the ladder.

Two communications workers were realigning a telephone cable. As they were stringing a messenger cable for the telephone line between two poles, the messenger cable contacted a 7.2-kilovolt overhead power line suspended from the top of the poles. One of the employees was electrocuted. The other employee received an electric shock and sustained only minor burns. (The second injured employee was not listed on an injury line on the original form.)

At approximately 10:00 a.m. on July 31, 2004, Employee #1, a field technician for Temp Power Systems, and a coworker were rerouting power lines at a construction site in Chula, CA. Employee #1 was on a ladder, transferring power on top of a pole, when he contacted a 220-volt overhead power line and was electrocuted. He then fell to the ground. The company provides low-voltage power at construction sites.

At approximately 10:30 a.m. on June 1, 2004, Employee #1, a crew supervisor, was helping to re-route a 7,200-volt overhead power line around a newly erected transmission pole when he received an electric shock. He was knocked unconscious and transported to the hospital, where he died approximately two weeks later. The line Employee #1 was handling was de-energized, but it was adjacent to an energized one. Slack in the de-energized line caused it to contact a jumper for the energized line at a nearby pole. The crew had planned to de-energize all the lines, but had not cut a jumper to the adjacent line. The line being handled was not tested or grounded, and Employee #1 was not using any form of electrical PPE.

At approximately 12:00 noon on February 19, 2004, Employee #1 was on a utility pole servicing a 7,200-volt, single-phase, primary overhead power line that was down and damaged due to weather-related conditions. He was preparing to repair the line with sleeve tension when he accidentally contacted the energized line. Employee #1 was rescued from the pole by a coworker, but he died as a result of his injuries.

On January 18, 2004, Employee #1 was working as a technician for a phone company utility service, doing repairs at a residential home. He was situated on a pole that supported phone lines and a 12 kilovolt overhead power line at the top. One of the high voltage lines came loose from its insulator and fell, brushing against Employee #1's back. He was electrocuted.

On November 20, 2003, Employee #1 was using an insulated, aerial lift bucket truck to transfer electrical current from an old, 7,200 volt overhead power line to a new line. His head contacted the 7,200 volt birdcage on the new line. The current entered the back of his head and came out through his hands, electrocuting him. Both the old and the new power lines were energized at the same time.

On September 26, 2003, Employee #1 and coworkers were completing the final construction of a section of fiber optic line. He was positioning a concrete bucket that a boom crane hoisted over the pipes in a large trench when the boom contacted a 7,200 volt overhead power line. Employee #1 was touching the bucket at the time and he was electrocuted.

Employee #1 was part of a crew that was digging at the base of a new 40 ft tall concrete pole to repair underground power lines. The new pole was replacing an older one that had to be relocated because of a highway widening project near a substation. The installation of the new pole had damaged the underground lines and the crew was digging to reach them. The combination of their excavating around the base and recent heavy rains caused the concrete pole to tip slightly into an existing 7,620 volt overhead power line. Employee #1 touched one of the pole's guy wires after it tipped and was electrocuted. The new pole did not have any power line conductors connected yet and it had only three guy wires, all on one side.

Two power line workers were working on an overhead power line. One of the employees, who was wearing protective equipment appropriate for the work, climbed a utility pole. The other employee, who was the lead worker, was instructing his coworker as he climbed the pole. The employee on the pole job was to install a new cutout switch and wildlife protection for the 7640-volt power line supported by the pole. The lead worker told the employee on the pole that he had climbed far enough and turned to retrieve a live-line tool to hand to his coworker. The employee on the pole, who had apparently climbed a little higher, contacted the power line and was electrocuted.

On July 22, 2003, Employee #1, a lineman, was installing a permanent jumper from one dead end of a power line to the other end on a utility pole. He was on the pole when he contacted a 7600 volt single-phase power line and was electrocuted. A temporary mechanical jumper had been in place.

On July 3, 2003, Employees #1 and #2 were installing a promotional banner on a light pole. Employee #1 was in a bucket truck attempting to maneuver the bucket between the top of the light pole and a high voltage distribution line when he was electrocuted. Employee #2, who was on the ground, sustained electrical burns. The distribution line was less than 10 ft above the light pole. The bucket truck was not insulated.

A journeyman power line worker was replacing insulators on a 230-kilovolt overhead power line with the assistance an apprentice power line worker. The journeyman was on a 3.7-meter-long Epoxiglas hook ladder (Hubbell-A. B. Chance Catalog No. #H4904-12), which was suspended from the truss of the top arm of the tower supporting the power line. After completing the work, he removed the grounding cables and gave them to the apprentice. As the journeyman was descending the fiberglass ladder, he contacted the power line, which was energized by induced current. The employee sustained an electric shock and fell off the ladder, flipping upside down suspended from his harness. He remained suspended this way for more than 30 minutes. The apprentice climbed the tower and administered cardio-pulmonary resuscitation to his injured coworker. The supervisor relieved the apprentice, who apparently moved away and also contacted energized parts. The apprentice sustained an electric shock and burns. The journeyman was pronounced dead of electrocution just after arriving at the hospital. The apprentice was hospitalized for treatment of his burns and for observation.

Employees of two contractors, Pike Electric and the Fishel Company, were working to attach an underground power line to a utility pole to an overhead power line through a riser. A Pike Electric employee was kneeling on the ground, holding the lateral cable. He was using a knife to skin the insulation from the cable. An employee of the Fishel Company energized the 7200-volt line from another location. The Pike employee received an electric shock and died at the hospital.

A power line construction crew was upgrading a 7200-volt, single-phase system to a three-phase system. The crew had crossed all three phases as they were pulling the conductors through the pulleys. An employee was correcting the crossed conductors by cutting and splicing the phase conductors. As he was working on a splice, the end of one of the conductors became birdcaged and would not go into the connector. The employee removed his rubber insulating gloves and adjusted his aerial lift. The jib arm on the aerial lift contacted an energized overhead power line below the bucket. The employee was electrocuted.

A power line crew was installing conductors onto new poles and removing old wiring from an existing pole. The crew was reusing the existing neutral conductor. To maintain the neutral during the changeover, the employees had connected a temporary jumper from the existing neutral to the new neutral, which crossed the road. The three 12.4-kilovolt (7200-volt-to-ground) phase conductors had

been connected and energized. One of the power line workers on the crew was working from an Altec aerial lift, which he had positioned between the outside phase conductor and the neutral. He was installing a permanent jumper on the neutral conductor. The employee was wearing rubber insulating sleeves, but apparently was not wearing rubber insulating gloves. He was electrocuted when he contacted the phase conductor with the upper left portion of his back while he was touching the neutral conductor with his left hand.

On April 24, 2002, Employee #1, a lineman, was in an elevated aerial bucket mounted on a truck bed, installing coaxial cable line on a power pole. The rear wheels of the truck were sitting in a shallow ditch. When he completed installing a segment of the new cable, he instructed the operator of the truck to move forward. The rear wheels of the truck pulled forward out of the ditch and up onto the adjacent higher pavement of the road. This raised the elevated bucket into close proximity of the overhead, 14,400-volt power line. The back of Employee #1's neck contacted the energized line, electrocuting him.

Three employees of an electrical contracting firm were installing a metal cap on the top of a streetlight. They were using an aerial lift (a Simon-Ro TC2863 crane with a Telsta Model No. S434, Serial No. 223021) to work on the streetlight. One employee was on the aerial lift platform, installing the metal cap; another employee was in the truck, operating the controls of the boom; and the third employee was on the ground, standing at the base of the light pole. One of the employees was electrocuted when the platform got too close to a 4000-volt (phase-to-phase) overhead power line. (The original form did not indicate which employee was electrocuted or exactly who or what contacted the power line.)

Some employees of an electrical contractor were using a digger-derrick to set utility poles. While an employee was using controls located at the back of the truck to position a pole in its hole, the top part of the elbow on the boom of the digger-derrick came too close to a 13.2-kilovolt overhead power line. Current arced to the boom, electrocuting the employee. (The truck also ignited and burned.)

A power line crew was working on a project to replace the copper conductors on a 7200-volt overhead power line with AWG No. 2 aluminum conductors. Three employees were on the crew: a power line worker, who was also the vice president of the power line construction firm, an equipment operator, and a ground worker. The power line worker was working from an aerial lift, tying in the new conductors. He was wearing leather gloves and not rubber insulating gloves, which were available on the site. He had tied in the neutral conductor and was tying in the phase conductor. With one hand on the new conductor, he turned and contacted the existing, energized copper phase conductor with his other hand. He received an electric shock and fell into the aerial lift bucket shortly after contacting the conductor. His coworkers lowered him to the ground. The ground worker left to get help and returned with another person. They pulled the injured employee out of the bucket and administered cardio-pulmonary resuscitation. The injured employee was transported to a hospital where he was pronounced dead. He died from acute respiratory failure due to electric shock.

On November 2, 2001, Employee #1 and coworkers were replacing the insulators for each set of approximately 7,600-volt lines at a utility pole. They had finished the lowest phase and one coworker elevated his bucket to the uppermost phase to begin placing insulating rubber hose on the lines. Employee #1 moved into position at the center phase and removed his rubber gloves. He was attempting to remove a cotter pin from the insulator when his other hand contacted the metal shoe (the part of the bracket that holds the insulator in place). The coworker above heard a noise and looked down to see an electric arc between Employee #1's hands. The injured worker collapsed into his bucket

and was brought down by a coworker on the ground. Police who were directing traffic at the scene started CPR, but Employee #1 was killed.

On October 6, 2001, Employee #1 and a coworker were installing fiber optic cable on strand previously installed on a run of power poles. The employees were driving their four-wheeler from pole to pole, trailing the fiber optic cable, when they came to a power pole that contained two down guy wires. Because of the position of the downed cables, they could not drive off the fiber optic cable, nor were they able to run the spool underneath them. They decided to unhook the downed guys to position the fiber optic cable where it needed to be. Employee #1 was unhooking the downed wires when one of them contacted the overhead power lines; he was electrocuted. Employee #1 was transported to the hospital, where he was pronounced dead. At the time of the accident, the coworker was on the other side of the truck.

three-employee crew was installing an underground electric service cable for a newly constructed business. When the crew arrived, the employees removed approximately 305 meters of three-conductor, 1/0 service cable from the cable reel. (The utility pole was located between 290 and 305 meters from the business.) Once the employees cut the cable to length, they dug an excavation on the west side of the road. A section of conduit routed under the road had been installed previously. The employees unearthed the end of the conduit to pull the final 30 meters of cable beneath the road. The crew positioned an International Truck with an Effer 8200 crane boom on the east side of the road almost directly below a 14.4-kilovolt (phase-to-ground) overhead power line. The employees fed a fish tape through the conduit, secured a 25-millimeter-diameter nylon rope to the fish tape, and pulled the rope through the conduit. They attached the rope to the service cable with a conductor grip and a clevis. One of the employees began operating the crane boom, which was controlled from ground level, to pull the cable through the conduit. The crew foreman remained on the other side of the road at the excavation, feeding the service cable into the conduit. The third employee was positioned approximately 4.6 meters from the crane operator, holding the rope taut so that it would not interfere with the cable. When there was only about 2 meters of cable to pull, the crane boom contacted the eastern-most phase of the overhead power line at a point approximately 3 meters to the north of the crossarm on the pole. The crane operator was electrocuted. (The employee holding the rope had dropped it just before contact, as he noticed the proximity of the boom to the power line.)

A crew of four power line workers, two journeymen, one foreman, and one apprentice, was digging a hole to set a new utility pole for an existing 7200-volt overhead power line. Without protecting the power line from contact by the boom, the employees used the auger on a digger-derrick to dig the hole for the pole. After digging the hole, the auger was full of dirt and needed to be cleaned before it was stowed. One of the journeyman power line workers was using the controls on the side of the truck to operate the auger. He moved the auger about a half meter away from the newly dug hole to provide clearance for the apprentice to hand clean it. The apprentice used a metal-blade putty knife to scrape the dirt from the auger. The boom operator raised the auger to make it easier for the apprentice to reach the lower blade area. When the auger was approximately 610 millimeters above the ground, the boom contacted the power line, electrocuting the apprentice. He had not been wearing rubber insulating gloves while he was cleaning the auger. The digger-derrick had not been grounded.

A local utility company hired an electrical contractor to install new streetlighting at the corner of a hazardous intersection. The job required installing one of the streetlights parallel to an existing 13.2-kilovolt (phase-to-phase) overhead power line. The ground worker installed the streetlighting hardware and supply cable on the pole, placed a synthetic nylon sling with a choker hitch around the pole, and

attached the sling to the load line of a derrick truck. When the derrick lifted the pole to an upright position, the derrick's tilt-pole plumber arms grasped the shaft of the pole. The operator of the derrick truck swung the load around and began to set the pole in a 1.8-meter-deep hole. The ground worker was securing the cargo straps to the pole trailer as the derrick operator was setting the pole. When the butt end of the pole contacted the bottom of the hole, the pole spun the streetlight into the overhead line. The ground worker ran to the pole to try to prevent it from contacting the overhead line. He was electrocuted when he touched the supply cable on the pole. He had entry and exit wounds on his right hand and right heel.

Two apprentice power line workers employed by an electrical contractor were working under the supervision of a power line supervisor employed by an electric utility. The crew was restoring power after an outage caused by an ice storm. The crew went to the location of the disconnect for the line they were going to work on. They found that disconnect was already open. A crew working for another electric utility had opened it earlier. The employees did not, however, tag the disconnect. The supervisor sent the two apprentices to work on a broken insulator that was about 0.8 kilometers from the disconnect. The supervisor received a message via walkie-talkie from the crew that had opened the disconnect. That crew reported that all employees were clear of the power line. The supervisor reenergized the line. One of the apprentices on the first crew was working from an aerial lift, repairing the broken insulator. He was electrocuted when the supervisor reenergized the 7200-volt overhead power line.

A power line worker was working on a utility pole, transferring conductors. He contacted a 12-kilovolt overhead power line. He received an electric shock and burns and was transported to a hospital, where he was pronounced dead. He had been electrocuted.

Two power line workers were working from a utility pole. One of them was tying down a 7200-volt overhead power line conductor with a preformed tie wire. He was wearing rubber insulating gloves. The second employee was beneath him, putting tension on the conductor. The first employee lost his grip on the tie wire, allowing it to unwind. The tie wire hit him under his arm, and he was electrocuted.

A three-employee power line crew was installing a pole and a meter and upgrading a distribution transformer from 25 kilovolts-amperes to 50 kilovolts-amperes. The employees had installed the new pole and meter and had completed work on the pole associated with upgrading the transformer. They had installed the transformer with the lines on both sides deenergized. After reenergizing the supply-side line, the employees used test equipment to check the new meter and detected 480 volts. The employees had installed a transformer with a 480-volt secondary rather than one with a 240-volt secondary. They pulled the fuse for the transformer with a live-line tool and called the main office. A superintendent brought the correct transformer to the site. The employees installed the new transformer. Although the fuse for the transformer was disconnected, the jumper was still energized. The jumper was hanging too low, and the employees decided to install a thimble support on the back side of the pole. A crewmember threw a rubber insulating glove pouch up to an employee working from an aerial lift. The superintendent instructed the employee to lower the aerial lift bucket and reposition the truck for better access to the pole. However, without moving the aerial lift, the employee reached over the energized phase conductor. When the thimble touched a grounded bolt on the pole, his arm was touching the 7600-volt conductor. He received an electric shock and sustained severe burns. He died of the burn injuries.

A power line crew was stringing a new power line beneath an existing overhead power line. An employee on the crew was operating the tension brake on the conductor spool. He was not using electrical protective equipment, and the spool was not grounded. The conductor being installed whipped and contacted the existing power line. The employee was electrocuted.

Three employees were installing a streetlighting pole at the entrance to a parking lot. One employee was operating a boom truck, hoisting the pole. An electrician and an apprentice were guiding the pole into place on its base. The mast arm of the pole swung into a 12-kilovolt overhead power line, electrocuting the electrician and apprentice. The boom operator jumped from the truck and was not injured.

Three employees were installing a streetlighting pole at the entrance to a parking lot. One employee was operating a boom truck, hoisting the pole. An electrician and an apprentice were guiding the pole into place on its base. The mast arm of the pole swung into a 12-kilovolt overhead power line, electrocuting the electrician and apprentice. The boom operator jumped from the truck and was not injured.

On February 3, 2000, Employee #1, of Kohler Construction, was on a crew installing new poles and moving power lines. He was in an aerial bucket preparing to drill holes in the concrete pole to install a guy bracket as a coworker finished removing the rubber insulator hoses from the power line conductors. As the coworker lowered his aerial bucket, Employee #1 was moving into position for drilling when he contacted a 7,620 volt conductor and was electrocuted.

On February 12, 2009, Employee #1, a 22-year-old male painter, with Tierney & Stallings was working with another painter and engaged in a painting operation of a TACO Bell sign pole. The setup for the painting operation started approximately 2:00 p.m. by positioning the aerial lift and preparing the paint. This took approximately thirty to forty minutes. The painters commenced painting at around 3:00 p.m. and the sign pole height was approximately fifty feet in height. Employee #1 used a trailer mounted z-boom aerial lift, model TZ-50, manufactured by Genie, to paint the upper third of the sign pole and the coworker painted the bottom third of the pole. Each painter used roller brushes. Measurement of the lateral distance between the overhead wire and pole was approximately thirteen feet apart from the top most overhead wire. At around 4:00 p.m. the coworker realized that more paint was needed to complete the last section of the pole, the middle third section. The coworker poured the remaining paint into one bucket in order for Employee #1 to start painting the middle third of the pole. The painting lasted for approximately twenty minutes before the coworker stated to Employee#1 that he was going to the store to get more paint. The coworker stated that Employee#1 was to descend from the aerial lift until more paint arrived to complete the middle of the third section of the pole. Employee #1 was descending when the coworker left the site approximately 4:30 p.m. The coworker returned approximately 5:00 p.m. and noticed Emergency Medical Service (EMS) and law enforcement vehicles at the job site. The coworker was told by a law enforcement official that Employee #1 was electrocuted when his forehead came in contact with the top most overhead wire. The coworker was also serving as the foreman of the painting team.

On November 19, 2008, Employee's #1 and #2 were working for Prudent Technologies, Inc, as part of a four person painting crew and were painting a residence. Employee #1 was the foreman and was working with Employee #2; they were using a boom lift to paint the upper levels of the house. They were working approximately 20-feet off the ground, when Employee #1 came in contact with a live overhead electrical line he touched Employee #2. Employee #2 was able to pull away and climbed down

from the boom lift. Employee #1 was on fire, he was able to roll out of the boom lift and fell about 20-feet to the ground. The coworkers were able to put out the fire and the employee #1 was transported to the hospital, where he died from his injuries approximately two-weeks later.

At approximately 11:10 a.m. on June 11, 2008, two workers employed by Eagle Painting and Maintenance Company were working from an aerial lift, connecting two large hanging sections of tarpaulin that were being placed beneath a bridge overpass to serve as a containment structure for sand blasting and painting operations. Running beneath the bridge and immediately adjacent to the basket of the aerial lift, were pole-mounted, overhead power lines. While the painters were maneuvering the aerial lift's bucket they accidentally contacted the 7,200-volt power lines and were electrocuted. Company records indicated that both painters were trained on safe working distances during work activities around or near energized overhead power lines.

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At approximately 8:15 a.m. on May 19, 2008, Employee #1 was painting a concrete block wall at a Food Lion. He was using a 24 ft aluminum extension ladder that had been extended to a 22 ft working height. While moving the ladder, it contacted an overhead power line and he was electrocuted. The power lines were transmission lines that fed three transformers to supply the store with electrical power. The ladder had a burn mark and small melted spot where contact was made.

On August 1, 2006, Employee #1 and coworkers were painting the east side peak of a tower that was located near a 7.2-kilovolt electric line. When Employee #1 completed the top section of the peak, which was approximately 6 in. from the line, he took off his lanyard to move to a lower position. In the process, he contacted the overhead power line, lost his hold on the tower, and fell. Employee #1 dropped approximately 30 ft onto power lines, then another 70 ft to the ground. Employee #1 died of traumatic injuries sustained in the fall.

On July 30, 2005, Employee #1 was moving a 32 ft long aluminum extension ladder that he was using to paint a wall on the side of a building. He was moving the ladder away from the wall when he lost control of it and the ladder fell backward into an overhead power line. Employee #1 was electrocuted.

At approximately 2:05 p.m. on July 8, 2005, Employee #1 was standing on the metal platform of a scissor lift, power-washing the exterior of a hotel, when the platform contacted an overhead power line. Employee #1 was electrocuted. A coworker trying to rescue him suffered an electrical shock, for which he was hospitalized.

On July 26, 2004, Employees #1 and #2 were using an aluminum extension ladder to paint the front of a church/meeting house and the box on the roof. Running parallel to the side of the building was an approximately 32 ft 10 in. tall overhead power line. The phase closest to the building, called the field side phase, was approximately 10 ft from the edge of the roof. Employees #1 and #2 had finished for the day and they were starting to take down the 35 ft tall ladder when it contacted the approximately 13.8

kilovolt power line, acting as a path to ground. Employee #1 was electrocuted. Employee #2 fell backward and sustained a contusion to the back of his head; he also suffered burns on his feet. Both workers were transported to Danbury Hospital, where Employee #1 was pronounced dead on arrival. Employee #2 was hospitalized for treatment of his injuries.

On May 24, 2004, Employee #1 was using a JLG scissor lift, model no. 3389, serial no.020660-02001, to paint a light pole. He had raised the lift about 25 ft when it contacted a 7,200-volt AC overhead power line. Employee #1 was electrocuted. He apparently did not know that the power line was there. The employer stated that Employee #1 had been trained on use of the lift, but there was no evidence to support when or where the training had taken place. The lift was properly placarded with appropriate electrical hazard warnings.

On January 22, 2004, Employee #1, who worked for a painting contractor, was on a 25 ft 3 in. tall aluminum ladder, priming the gable eave on the east side of a 29 ft tall building. There was an energized 7,200-volt line 25 ft above the ground and a neutral line at 21 ft. The un-insulated wire was 20 ft from the front of the building and 8 ft from the rear of the building. Employee #1 descended, put down his paint bucket and roller, and was trying to reposition the ladder when he lost control and the ladder fell into the overhead lines. Coworkers heard a loud bang and found Employee #1 lying, face up, on the ground; his right arm was resting on the ladder's bottom rung, which was still energized. One coworker called 911 and another used a scrap board to knock Employee #1's arm off the ladder, which was still being held by the power from the live line to the neutral line. The same board was used to knock down the ladder. CPR and first aid was administered until the fire department arrived at 11:25 a.m. He was electrocuted.

On November 22, 2003, Employee #1 was unloading a sand blaster from the bed of a Ford F700 bucket truck, which was parked directly under a 34,000 volt power line. He was using the manbasket as a crane to pick up the machine and place it next to bags of blasting sand. In the process of off-loading, the basket's arm contacted the overhead line. The intensity flew the truck's tires off their rims and creating 6 in. craters underneath the tires. Employee #1 was electrocuted.

On July 3, 2003, Employee #1 was using a 32 ft tall aluminum ladder to pressure wash, clean, and paint wood siding on the gable end peaks of a two-story house. He was on the ground apparently trying to move the ladder when it contacted 4,800 volt overhead transmission and distribution lines. Employee #1 became stiff and then fell backward, dropping the ladder, which fell against the house. He had been electrocuted.

On July 1, 2003, Employee #1, age 20, was painting a house. He was moving a ladder when it contacted an overhead electric power line. Employee #1 was electrocuted.

On March 25, 2003, Employee #1, a painter, was using a 40 ft aluminum extension ladder that was extended approximately 27 ft to apply caulking to the siding of a three-story, single-family dwelling. The building was located about 10 ft from an approximately 24 ft high single-phase distribution line. Employee #1 was working between the house and a wooden fence that was about 9 ft from the house. He was moving the ladder to another area when he lost control of it and the ladder fell backward, striking the 13,800-volt overhead power line. Employee #1 was electrocuted.

On February 24, 2003, Employee #1 and coworkers were cleaning up after a paint job on a 2,000 sq. ft. home. Employee #1 helped a coworker lower a 40 ft extension ladder by retracting it to 20 ft. The coworker then began carrying it to the company van when he tripped. Employee #1 grabbed the ladder

to help him, and then told the coworker that he could take the ladder. The coworker agreed, and Employee #1 began carrying the ladder toward the back of the van, which was parked directly under a 13,200 volt phase-to-ground power line that ran across the yard. Employee #1 was preparing to load the ladder into the van when it contacted the top power line and he was electrocuted. The top power line was 21 ft from the ground while the neutral line was 17 ft from the ground.

At 4:05 p.m. on October 5, 2001, Employee #1, of Mason/Dixon, LLC, was removing a 32 ft aluminum ladder from the southeast side of the Spencer Presbyterian Church. As he moved the ladder back from the building, it struck against a three-phase, 7,200-volt phase-to-ground electrical power distribution line that ran from northeast to southwest, approximately 10 ft from the building. Employee #1 was electrocuted. When the Police and EMTs arrived, he was lying on the ground. He was treated and then transported to Rowan Regional Medical Center, where further treatment was attempted. He was pronounced dead at 4:50 p.m. Subsequent investigation documented violations of OSHA standards and other standards that would support a citation related to this accident.

An exterior painter was maneuvering his aerial lift bucket into position to clean the exterior brick wall of a building with a pressure washer. He or his equipment contacted an energized 7,620-volt overhead power line. He was pronounced dead at the scene; he had been electrocuted.

A painter was moving an aluminum ladder. The ladder contacted an overhead power line, and the employee received an electric shock. He later died from his injuries.

A foreman and two laborers were performing surface preparation work before painting a three-story building that was about 12.2 meters high. The foreman and one of the laborers were working together on the west side of the building, repairing cracks in a wall. They were using a 6.1-meter-long aluminum extension ladder. The building was only 1.7 meters away from a perimeter wall. The perimeter wall was so close that the employees placed the bottom of the ladder in a neighbor's yard. The foreman was moving the ladder while the laborer helping him was watching the position of ladder on the building. The laborer was also holding the ladder with one hand. The ladder contacted a 4800-volt overhead power line. Both employees received electric shocks and sustained burns. The foreman died of his injuries more than a month after the accident, on September 25, 2000. The laborer was hospitalized with burns on his right hand and left elbow. The laborer stated that he did not know of the presence of the power line and was not given any warning about it.

A painting contractor and his only employee were lowering an aluminum extension ladder. The ladder contacted a 7200-volt overhead power line, electrocuting the contractor.

On November 19, 2009, Employee #1 was relocating an aluminum ladder from one apartment building to another to perform gutter and roof maintenance. He was electrocuted when the ladder contacted a live power line that was approximately 16 ft above ground.

On July 12, 2004, Employee #1, a laborer, was electrocuted when he picked up a 110-volt overhead power line on the ground to remove it from the work area. He was electrocuted. During the course of backfilling an excavation, a trench hoe had contacted an overhead electrical line, causing it to break loose and fall to the ground. Apparently, Employee #1 was aware that the power line was energized when he picked it up.

On February 13, 2003, Employee #1 and two coworkers were installing a 35 ft long by 5 in. diameter section of flexible stainless steel chimney liner, which was to be tied to a connector pipe attached to an

existing heating unit. One coworker was on the roof, feeding in the liner; Employee #1 and the other coworker were in the basement, guiding it in. After inserting approximately 25 ft of the liner, the remaining 10 ft section contacted an energized 7-kilovolt AC overhead power line that was located between 3 and 4 ft from the chimney. The coworker on the roof received an electric shock and was thrown from the liner; he suffered minor electrical burns to both of his hands and knees. Employee #1, who was guiding the liner, was electrocuted and was pronounced dead at the scene. The other coworker was not injured.

Between 10:00 a.m. and 10:30 a.m. on August 14, 2002, Employees #1 and #2 and a coworker were installing new security lighting at the southern end of Building #17 of the Sharlo Terrace Apartments. They had used two aluminum ladders leaned against the wall to install the bracket. Employees #1 and #2 were moving one of the ladders, in an extended and upright position, to the rear of the building when it contacted an overhead power line. Employee #1 was electrocuted. Employee #2 received an electric shock and was hospitalized with serious injuries.

A crew of employees was on the roof of a two-story building, installing air conditioning units and condensate lines. One of the employees on the crew was assigned to assemble duct fittings. He dropped a tool into one of the vent shafts. The next day, he decided to retrieve it with a 6.1-meter-long section of copper tubing. A 12-kilovolt overhead power line was located 3.8 meters above the roof. He was electrocuted when he brought the tubing into contact with the power line. His employer had not conducted a thorough prejob survey to determine what safeguards were necessary.

On May 26, 2009, an employee was unloading a large metal oil field stock tank being brought in for repair. The tank was being held by a winch truck. As the winch truck moved forward, it came too close to the overhead power lines. The overhead power lines arced to the tank and winch truck. The employee was standing on the ground beside the winch truck and was electrocuted.

Employees were securing a load on the left side of the deck on the back of a boom truck. The front of the load contacted the lift levers of the boom truck, elevating the boom of the truck into the 7,620-volt overhead power line that was directly overhead. Employee #1 was electrocuted, and Employee #2 and Employee #3 were hospitalized due to electric shock.

At approximately 12 noon on February 18, 2002, Employee #1 was helping the operator of a John Deere Excavator, model 450LC, lift a Reynolds Drag box, model LS-14, to load it onto a trailer. He was standing on the ground and was touching the tongue of the drag box when the arm of the excavator contacted a 69-kilovolt overhead power line. Employee #1 was electrocuted.

On September 10, 2001, Employee #1 and a coworker were moving a 925 rail inserter off of a lowboy trailer. The coworker was operating the crane, while Employee #1 was on the ground steadying the load with his hand. When the equipment was lifted from the trailer, the crane load lines swung into some overhead power lines. Employee #1 was electrocuted.

Employees were working on a project to expand a water treatment facility. They were using a crane to lift buckets of gravel into a trench to build up the bed for a concrete pour. The crane contacted a 23-kilovolt overhead power line. An employee on the ground who was touching the crane bucket was electrocuted.

On October 1, 2010, an employee touched wires hanging from a pole. The pole got too close to overhead power lines as it was being erected. A flash occurred which electrocuted the worker.

At approximately 3:10 p.m. on September 20, 2010, Employee #1 was on the ground, underneath six, 230-kilovolt overhead power lines, which had been grounded by ground cables. Employees in a bucket truck removed five ground cables from five lines. As Employee #1 removed the ground cable that was attached to the bucket truck and the ground cable that was attached to the sixth overhead power line, he was electrocuted and killed.

On November 25, 2009, Employees #1 and #2, of Arlington County Department of Environmental Services, were working at a water main repair site. While moving a mobile light tower, the tower contacted an overhead power line and electrocuted Employee #1. Employee #2 received an electric shock during the incident. Both were hospitalized, Employee #1 died of electrocution.

On September 24, 2009, Employee #1 was working in a bucket lift installing a power line with approximately 7,200 volts. The bucket contacted the power line, and the employee was electrocuted.

On March 10, 2009, two employees were at ground level pulling three-phase electrical lines above energized power lines that were covered with insulation. When the lines being installed became slack, they contacted the energized lines. Employee #1 was electrocuted. The other employee was treated at a burn center for electric shock injuries.

At approximately 10:21 a.m. on January 6, 2009, Employee #1, a foreman, and two coworkers, a lineman and a flagger, were installing a telecommunications cable that was located off the side of a road. The poles for which the cable line was being installed already were supporting three, 25 kV power lines. A messenger cable, made of galvanized steel, was being used to support the telecommunications cable being installed. As Employee #1 was elevated in a bucket truck, manually spinning the cable lashing machine, the messenger cable came in contact with the lower 25 kV power line. The messenger cable and the cable lashing machine attached to it became energized causing Employee #1 to receive an electric shock. Emergency services were contacted and CPR was performed until the emergency responders' arrival. He was taken to Brownsville Area Hospital, where he was determined dead.

Employee #1, an electrical lineman, was working from an aerial lift bucket truck approximately 38 ft above the ground. Employee #1 was electrocuted when he was connecting a neutral line to a junction pole only thirty (30) inches beneath an exposed energized (7,200 volts) primary line. Employee #1 suffered an electric shock and was electrocuted.

Employee #1 was installing a new 40 utility pole to replace an older utility pole. He was using a boom truck with a claw attached to the end of the boom to set the pole into place. The pole was elevated with a winch that was attached to the boom and the pole was to be placed inside the claw when it reached a suitable height. After elevating the pole, it rested on the outside of the claw and had to be maneuvered to be placed inside the claw. Employee #1 placed his unprotected hands on the pole to maneuver it, causing the top of the pole to come into contact with the hose shielding the overhead 19,900 Volt power line. As a result of the contact, Employee #1 was electrocuted.

At approximately 08:45 a.m. on August 6, 2008, Employees #1, #2, #3 and a coworker, a four-member electrical line crew, was installing new poles at the job site. Employees #1 and #2 were pushing and guiding a 50-ft tall pole to place in a 7-ft deep hole that was just dug, and which was adjacent to existing electrical pole. As the pole was being moved, it came in contact with the unprotected 115,000 kw energized transmission lines. Employee #1 was burned in his shoulder and died at the scene from the electric shock. Employee #2 was burned in his abdomen and Employee #3 was severely burned in his

hands. Employees #2 and #3 were transported by Air Ambulance to a hospital in Wichita, Kansas. They were hospitalized.

On August 5, 2008, Employee #1 was working with a crew that was replacing a power pole. The pole had been set and materials were being placed on crossarms in preparation for transferring power to the new pole. A coworker was in the bucket, working on the transformer. Employee #1 was instructed to hook up the ground wire to a rod in the ground next to the pole. The coworkers did not see what happened, but they heard Employee #1 scream or groan. A coworker ran to grab Employee #1 but realized he was being electrocuted. The coworker used a fiberglass hot stick to get the energized grounding wire off of Employee #1. The coworker in the bucket was told to kill the power to the transformer. Coworkers performed CPR. EMS arrived and Employee #1 was later pronounced dead.

On July 9, 2008, a journeyman lineman and leader of a crew were replacing wood electric poles with new concrete electric poles. The lineman and a coworker were elevated in separate aerial lifts. The lineman was positioned between an old wood pole and a new concrete pole. The electrical lines (7,200 volts) had been covered with insulated line hoses, and the two employees were wearing insulated gloves. The energized pothead jumpers that connected the overhead power lines to the underground utilities were not covered. During the course of his work, the lineman reached into the area where the exposed energized jumpers were. His bare upper arm came into contact with an energized electrical part, and he was electrocuted. The lineman was not wearing insulated sleeves with his gloves.

At approximately 12:30 p.m. on June 2, 2008, a crew of five employees was removing a storm-downed tree top and limbs off of two power distribution lines and a neutral line that crossed under and perpendicular to three energized power lines. Employee #1 and Employee #2 were using their hands to move a 7,200-volt phase to ground the power distribution lines Employee #3 was standing over a power distribution line using a chain saw to cut limbs from the tree top; Employee #4 was pulling limbs and brush from the pile and Employee #5 was setting a chain saw down. The power distribution lines that the employees were working on had the fused cutouts open on one end and were cut at the other end. Protective grounds were not installed. The power distribution lines that the employees were working on contacted the energized lines. Employee #1 was electrocuted, CPR was performed at the scene and he was transported to the hospital where he was pronounced dead. Employee #2 was air lifted from the scene to another hospital burn unit with burns to his abdomen, left hand and arm, left and right feet and legs. Employee #3 was transported to a third hospital by ambulance then to a burn unit with burns to his right leg which was amputated, left foot and leg. Employee #4 was transported by private vehicle to the hospital where he was treated and released. Employee #5 was not injured.

On January 11, 2008, an employee of Pacific Gas and Electric reported storm damage to power lines at pole #074530 along Highway 193. A crew consisting of Employee #1 and three coworkers was sent out to make repairs. Due to the wet conditions, the boom truck could not get close enough to the site without becoming stuck in the mud. This meant that the crew had to climb the pole. They held a short safety meeting, which covered de-energizing, grounding, and hot stick work to open cut-out fuses. However, the crew members later stated, neither the pole nor the guy was tested to see if they were de-energized. Employee #1 and one coworker, who was also the acting foreman for the crew, climbed the pole, with Employee #1 working on top. Another coworker served as the groundman for the two on the pole. The fourth coworker remained with the boom truck, on the opposite site of the Highway 193. When Employee #1 climbed above the first level of crossbraces, which supported telephone cables, he was within working distance of the cut-out fuses. According to the foreman, Employee #1 was positioning himself with his left knee resting against the telephone cables when he reached out with his

leather-gloved left hand and grabbed the downed metal guy. The groundsman heard a crackling sound, looked up, and saw that Employee #1 could not release his hand from the guy. The foreman and the groundsman used a hot stick to try and free Employee #1 from the energized wire. The groundsman reported that during this time the amperage continued to build. He and the foreman then heard a loud noise and saw a fireball envelop Employee #1, after which he fell onto the telephone cables. The coworker who had stayed with the truck called 911, and Emergency Services arrived within 8 to 10 minutes. Employee #1 was electrocuted.

On October 11, 2007, Employee #1 was operating a materials hauling trailer on a residential street. He was raising the bed to deposit a load when the trailer's tarp-raising arm contacted a 26 1/2 ft high energized power line. Employee #1 was electrocuted. The 7,620-volt power line was not insulated.

On March 31, 2007, Employee #1, a crew foreman, was installing a guy wire on the west side of an electrical pole. He was ascending in an aerial bucket when he contacted the 12 kilovolt power line and was electrocuted. The overhead power lines on the west side of the electrical pole had only one insulated electrical covering. The A, B, and C phase lines were energized, with the east side of the pole protected with insulated covers. The transformer had been replaced and all the wires below the primary phases were de-energized. At the time of the accident, neither of the two aerial bucket trucks being used were grounded. Employee #1 was wearing a hard hat, safety glasses, and leather gloves, but his insulated electrical gloves were hanging on the outside of the aerial bucket.

On March 15, 2007, the assistant foreman and track hoe operator instructed Employee #1 to get into the backhoe bucket to be lifted to power lines crossing the roadway. From the raised bucket, Employee #1 used rope to tie together three lower lines to increase the height of the wires. He was then raised to the energized top wire to tie the bundle of lower wires to it to increase their height. Employee #1 was apparently holding the three wires in his hand while being raised to the top wire, when either the bucket struck the line or he lost his balance and contacted the hot top wire. He suffered an electric shock and was set on fire, falling approximately 21 ft to the ground. Emergency Medical Services was called and transported Employee #1 to the local hospital, where he died nine days later.

On March 7, 2007, Employee #1, a journeyman lineman, was connecting new electrical overhead power lines onto a pole in a rural area. Also connected to this pole were energized, 7,200-volt, electrical lines that were not covered with any insulating devices. Employee #1 was working from the bucket of an aerial lift that also contained three 68 in. long armor rods and other conductive objects on the floor. Employee #1 was touching one of the armor rods when it contacted the energized line. He sustained a massive electric shock and died at the scene. At the time of the accident, Employee #1 was not wearing any insulated personal protective equipment.

On November 22, 2006, Employee #1, a lineman, was part of a three-man crew adding a third wire to an existing power line. The existing service was a 12-kilovolt pole consisting of two hot wires and a neutral. The crew's company had been contracted by Allegheny Power to add a fourth wire to provide three-phase service to a local company. Once up on the pole, Employee #1 found that the pole's cross-arms were rotten and needed replacement. After completing this, and after moving the primary phase from the old crossarm to the new crossarm, Employee #1 contacted the 7,200-volt line. The entry wound was on his back left shoulder and the exit wounds were on his lower calves. He was transported to the hospital, where he died two days later. At the time of the accident, he was wearing 13 in. long Salisbury leather protectors over 10 1/2 in. long Salisbury Type I Class 3 protective rubber gloves, White Rubber Corporation Type I Class 2 rubber sleeves, head protection, eye protection, and flame-retardant

shirt and pants. Three WH Salisbury & Company Class 3, Type II line hoses and two Salisbury Class 4 Type II insulating rubber blankets were also in use. The hoses were on two neutral lines and one primary phase. One blanket was wrapped and secured around another primary phase. The other blanket was draped across the end of the new crossarms. The primary phase that Employee #1 moved from the old crossarm to the new crossarm was not protected with a line hose or insulating blanket.

On August 11, 2006, Employee #1 was handling rebar that was being lifted by an excavator. The rebar was connected to the excavator by a nylon sling that was also attached to one end of the rebar. As the rebar was being raised, it contacted overhead power lines. Employee #1 received a severe shock and was transported to the hospital. Tests showed no brain activity, and Employee #1 was taken off life support.

At approximately 4:40 p.m. on June 13, 2006, Employee #1, of Davis H. Elliot Construction, was working from a utility pole to string new overhead power lines when he contacted a 7,200-kilovolt line. Employee #1 was electrocuted.

On March 28, 2006, Employee #1's five-man crew was re-conductoring a three-phase tie line between two highways. The work involved changing out the existing #4/00 ACSR B-phase (three-conductor) line and replacing it with a new parallel 336 ACSR, three-phase (four-conductor) 7,200-volt AC system. The crew had taken over this job some weeks earlier from another crew under the same employer. The new distribution line had been energized on the previous day; on the day of the accident, the crew was planning to transfer the three remaining customer taps from the old feeder to the new one. Employee #1, a journeyman lineman, told the homeowner for the first tap that her power would be off, then went up in an aerial lift bucket and hung a spreader arm to the north side of the crossarm on the new pole for that tap. He left his hot stick hanging on the road phase of the old line. His intent was to first move this old conductor up to the new pole's crossarm extension, before attaching the new guy to the new pole. Then he would be ready to transfer the customer's tap from the old line to the new one. For some reason, Employee #1 lowered his bucket and had his groundman hand him the loose, unattached guy for the new 40 ft pole. Employee #1 took the bucket and guy back up and passed the guy over the new neutral and some old circuit-banded conductors. At that point, he apparently could not reach the hook-clip on the south side of the new pole, where he was to attach the new guy. So, while holding the new guy in his left hand, and needing to move his bucket closer to the new pole, he reached back with his right hand for his bucket's pistol-grip control. In so doing, he contacted the old energized road-phase conductor. Coworkers on the ground heard Employee #1 say "Oh," and brought the bucket down. They immediately began CPR and called for an ambulance. Employee #1 was transported to Claiborne County Hospital in Port Gibson, MS, but efforts to revive him were unsuccessful. He had been wearing leather work gloves at the time of the accident; his insulated rubber gloves, and their leather outer protectors, were in their bag, hanging inside the bucket with him.

Approximately 1:30 p.m. on September 22, 2005, Employee #1 and coworkers were changing a clamshell bucket on a crane. Employee #1 pulled one of the wire ropes back toward the crane to secure it while two coworkers pulled the other wire rope toward the right. The wire rope being pulled by the two workers contacted a 27,000 volt overhead power line. Employee #1 and two coworkers were shocked. The two coworkers were not seriously injured and were released from the hospital the same day. Their injuries were not recorded. Employee #1 was hospitalized and died on November 8, 2005.

At approximately 7:50 a.m. on September 7, 2005, Employee #1 was part of a three-man crew installing earth anchors at the base of an overhead power line pole. He inserted a metal anchor rod into

the anchor wrench that was attached to the boom on a digger/derrick truck. The boom was also in contact with an energized 14,400-volt overhead line. Employee #1 was electrocuted.

On July 12, 2005, Employee #1 was part of a three-man crew that was re-establishing electrical service to customers in the Flomaton, AL, area following power outages caused by Hurricane Dennis. At the time of the accident, he was in an insulated aerial lift bucket, splicing together a 12-kilovolt electrical line. The two conductor ends were pulled together and held in position with a manual come-along (bulldog) tool. When Employee #1 was almost done connecting the two ends of the line, he grasped both ends to complete the splice. At that time, the line became energized and Employee #1 was electrocuted. He was not wearing rubber gloves. The most likely source of the electrical energy was a portable generator connected to a nearby house circuit box, which may have caused a backfeed into the conductor.

On June 29, 2005, Employee #1 and a coworker, both linemen, were working from two separate utility poles, preparing to move an old, energized 7,200-volt conductor onto secured temporary fiberglass layout arms so that a new conductor could be installed at a later time. Employee #1 had already removed the wire that secured the 7,200-volt conductor to the insulator when the foreman noticed that nothing was covered with rubber protective equipment, including the conductor and the guy wires. He yelled to the groundman, who was approximately 165 ft away near the second lineman, to get some insulated hoses. When the foreman turned back around, he saw a ball of fire. Either Employee #1 had tried to move the conductor or the conductor had fallen and he had tried to catch the wire before it struck the uncovered guy wire. The electric arc struck the D-ring of his tool belt and the snap hook of his safety strap. Employee #1 slumped over but didn't fall because his safety belt caught on the guy wire, which was approximately 2 1/2 feet from the conductor when it was in its original position at the insulator. The second lineman descended his pole, ran over and climbed Employee #1's pole, and performed a pole-top rescue to lower him to the ground. CPR was performed until Emergency Services arrived, but Employee #1 could not be revived. Both linemen were wearing appropriate PPE, such as rubber gloves and rubber sleeves rated at 17,000 volts, hard hats, safety glasses, overshoes, and flame-retardant vests. The first thing they had done after their tailgate talk, before starting the job, work, was to set the recloser to a "one-shot deal," instead of keeping it in the normal position, which would allow it to kick three times.

On May 24, 2005, Employee #1 climbed a wooden utility pole in preparation for installing three new overhead power lines. As he and his coworkers were getting ready to lay a new line in a different direction. Employee #1 climbed the lower take-off arm. He was standing on it when he slipped and grabbed the existing, energized 14,400-volt line that was attached to the top cross-arm. Employee #1 was electrocuted.

A power line worker was working from an aerial lift, transferring an overhead power line from one utility pole to another. He was removing rubber insulating line hose from the power line. As he was removing the line hose for the second phase conductor, his back contacted the unprotected conductor. He was electrocuted. (He also fell from the aerial lift bucket to the ground.)

At approximately 2:00 p.m. on October 12, 2004, Employee #1 and a coworker were at a laydown yard, unloading a truck crane trailer. While lifting an auger to the truck bed, the crane's cable contacted a utility line. Employee #1 was in contact with the energized auger and was killed.

At approximately 10:00 a.m. on July 28, 2004, Employee #1 and coworkers were loading gas line pipes that had been replaced during construction. One coworker was operating a truck crane, a Grove Series

500C, Number 312-15-0045, gross vehicle weight of 33,000 pounds, which was rented. One coworker was on the ground bringing in the pipe, which was secured on the boom of the crane with a chain. Employee #1 was standing on a flat bed trailer placing the pipe, when the coworker handed the load chain to him. The wire rope of the boom contacted an overhead high voltage power line, 7,200 volts, and Employee #1 was electrocuted. He fell from the truck bed to the ground and died.

On February 12, 2004, Employee #1 was helping a foreman install a power transmission line in preparation for upgrading the electric utility lines in the area. The foreman was in the bucket of one boom truck, while Employee #1 was in the bucket of a second boom truck. The buckets were close together, but the foreman's boom was approximately 5 ft higher so he could connect one of the phase lines. Employee #1 was handing up the line and had his hand on the end of the conductor when he contacted the grounding wire that was connected to the pole. A 2,400-volt electric shock traveled from his right hand across his chest and out through his left hand. Employee #1 was electrocuted. The installation was done with the power line energized so electrical service in the community would not be disrupted.

At approximately 11:30 a.m. on January 31, 2004, Employee #1, a lineman, was part of a four-man crew repairing power lines that had been damaged by an ice storm. The crew began work on a pole next to a private drive off a main road. Employee #1 went up in an aerial bucket to replace a missing crossarm on the de-energized pole. He and a coworker then drove to another pole, where they met the other two crew members. Employee #1 was elevated in the bucket to attach a come-along to a downed, de-energized overhead power line, which he was then going to splice and connect to the other part of the line that had fallen to the ground. After connecting the come-along, he began to reposition the bucket to disconnect a stinger line above one of the cut-out switches on the "take off" pole. As Employee #1 moved higher, his right shoulder contacted the stinger line and his left upper arm, creating a path to ground for 7,200 volts. Employee #1 was electrocuted. He was wearing his hard hat but the remainder of his personal protective equipment was on the floor of the bucket. Employee #1 thought the power lines below the cut-out switches were de-energized because the switches were in the OPEN position.

On November 11, 2003, Employee #1, a lineman, was putting in conductor spacers on newly installed high voltage transmission lines. The new lines ran parallel to energized 345 kilovolt lines. He was using a conductor cart that rode on the conductors when he contacted a temporary, protective ground that had been dislodged. Employee #1 was electrocuted.

On October 29, 2003, Employee #1, a groundsman, and two coworkers, both linemen, were stringing new overhead aluminum power lines in Amite County, MS. Near the end of the day, they were getting ready to catch-off the newly strung, but not yet energized, lines at Pole 37 across from a house. The coworkers were "walking-down" the road and the field phases. These were attached by manila ropes and Kellum Grips to the rear of a John Deere skidder that was being operated by Employee #1 to pull and string the lines. After the coworkers secured the center phase near the bottom of Pole 37, Employee #1 left the skidder to help them with the field phase. He was pushing down on it so it could be caught off in a wire clamp chained to the pole when he suffered an electric shock. Employee #1 was administered CPR and was transported to Southwest Mississippi Medical Center in McComb, MS, where he died. The coworkers had put on insulated rubber gloves after feeling what they thought was static electricity coming from Pole 37. Employee #1 was also wearing leather work gloves, but the downward force he exerted caused the field phase to rise up into the existing energized conductor that was approximately six spans east from Pole 37.

At approximately 3:30 p.m. on September 8, 2003, Employee #1, who was belted to a power pole, asked a coworker on the ground for a section of feeder cable. The coworker passed the cable up to Employee #1, who then contacted the A phase of a 14,400 volt over head power line. He sustained severe electrical burns and was killed.

On June 30, 2003, Employees #1 and #2, both high-voltage lineman, were unloading a 38 ft long steel crossarm from a delivery truck/crane. The crossarm became dislodged from its grip and it swung up and into a 115 kilovolt distribution line, electrifying the ground around the vehicle. Employees #1 and #2 were electrocuted. The vehicle was not grounded.

On June 30, 2003, Employees #1 and #2, both high-voltage lineman, were unloading a 38 ft long steel crossarm from a delivery truck/crane. The crossarm became dislodged from its grip and it swung up and into a 115 kilovolt distribution line, electrifying the ground around the vehicle. Employees #1 and #2 were electrocuted. The vehicle was not grounded.

On May 20, 2003, Employee #1 was on the first of two lineman crews that were working on the same pole in Pace, Florida. Each crew consisted of two linemen, one of whom was in a bucket truck and the other of whom was on the ground. Employee #1 was in the bucket on the inside of the pole, connecting a 15 kilovolt jumper cable from a de-energized feeder line to the main energized line at the top. He had attached the clamp on an end of the jumper cable to the de-energized line, and was raising the bucket to connect the clamp on the other end of the jumper cable at the top of the pole. When he got into position, the clamp on the jumper cable in the bucket touched his thigh. Meanwhile, his upper arm was touching the fuse switch arc-horn on the energized line, and he sustained an electric shock. Other employees immediately performed rescue procedures and CPR. Emergency medical technicians transported Employee #1 to a local hospital, where he died. Other employees did not see where the unconnected end of the jumper cable was located while Employee #1 was moving the bucket into position next to the arc-horn. However, an electrical circuit was completed from the energized line touching his arm that went out his leg through the jumper cable, which then became energized, too. Employee #1's arm and leg were entry and exit points for his burn marks. His upper arm was exposed because he was not wearing an insulating sleeve.

On May 9, 2003, Employee #1 was in a bucket truck, removing the guy from the top of a utility pole. He was using a wrench to remove the nut from the guy bolt on the pole. He was holding the bolt with his left hand when his right elbow contacted the approximately 7,200-volt line at the transformer. Employee #1 was electrocuted.

A power line worker was in a Hi-Ranger aerial lift, clipping in a new overhead power line. He had not covered an existing 7200-volt overhead power line nor was he wearing rubber insulating gloves. The uninsulated section of the boom contacted the energized line while the employee was touching the new, grounded line. The employee was electrocuted when he reached behind his back and contacted the boom or controls.

An apprentice power line worker was in an aerial lift, working on a new overhead power line being installed along a rural gravel road. He was approaching an existing single-phase 7200-volt overhead power line with a grounded AWG #2 triplex service drop cable in the boom's jib. He was going to connect a service drop to a transformer. The young employee had earlier moved the transformer from an old 12.2-meter-tall pole to a new pole that was 13.7 meters tall. The employee was not wearing his rubber insulating gloves (which were still in the glove bag hanging from the tool board in the bucket), nor had he placed the rubber insulating line hose (which was also in the bucket with him) on the

energized phase conductor. No one was observing him while he was working. The employee maneuvered the aerial lift bucket between the phase and neutral conductors on the existing power line, with the bucket at a 45-degree angle to the boom. The end of the triplex cable was inside the bucket with the employee. The existing line was located parallel to and closer to the gravel road than the new line being installed. The employee apparently contacted the phase conductor and was electrocuted. His supervisor found him slumped down in his bucket with the existing phase conductor running diagonally across the top of the bucket's liner and behind the dead employee.

power line contractor had a contract with an electric utility to install a 161-kilovolt overhead power line from a tower to a new switching substation. The contractor was replacing an existing line of 954 MCM ACSR conductors from the North tower to the substation with a new line of 2034 MCM ACSR conductors. The new conductors had been connected at the North tower and were being secured at an A-frame in the substation. The general supervisor had directed the removal of all protective grounding jumpers from the North and South towers. Two employees were in a personnel platform on a crane. A bonding jumper was installed between the phase conductor and the platform on the crane. The truck crane was not adequately grounded to earth. The phase conductor was grounded through the hoist, but no other protective grounds were installed. The two employees had just completed splicing the ends of the three phase conductors from the North tower to their counterparts on the A-frame. Each of the phase conductors was held by a 2.7-metric-ton hoist. The employees had clipped in the first phase conductor. One of them then started to remove the hoist from that conductor and received an electric shock. The employee let go of the hoist, but grabbed it again and gave it a big push to force it away from the conductor. When the hoist separated from the conductor, the employee was electrocuted. The power line on which the employees were working was deenergized; however, a 500-kilovolt overhead power line ran parallel to it. A test on the lower voltage line after the accident found it to be energized at 7000 volts through induction from the higher voltage line.

A two-person power line crew was unloading new utility poles from the trailer of a boom truck. The poles were for a new three-phase overhead power line. The employees were having difficulty removing one of the new poles from the trailer. The lead power line worker rotated the boom on the truck into an existing 13-kilovolt overhead power line. The second employee, who was leaning against the truck at the time, was electrocuted.

Two journeymen power line workers were on a new utility pole. The pole had previously been set in the ground to replace an old pole damaged in an ice storm. The employees were replacing the transformer and moving the overhead power line from the old pole to the new one. To keep the transformer energized while they were working, they connected a jumper between the 2400-volt line and the existing transformer. After they moved the line to the top of the new pole, the employees removed their insulating gloves and stayed on the pole awaiting the arrival of the new transformer, which had just gotten to the site. As one of the power line workers changed his position on the pole, his left outer thigh contacted the energized jumper at or near where it connected to the transformer. He was electrocuted.

A power line worker had attached two conductors (or guys) to the bucket of his aerial lift. As he elevated the bucket over a 19.9-kilovolt overhead power line, the conductors contacted the power line while the employee was touching them. He was electrocuted.

A four-employee crew was setting a new wood utility pole on a single-phase overhead power line. The employees were using a digger derrick and an aerial lift. They used the aerial lift bucket to place line

hose on the phase conductor and to pull the conductor out of the way. The operator of the digger began lifting the pole with a load line, and the ground worker, who was wearing leather gloves, was at the butt of the pole directing it into position. The top pin on the pole contacted the uninsulated portion of the phase conductor, electrocuting the ground worker.

Two power line workers were working in the bucket of an aerial lift. The two employees made contact with an overhead power line and created an electrical fault. The ensuing electric arc apparently ignited hydraulic fluid, and a fire started in the bucket. One of the employees was able to jump free of the bucket. He used a backhoe truck to free his coworker by forcing the bucket down and knocking him out of the bucket. The employee who escaped was hospitalized with burn injuries. The other employee later died of his burns.

A power line crew was replacing a corner pole supporting a three-phase, vertically configured overhead power line. One of the crewmembers, who was wearing leather gloves, was working on the final phase conductor. He was pulling the slack out of the energized conductor when he contacted the extension bolt behind the suspension insulator with his free hand. The employee was electrocuted.

On September 10, 2001, Employee #1 was attaching a piece of pipe to a backhoe when the backhoe contacted an energized 7,600-volt overhead power line. Employee #1 was electrocuted.

On September 4, 2001, Employee #1 and a coworker were attaching a materials basket to the working line of a truck crane that was situated near overhead power lines. Employee #1 was on the ground undoing the straps that secured the basket to the truck crane. The coworker was operating the crane when the boom struck the overhead lines, Employee #1 was touching the truck at the time of contact and he was electrocuted. -----Employee #1 and employee #2 were in the process of attaching a materials basket to the working line of a truck crane. The truck crane was in close proximity of overhead power lines. Employee #1 was operating the crane, the boom contacted the overhead lines, and employee #2 received an electrical shock while on the ground and touching the truck. Employee #2 was undoing the straps which secured the materials basket to the truck crane.

Three employees were working from an aerial lift on a 21-meter-tall steel electric transmission tower. The employees were unable to extend the aerial lift bucket to the area where a grounding jumper was to be disconnected. To access the jumper, one of the employees decided to climb onto the tower. He transferred onto a crossmember on the deenergized side of the tower. His left foot slipped from the crossmember. Although he was tied off to the structure, his left leg contacted a wind brace while his right forearm touched one of the deenergized overhead power line conductors. This conductor was energized by induced current, and the employee was electrocuted.

A power line crew was replacing insulators on a 230-kilovolt overhead power line. Five other circuits ran parallel to the power line on which the crew was working. Two journeyman power line workers on the crew were working from an uninsulated aerial lift. They completed work on the top phase conductor. One of the two employees removed the grounding jumper from the steel arm of the structure before he disconnected it from the phase conductor. He was electrocuted by induced current in the phase conductor.

four-employee power line crew was working on a 13.2-kilovolt (7.62-kilovolt-to-ground) overhead power line. The crew was setting a new 12.2-meter-tall utility pole between two existing poles to take remove slack from a 120-meter span. A power line worker on the crew had elevated the three conductors, with the road-side phase conductor tied to a winch behind him, the center phase conductor

lying across the top of his aerial lift bucket, and the last phase conductor lying in a jib about a meter in front of the bucket. He had placed 2 lengths of 1.8-meter-long rubber insulating line hose on the road-side phase conductor and 1 length on each of the other two conductors. After the new pole was set, the power line worker had released the conductors. He positioned his aerial lift bucket between the road-side and center phase conductors on the north side of the new pole. The power line worker had four armor rods, a tool board filled with hand tools, and coils of tie wire in the bucket with him. The crew supervisor was on the digger-derrick truck, and the other two crewmembers were on the ground. The AWG 1/0 ASCR road-side and center phase conductors were 1.13 meters apart, and the four armor rods were about 1.3 meters long. The aerial lift bucket liner was 552 millimeters wide by 708 millimeters wide by 1.01 meters deep. As the employee was installing an armor rod on the road-side phase conductor, it apparently contacted an uninsulated portion of the center phase conductor. This caused a phase-to-phase electrical fault, which later enveloped the third phase. The employee received an electric shock and burns from the ensuing electric arc. He died with third-degree burns over more than 60 percent of his body.

Employee #1 was working for a contractor that specialized in water, sewer, pipeline, and communications and power line construction. He was standing in the bucket of an excavator, at a height of approximately 4.3 meters, tying conductors together with rope. The operator of the excavator moved the excavator's arm (or boom) next to the conductors, so that Employee #1 could reach them. The arm came in contact with an overhead power line at the top of a pole, and the excavator's arm was now at the potential of the conductor. Employee #1 grabbed a cable television cable, and when he leaned back against the excavator arm, he was electrocuted. His body fell approximately 3 meters to the ground, landing face down.

A power line worker was working from an insulated aerial lift, replacing a wood utility pole. He was wearing a hard hat, rubber insulating gloves and sleeves, and a flame-resistant shirt. He was installing a crossarm on the new pole and moving the conductors from the old pole to the new one. The phase conductors were wrapped in recently inspected rubber insulating blankets and line hose. As the tension was set in one of the phase conductors, the conductor cut through the insulating blanket and contacted a metal mounting bracket for the neutral conductor. This energized the upper part of the old pole. The metal frame glasses the employee was wearing contacted with the energized metal part of the pole. The employee received an electric shock, which caused him to jerk and pull the new crossarm to his chest. He was electrocuted.

A construction firm was building a new underground water line. The company had excavated a 460-millimeter-wide trench to a depth of approximately 1.2 meters. A National Crane hydraulic truck crane (Model No. 455, Serial No. 20636) mounted on a flatbed truck was positioned parallel to the trench to lay the 203-millimeter-diameter pipe. The crane operator was operating the boom from the side of the truck crane closest to the trench (the driver's side). Two employees were in the trench, one at each end of the pipe, as the crane positioned the pipe. The crane operator laid two pieces of pipe in the trench. He used the crane to lift a third pipe from the bed of the truck crane. He lifted the pipe up and over the stakes on the bed of the truck and swung it over to the trench. He raised and lowered the boom and winch several times, as he was positioning the pipe. According to the crane operator, the boom was approximately 0.6 meters away from a 7200-volt (phase-to-ground) overhead power line. One of the employees in the trench was soaping the pipe with a paintbrush in his right hand and the pipe in his left hand. The employee on the other end of the pipe was holding it by its plastic covering. The crane's load line contacted the power line, electrocuting the employee soaping the pipe.

A contractor was constructing a new overhead power line approximately 12.2 meters from an existing 345-kilovolt overhead power line. Two employees were working at a height of 20.4 meters from a two-person platform mounted on a Terex hydraulic crane. They were installing jumpers on the new power line. One of the two employees, an apprentice power line worker, was electrocuted, apparently by induced voltage on the new line.

A power line worker was removing a 10-kilovolt-ampere transformer from a dead-end utility pole. He contacted a 7.2-kilovolt (phase-to-ground) overhead power line and received an electric shock. He also sustained burns over 30 percent of his body. He was hospitalized, but died 12 days later of complications from his burn injuries and sepsis.

A power line crew was replacing a utility pole on an existing 12-kilovolt, three-phase overhead power line. The employees had set the new 15.2-meter pole about 2 meters from the existing 13.7-meter pole. The power line conductors were positioned on hot arms attached to the crossarm on the new pole. A step-seven apprentice power line worker on the crew was working from an aerial lift. As he was using a handline to pull a guy up to install it on the pole, he contacted the center phase conductor with the back of his neck and upper back and received an electric shock. He died of his injuries 2 days after the accident.

A telephone line installer was working from an aerial lift, clamping a new telephone line to a utility pole. A 4000-volt overhead power line passed nearby. The employee contacted the power line, received an electric shock, and fell from the aerial lift bucket, 5.2 meters to the ground. He died of injuries sustained in the accident.

A four-employee crew was assigned to replace hardware on a new pole. One employee went up in an aerial lift. He did not have his rubber insulating gloves with him. He reached around the pole to secure a nut on a threaded bolt and contacted a 7200-volt overhead power line. He was electrocuted.

An employee was holding the load line of a crane as he was unloading some trench boxes from the back of a truck. The load line contacted a 7200-volt overhead power line, electrocuting the employee.

A utility crew was replacing an old utility pole. The supervisor on the crew was guiding the bottom of the new pole as it was moved into position. The top of the pole contacted an overhead power line, energizing a guy attached to the pole. The guy touched the supervisor's arm, and he was electrocuted.

An apprentice power line worker working for a contractor and an electrical engineer working for an electric utility were troubleshooting storm damage so that they could report pending repair jobs. Working in a remote area, the apprentice was electrocuted as he was removing an overhead power line from a damaged utility pole.

A power line worker was working from an aerial lift. He was working on a deenergized transformer. The operating controls for the aerial lift became entangled in a loop of secondary lead conductor, which caused the bucket on the aerial lift to ascend. This crushed and buckled the fiberglass bucket against the transformer. When the bucket was moved away from the transformer, it sprang back into shape, catapulting the employee into a 6950-volt overhead power line. The employee was electrocuted.

Some employees were moving an antenna platform into position so that it could be hoisted onto a 56-meter-tall tower. The metal load line on the hoist contacted a 7200-volt overhead power line, electrocuting an employee on the tower who was taping conductors.

A crane company was unloading tower equipment when the boom of a crane contacted an overhead power line. An employee of another contractor, who was unloading equipment, was in contact with the rigging and was electrocuted.

A second-class power line worker and a ground worker working for an electrical contractor were assigned by their general foreman and foreman to plumb a hot link holding a deenergized line and to spot paint the butt of a utility pole with epoxy paint. Earlier that day, the power line worker had been temporarily assigned to an aerial lift with a 27-meter-long boom. His regularly assigned aerial lift, which had a 14-meter-long boom, had been sent to the shop for maintenance. The power line worker parked the aerial lift directly under an energized 66-kilovolt overhead power line. (The reclosing devices for this power line had been disabled.) Instead of using their 7.3-meter-long fiberglass ladder to access the pole steps and climb the pole, he elevated himself in the aerial lift. He raised the metal portion of the boom into the energized power line and received an electric shock. The ground worker, who was mixing a small can of epoxy paint on the right side of the aerial lift truck with his arms leaning against the side of truck, was electrocuted. The power line worker was hospitalized for his injuries. Four days before the accident, a construction supervisor and a senior engineer for the electric utility owning the line had observed the power line worker performing the same task on a different pole. At that time, he had used a ladder to ascend the pole.

A power line crew had installed a new utility pole. The employees then removed the transformer from the old pole, lowered it to the ground, and installed new connection hardware on it. A power line worker on the crew mounted the transformer on the new pole. When he began to connect the primary on the transformer to the 7200-volt, single-phase overhead power line, he received an electric shock. The crew supervisor heard a buzzing sound, looked up, and saw the power line worker with one hand on the phase conductor and one hand on the jumper to the transformer. The injured employee was slumped in the aerial lift bucket. The other employees on the crew deenergized the line and lowered the bucket. They removed the injured employee from the bucket and administered cardio-pulmonary resuscitation. An emergency medical services team treated the injured employee on site and transported him to a hospital, where he was pronounced dead on arrival. He had been electrocuted. His coworkers found his rubber insulating gloves and leather protectors in the bottom of the aerial lift bucket. The employee had been wearing only leather gloves.

A supervisory employee was installing an overhead fiber-optic communications cable from the platform of a truck-mounted, telescoping-boom aerial lift. With the free end of the cable attached to the platform, he had elevated the platform to the level of the suspension strand. As he pulled the fiber-optic cable from a trailer-mounted reel on the ground through the branches of a tree to attach it to the suspension strand, either his body or the metal platform contacted one phase conductor of a 19.9-kilovolt overhead power line. The employee, who was pronounced dead at the scene, was electrocuted.

A power line worker was working in an aerial lift. He wedged the bucket between a phase conductor and the neutral conductor of a 14-kilovolt overhead power line. While he was working, the bucket became energized, and the employee was electrocuted.

Some employees were replacing a utility pole supporting a 14.4-kilovolt overhead power line. The employees were using two aerial lifts and a Polecat digger-derrick. Two of the employees were supporting and guiding the pole base into the hole. The pole had a ground wire stapled to it and a guy attached. The employees lost control of the pole when it missed the claws of the digger-derrick, and the pole contacted the power line. The guy hit the back of one of the two employees supporting the pole,

electrocuting him. The guy also contacted the calf of the other employee. He received an electric shock and was hospitalized for his injuries.

A power line supervisor was working from an aerial lift, reconnecting a 7620-volt, three-phase overhead power line to insulators on a crossarm on a utility pole. His midsection was leaning against the crossarm, and his elbow apparently touched the middle phase conductor. He was electrocuted.

A journeyman power line worker was removing a pole-mounted 7200/240-volt transformer. He removed and coiled the jumper to primary-side phase conductor. He then operated what he thought was the disconnect switch for the secondary. He removed his rubber insulating gloves and placed his hands on the ungrounded primary terminal on the transformer. The switch did not control the secondary, and the primary terminal was apparently energized by backfeed through the transformer. The employee was electrocuted. He had entry and exit burns on his hands and stomach.

A contractor had erected a 9.1-meter-tall tube-and-coupler scaffold over a manhole for a sewer system. The top end of the scaffold frame on the east end of the scaffold was about 910 millimeters from a 7200-volt overhead power line and about 610 millimeters from a 120/240-volt power line. As an employee was dismantling the scaffold, one of the scaffold members contacted the 7200-volt power line. The employee was electrocuted.

A communications employee was standing in water in a ditch, holding 6-millimeter-diameter, galvanized steel suspension strand. Another employee was working from on a utility pole. The second employee was installing a bracket for the new strand. An existing, corroded bracket on the utility pole broke, allowing the neutral conductor for an overhead power line to contact the 120-volt circuit for a streetlight. The streetlighting conductor then contacted the strand, energizing it. The employee holding the strand, who was not wearing rubber insulating gloves, was electrocuted.

A journeyman power line worker and a first-step apprentice were working from an uninsulated aerial lift, replacing bell insulators on a deenergized, three-phase, 345-kilovolt overhead power line. Steel towers supported the line. The crew had grounded the deenergized line, but had not set up an equipotential zone at the tower at which they were working. The power line worker was electrocuted when he contacted an end of an energized protective ground. The apprentice also received an electric shock when the aerial lift platform became energized. He was hospitalized for his injuries.

An employee was working from the bucket of an aerial lift. He was tying in a new neutral conductor onto an insulator on a bracket on a utility pole. A 13.2-kilovolt (7620-volt phase-to-ground) hot tap was located above the bracket on the same side of the pole. The tap dead-ended about 660 to 760 millimeters from the pole. The employee was not wearing appropriate electrical protective equipment and had not covered the hot tap with insulation. He apparently contacted the tap and was electrocuted.

Two employees were using a Caterpillar 561C sideboom to unload pipe from a truck. The boom was 8.5 meters long. A cable on the sideboom contacted an overhead power line, electrocuting both employees.

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A power line worker was mounting an L bracket on the crossarm of a utility pole. The bracket was going to hold to a cutout for a new transformer. As the employee was tightening the two top bolts on the bracket, he contacted the 7600-volt power line with his neck. He was electrocuted.

At approximately 10:30 a.m. on February 10, 2009, Employee #1 was installing a street light pole at a new bridge being constructed. The light pole contacted a 13,800 volt overhead power line, and Employee #1 was electrocuted.

A crew was replacing a 3-meter by 6-meter metal-frame bridge across an irrigation ditch. One of the employees pulled the crane's load line to reattach it to the southwest corner of the bridge. The boom on the crane or the load line contacted a nearby 7970-volt overhead power line. The employee holding the load line was electrocuted.

A construction company was installing a box-culvert bridge on a highway construction project. An employee was guiding a portable 68-kiloliter Stone Equipment centrifugal sump pump suspended by a crawler crane. The crane's load line contacted a 7200-volt overhead power line, electrocuting the employee guiding the pump.

A crew working on a bridge construction site was using a boom truck to move steel needle beams from beneath the bridge. The tip of the boom contacted an overhead power line. The boom truck operator jumped from the truck and then ran to shut it off. His supervisor jumped in front of him to try to stop him from touching the truck. Both employees received electric shocks, which knocked them to the ground. The boom truck operator was able to roll away. Unfortunately, the supervisor was unable to move and was electrocuted. (The original form did not list the boom truck operator on an injury line.)

Employees were using a crane to move a concrete barrier. The crane contacted a 7600-volt overhead power line, electrocuting an employee who was holding the sling supporting the barrier.

An employee was using a Hydra-Lift HL 1 mobile crane to move a 6.1-meter-long I-beam. When he pulled the load line toward the I-beam, it approached a 7,200-volt overhead power line. Current arced to the load line, electrocuting the employee.

At 4:00 a.m. on April 13, 2006, Employee #1 was operating a Putzmeister Truck-Mounted Concrete Pump, Model Number 36 ES-170, using a radio signal remote control unit. Employee #1 was extending the boom up and out, and it struck an energized 12,000 volt overhead power line. Employee #1 was near the extended outrigger located by the truck driver's door when contact was made to the electrified equipment and was electrocuted. Employee #1 was killed.

On September 16, 2005, Employee #1, a foreman, was at a site where a 350L Caterpillar excavator was lifting a four-cycle Mikasa rammer out of an excavation. The rammer was connected to the knuckle of the excavator bucket with a 20 ft-long metal choker. The boom of the excavator contacted the overhead power lines and, when Employee #1 reached for the rammer, he was electrocuted.

On February 16, 2005, Employee #1 and a coworker were pouring a concrete wall directly under a power line. They dumped the concrete bucket, and the crane's boom went up approximately 3 ft and contacted a 7,600 volt power line. Employee #1 was electrocuted and died.

On November 7, 2003, Employee #1, a laborer with C.A.C. Industries, Inc., was operating a pile driver. The pile driver's boom was picking up a headache ball on the sidewalk when a cable apparently

contacted a 7,620 volt overhead power line. Employee #1 was electrocuted and two coworkers were injured.

On September 17, 2003, Employee #1 and a coworker were working on the replacement of an old bridge. The bridge had been torn down but water had accumulated and needed to be pumped out before new construction could begin. The employees were using an Gehl rough-terrain forklift, model 883, to place a hydraulic submersible 8 in. pump in the water. The pump was attached to a 20 ft 10 in. long by 1/2 in. wide wire rope with an eye on one end that was placed on one of the tines of the fork. The forklift was positioning the pump when it contacted a 7,200 volt overhead power line. Employee #1, who was on the right side of the forklift, was electrocuted. He was pronounced dead at the scene.

On June 5, 2003, Employee #1 was working as part of a blasting crew in New London, WI. He was touching the firing switch on a blasting machine when, during an explosion, one of the wires from the machine was apparently blown into the overhead power lines. Voltage traveled back down the wire to the firing switch, electrocuting him.

On March 19, 2003, Employee #1 and coworkers were relocating precast concrete traffic barriers in the eastbound direction of I-7,6 near mile post 52. A barrier was lifted by a 35-ton RT65 Grove truck crane and was being pushed into position by two laborers on the ground when the crane's line contacted a 7,200-volt overhead power line. Employee #1 was electrocuted. Photographs from the Coroner's Office show burn marks that verify the electric current entered Employee #1 through his hands and exited to the ground through his feet.

On March 10, 2003, Employee #1 and coworkers were working for a company that was making bridge repairs. Mats constructed of treated timbers were stored underneath the 13,200-kilovolt phase-to-phase, 7,620 phase-to-neutral, three-phase power lines. The phases were 32 ft above ground and parallel to the county road. A crane was parked in the road, 20 ft from the roadside phase. One coworker was standing on the timber mats, holding a leg of a 20 ft wire rope sling which was placed on the hook of the load line. Employee #1, who was standing on the ground, was pulling the sling to get more slack. In the process, the crane load line contacted the overhead line. The coworker on the mat was not injured, but Employee #1 was electrocuted. The burned spots on the crane cable were located approximately 15 ft above the hook.

On November 21, 2002, Employee #1 was using a metal bull float with a 19 ft handle to finish a concrete highway slab. As he was working, he raised the float and struck a 17 ft high energized power line. Employee #1 was electrocuted. The accident happened at the end of the day when it was dark, and no temporary lighting was installed. The electric lines, which provided power to a nearby residence, were not insulated.

On October 3, 2001, Employee #1 was walking and working beside a gravel berm box spreader. The box of the dump truck that delivered the gravel to the spreader got too close to an overhead power line and the metal box arced to the overhead line. Employee #1 was electrocuted. A coworker who was riding on the berm box spreader was either thrown off or jumped off it. He was in the path of the energy and sustained minor physical injuries that did not require hospitalization.

A highway contractor was laying asphalt on a state road. A dump truck was moving in front of an asphalt paving machine, dumping asphalt into the paving machine. An employee was walking between the paving machine and the metal guardrail running along the west side of the road. He was adjusting the depth of the asphalt with a crank handle on the paving machine. A 7200-volt overhead power line

ran across the road 6 meters above the ground. No one was observing the clearance between the power line and the dump truck. The dump truck contacted the power line, and the employee, who was touching the metal guardrail, was electrocuted.

An employee of a highway construction contractor was operating a hydraulic crane near an overhead power line. The crane contacted the power line. An employee working for the contractor and an employee working for the crane leasing company were electrocuted.

At approximately 10:30 a.m. on November 7, 2008, Employee #1 a 19-year-old-male with Streitmatter Brothers Economy Builders & Supply Co. Inc, was carrying sheets of metal to a coworker on a ladder when Employee #1 contacted a 7,620 volt electrical line and he was electrocuted. Employee was engaged in the construction of a newly built pole barn. The structure consisted of wooden poles secured to concrete Perma-Columns. Wood trusses were used for the roof and metal sheeting was being laid on the outside of the wood trusses. The piece of metal sheeting which Employee #1 was handling was on the scene and this piece had a burn mark present. The measurement of this piece of roof sheeting measured 21-feet and 3-inches in length and was 40-inches wide. A measurement was taken from the visible burn mark in the electrical line to the ground and was 20-feet and 10-inches. Additionally, a measurement was taken from the corner of the building to the burn mark on the electrical line where Employee #1 was handling the metal sheeting and that measurement was 5-feet and 10-inches. This was a normal routine portion of Employee #1's job and was performed frequently. Employee #1 had been employed as a laborer by this company for one year and had performed this task on previous jobs. The climate daily report from the National Weather Service in Lincoln Illinois indicated that the high temperature for the day was 48 degrees. The highest wind speed for the day was 22-mph and the highest wind gust speed 29-mph. the highest wind direction was out of the West and the highest gust direction was out of the west.

A crane operator was moving a rough-terrain crane with the boom raised to 36 degrees and with the jib extended. As he turned the corner of a building, the crane contacted an overhead power line located 10.1 meters above the ground. As the operator exited the crane, he was electrocuted.

An employer was using an area under a 7.2-kilovolt overhead power line for storage and staging of material. Employees set up a crane under the power line to move some of the stored material. As the crane hoisted a load of material and swung it to the side, the crane boom or load line contacted the power line, electrocuting a laborer who was performing rigging and signaling for the crane.

On March 23, 2007, Employee #1 was working on a site where another company had been hired to install and remove the steel casings and install the rebar assemblies. During the construction of foundation piers for a new building under construction an employee of the subcontractor was drilling pier holes, installing steel casings and reinforcing steel (rebar) assemblies into those casings. While preparing to rig and pick a reinforcing steel (rebar) assembly into a previously drilled 42-ft deep pier hole the crane operator swung the boom into a 7,620-volt overhead power line. Employee #1 was standing near the right rear outrigger when he was fatally electrocuted. An employee of the drilling company who was standing near the left rear outrigger was severely injured and hospitalized.

On December 1, 2006, Employee #1 was riding a forklift, steadying a large panel as it was taken across a job site. He suffered a serious shock when the forklift contacted an overhead 72-kilovolt power line. He was revived at the scene and transported to the hospital. Employee #1 was later transferred to a rehabilitation center, where he died on February 8, 2007.

On July 24, 2006, Employees #1 and #2 and a coworker were replacing a roof at a church. They were using an aerial lift to access the work area. Employee #1, who was also the company owner, was operating the lift and lowering himself and the other two workers from the roof to the ground when he contacted the 7,600-volt A-phase of an overhead power line that was located about 14 ft from the edge of the roof. Employee #1 was electrocuted. Employee #2 and the coworker sustained serious electric shocks and they were admitted to Chester/Crozier Burn Center for treatment of electrical burns. The power line had not been de-energized, relocated, or properly insulated.

At approximately 1:00 p.m. on February 6, 2002, Employee #1, of A. W. Smith III Enterprises, Inc., was standing inside the cage of an aerial lift. He was preparing to mark a large metal sign at different heights to determine if the company was going to install a different type of sign. A coworker, who was also in the cage, was operating the aerial lift. Employee #1 was touching the sign when the cage contacted a 7,200-volt overhead power line located 8 ft 6 in. from the sign. Employee #1 was transported to the hospital, where he was pronounced dead.

On August 24, 2001, Employee #1 and coworkers were engaged in a sewer re-line project. A liner is placed in the existing sewer pipe by elevating a portion of the liner and filling it with water. Head pressure from the water "carries" the liner through the pipe. The liner is then cured with hot water. After the liner is cured the job is considered complete once the liner is cut off at the top of the sewer manhole entrance. Employee #1 was in a non-insulated elevated platform disconnecting lines from the boiler truck and preparing to have the liner cut off at the manhole entrance. He was working in close proximity to a 4000 volt overhead power/line when he contacted the power line and was killed.

On November 16, 2000, Employee #1, age 17 and a co-owner of McDonald Contracting, was installing metal flashing on a building. He was on a metal structure and was pulling up a 20 ft long section of metal flashing when the flashing contacted an overhead 7,200 high-voltage power line. Employee #1 fell 14 ft to the ground, sustaining serious head injuries. His coworker brother immediately came to his aid and summoned the foreman, his coworker father. Employee #1 died at the scene after the arrival of paramedics.

An employee was drilling presplit holes in some rock in preparation for blasting. The employee was working next to a 14.4-kilovolt overhead power line. He apparently contacted the power line and was electrocuted. (The employee had burns on his arms, leg, and abdomen.) The employee was pronounced dead 2.5 hours after the accident.

Two employees were measuring a building. One employee was in a scissor lift, holding a tape measure. The other employee was on a wall of the building, apparently was holding the other end of the tape measure. The employee in the lift raised it to roof level and contacted a 72-kilovolt overhead power line. He was electrocuted. The other employee received an electric shock and sustained burns on his hands and knees where he was kneeling. He then fell 8.5 meters to the ground. He was hospitalized for his injuries.

At approximately 3:10 p.m. on September 19, 2007, Employee #1 was inserting rebar into 8 in. concrete blocks for reinforcement when the rebar he was holding contacted high voltage power lines. He received an electric shock and then fell from where he was working. Employee #1 was electrocuted. Although the company had a written safety program, further investigation revealed that Employee #1 had not been provided training to recognize unsafe conditions or practices in relation to overhead power lines. The company also did not contact the utility company to deenergize the power lines or insulate them from contact when it was reasonably predictable that employees might be exposed to

electric shock or burns. Employee #1 was wearing safety goggles and safety shoes at the time of the accident.

On December 5, 2002, Employees #1 and #2 and coworkers were moving a 106 ft long by 23 ft wide metal building. The path of travel took it under a 14,400-volt power line. At a meeting prior to the move, the employees were directed to stay away from the structure while it was passing under the power lines. During the move, Employees #1 and #2 and several coworkers were inside the building in an attempt to steer the trailer when an antenna on the structure struck the power lines. Employee #1 was electrocuted; Employee #2 received an electric shock, sustaining injuries that required hospitalization.

An employee working from an aerial lift was moving a service drop from an old to a new triplex cable. He raised the bucket on the aerial lift and contacted a 4800-volt overhead power line while he was holding the triplex cable. The employee was electrocuted.

An employee was standing between a welding trailer and a Grove 22.7-metric-ton crane (Model No. TM250). He instructed the crane operator to pull the boom in about 6 meters and swing it around to pick up the welding trailer so that the trailer could be suspended and secured for the night. The boom was extended 20 to 25 meters. The crane operator retracted the boom and rotated it to pick up the welding trailer. As the crane operator rotated the boom, the headache ball dropped and contacted a 7620-volt overhead power line that was located 9.8 meters from the ground. The employee between the trailer and crane was touching the crane and the tongue of the welding trailer. He was electrocuted. (He was pronounced dead at a hospital 55 minutes after the accident.)

An employee working from an aluminum pump-jack scaffold was installing a metal drip edge on the roof of a bay window. As he was handling the drip edge, it contacted a 7.2-kilovolt overhead power line. The employee received an electric shock and fell approximately 7.3 meters to the ground, striking his head against the curb as he landed. Emergency medical services air lifted the injured employee to a hospital, where he died 3 days later of head injuries suffered in the accident.

On October 9, 2004, Employees #1 and #2 were unloading a 32 ft long ladder from a pickup truck. As they were working, they stood the ladder straight up and it contacted a 7620-volt overhead power line. Employee #1 was electrocuted. Employee #2 received an electric shock and suffered serious injury, for which he was hospitalized.

At 1:50 p.m. on November 5, 2010, Employee #1 was installing a new residential gutter system. Employee #1 was working on a ladder near live overhead power lines. While maneuvering a 32-foot metal extension ladder, Employee #1 contacted the overhead power lines, resulting in electrocution. Employee #1 was pronounced dead at 2:54 p.m.

A construction crew was installing metal siding, with radiant barrier insulation, to a large pole-shed-type building at rural site. One of the employees was working from the roof of the building, assisting another worker on the ground. They were installing insulation on the rear of the building. An overhead power line ran above the employee on the roof, 1.5 to 2.4 meters away. The employee shook out the insulation, and it contacted the power line, shocking the employee. He fell backwards and then fell or slumped forward down the roof, falling approximately 4 meters to the ground. The injured worker was still breathing for about 10 minutes before losing consciousness. The employee was transported to the nearest medical facility, which was about 30 minutes away, and was pronounced dead on arrival. The employee had electrical burns on his hands and feet. The employee also sustained trauma and

contusions to the head. (The original form did not indicate whether the employee died of electrocution or from injuries sustained in the fall.)

On August 5th, 2009, Employee #1 was installing roof shingles from a 20 ft. aluminum ladder. Employee #1 came in contact with a 110-120/208 Volt power line and fell from the ladder. Employee #1 died from the electrical shock.

On February 12, 2008, Employees #1 and #2 were erecting a pump jack scaffold when one of the aluminum poles contacted an uninsulated #2 ACSR road phase of a 19.9-kilovolt power line that was 34 ft 11 in. off the ground. Employee #1 was electrocuted and Employee #2 sustained burns to his hands and feet, for which he was hospitalized.

On January 17, 2007, Employee #1 was standing on a 20 ft high scaffold erected next to the chimney on the west side of a new home under construction. An overhead power line ran next to the home, 8 ft out from the chimney and between 3 ft and 5 ft above the scaffold. Employee #1 was inserting a 17 ft 7 in. reinforcing rod down the chimney when he raised the rod and it contacted the power line. Employee #1 was electrocuted.

On July 7, 2005, Employee #1 and a coworker were engaged in siding work at a private home. They were removing an antenna from the side of the home when it contacted a 7,200-volt overhead power line. Employee #1 was electrocuted.

At approximately 10:20 a.m. on April 15, 2005, Employee #1 was working from a ladder to apply stucco scratch coat to the upper northwest corner of a new two-story house. He apparently contacted a 4.8-kilovolt primary electrical wire and was electrocuted, falling approximately 15 ft to the ground. None of the other workers on site witnessed the accident. The electrical wire was visible within 2 ft of the structure's roofline and within 5 ft of the area of wet stucco where Employee #1 had been working. The house was owned by a general contractor, who stated that he had a verbal contract with Employee #1 to plaster the house. It is not clear whether Employee #1 was an independent contractor, but he did not have a valid contractor's license.

At approximately 10:14 a.m. on October 1, 2003, Employees #1 and #2 were positioning a 27 ft tall, Safety Hoist Laddervator, model no. 123, serial no. 16174, on the roof of a house so they could hoist roofing materials. They were lifting the unit when the top of the ladder contacted a 19 ft tall, 7,200-volt overhead power line that was 11 ft from the house. Both employees suffered an electric shock. Employee #2 was killed. Employee #1 was transported to the hospital, where he was admitted for treatment. Neither employee was using any form of PPE. The employer did not have a written safety program and it failed to train employees on the hazards associated with power lines. The workers also failed to maintain a safe working distance from the overhead power lines.

At 12:15 p.m. on December 13, 2002, Employee #1, age 20, was affixing a roof rafter on a house under construction in Clarendon Hills, IL. He was standing on an 8 ft 4 in. tall unfinished garage wall when his hand contacted a 2,400-volt power line that was 5 ft 6 in. above the top of the wall. Employee #1 was electrocuted. It is possible that Employee #1's height of 6 ft 1 in. was a contributing factor. Both age and inexperience were considered causal factors in this accident. The employer was cited for not having a safety program or accident prevention program, for allowing work too close to energized power lines, for having no fall protection plan, and for providing no PPE. The weather at the time of the accident was damp, with light rain.

On December 2, 2002, Employee #1 and coworkers were installing sewer line in a new residential development. He attached a section of pipe to a wire rope choker and attached the choker to a hook on the bucket of a track hoe. He then supported the pipe as it was moved to the trench. He had one hand on the wire rope choker when the boom of the track hoe contacted a 7,200-volt overhead power line. Employee #1 was electrocuted.

On October 19, 2001, Employees #1 and #2 were starting to clean up after completing a fiberglass shingle roof replacement on a two-story single-family home. Earlier in the day, a 28 ft long ladder lift had been placed at a point approximately 9 ft 8 in. from the dwelling. There was also a 28 ft 7 in. high power line located approximately 11 ft in the front of the dwelling. The employees were lowering the ladder left from the 21 ft high eave when the top of the lift contacted the energized 13-kilovolt power line. Employee #1 was electrocuted. Employee #2 suffered burns on his hands, for which he was treated and released. The employer did not have a safety program in effect, and no training was provided to the employees. The employer did not check for the presence of energized lines in the area, and employees were permitted to work in the area where the lift could contact the energized lines.

On November 5, 2010, Employee #1, who was employed by a sand and gravel operation, was delivering a load of rock to an Otoe Missouri Tribal Housing Complex, located at Highway 177 in Ponca City, Oklahoma. Employee #1 arrived at the site and parked his tractor-trailer along one of the neighborhood streets to remove the tarp from the load. As Employee #1 was using a manual crank to removing the tarp, the metal bow of the tarp reel came in contact with overhead power lines. Employee #1 was electrocuted and killed.

On November 11, 2008, Employee #1 with Hookup and Pipeline Construction Inc, was working with a coworker and had been tasked with removing a thirty foot aluminum extension ladder from the storage rack of the pickup type truck that had been used to bring the ladder to the job site. In doing so, the ladder was slid to the rear of the truck and the portion that extended over the rear of the truck was tilted to the ground. As the remainder of the ladder was removed from the truck it tilted up and contacted a high voltage line that had been damaged by Hurricane Gustav on August 25, 2008. The aluminum ladder contacted a 7,620-volt power line and electrocuted Employee #1. The height of damaged high voltage line was approximately twelve feet at the time of the incident.

The crew was picking up some water pipe after concluding the hydrostatic testing of a new natural gas pipeline. The truck crane (National Crane Model Number 900A) was on a bridge, and the operator was lowering the hook to the men on the ground. Employee #1, who was on the ground, grabbed the truck crane's hook to connect to a water pipe, just as the crane's boom made contact with a 22,000-volt overhead power line. Employee #2, on the ground, pushed Employee #1, breaking contact, but Employee #2 was shocked and hospitalized overnight. There were three other men on the truck crane, and additional men standing near the crane's outriggers, and additional men on the ground and in water who were not injured. The employee designated with spotter responsibilities was on the bed of the truck, busy tying down other equipment, and there were no other designated spotters standing directly under the power line to gauge the distance of the boom to the overhead power lines. Employee #1 was killed.

On February 19, 2008, Employee #1 was working as a rig hand. He was "rigging up" (setting up equipment) to service a well. As his coworker, the rig operator, was lifting the mast, it came into contact with an outside phase conductor on an overhead power distribution line. The rig and the sand line, which Employee #1 was holding, were energized. The coworker called for emergency assistance, and

CPR was administered to Employee #1. The coworker went to the main road to meet and lead emergency vehicles into the site. A medical airlift helicopter was also dispatched to the accident scene. Employee #1 died at the accident site. He had been electrocuted.

At approximately 10:15 a.m. on July 31, 2007, Employee #1 was a swamper and was assisting in the installation of an annular on the top of a blow out preventer. The pole truck driver moved forward while Employee #1 provided signals. The pole truck entered a portion of the road with an incline below an overhead power line. The pole on the pole truck contacted the 17,000 volts overhead power line. When the right rear dual tires on the pole truck began to smoke, Employee #1 went to the back of the truck to investigate. He was focused on the tires and did not look up at the pole or wires. The annular arc hit Employee #1. He fell to the ground and his left hand fell on the energized safety chain at the back of the truck. Employee #1 was hospitalized at the University Medical Center, Burn Unit, until he died on August 9, 2007.

On April 13, 2005, Employee #1 was working as a truck driver and crane operator for a gas well service company. He went to a storage yard to load pipes onto a truck to haul them to a gas well for maintenance work on the well. The truck had a crane mounted on it for moving the pipes. Employee #1 parked his truck underneath some overhead high-voltage power lines. He raised the boom of the crane to move a load of pipes to the truck bed, and the boom came into contact with the power lines. Employee #1 was electrocuted.

An employee was working in the oil and gas field services industry. He was holding onto an all-metal pole dolly that was being held suspended by a boom truck. He was holding the dolly to stabilize it as the boom truck was being backed up. An A-frame member of the boom truck came into contact with an overhead power line energized at approximately 14,400 volts. The employee was electrocuted.

On August 20, 2003, an employee working in a six men crew including the supervisor were setting up a mobile derrick at a well site in an East Texas pasture when they raised the derrick into the 12,500 volt distribution line. Only one lead was contacted, delivering approximately 7490 volts through the entire truck and derrick. One man stood on the truck bed operating the controls while four other men, one at each corner, searched the tall grass for anchor-eyelets used to secure the guy wires. As the raised derrick made contact with the power line, employee had a guy wire in his hands and the other coworkers did not. The employee stood between the power source and the ground, and was electrocuted. One coworker nearby stood on the ground and felt some electrical shock but apparently did not have enough grounding to attract a significant current. Another coworker who stood on the truck bed metal floor operating the controls said he felt nothing, probably because he was not between the source and the ground but only in contact with the source. Another coworker was apparently too far away from the activity to receive contact. After contact, the distribution line broke and left burn marks on the ground. The employee was taken by field truck to the local hospital where he was pronounced dead.

On July 8, 2002, Employees #1, #2, and #3 were, rigging down the well service mast boom on a truck. Employees #1, #2, and #3 had just installed a new push rod on the oil well. As the vehicle mast was being lowered to the truck, the mast boom came with 10 ft of an overhead power line carrying 7200 volts. Employee #1 was controlling the steel cable lines at the rear of the truck, when the steel cable lines contacted the power line. Employee #1 was electrocuted. Employees #2 and #3 were operating the brake and clutch on the side of the truck suffered unknown injuries. Employees #2 and #3 were taken to the hospital where they were treated released.

Employees #1 and #2 were operating an oil well pulling/drilling unit (gin pole truck) to pull an oil well. After they finished pulling the well, Employee #1 got into the truck, moved it forward approximately 15 feet, and got out of truck. He went to the back of the truck to operate the winch and brake to start lowering the truck's boom. Employee #2 was pulling and holding on to the boom cables, to keep the tension on the cable, while the boom was being lowered to prevent the cables from becoming tangled in the winch. The boom was 3/4 of the way down into the cradle when the boom contacted a 7,200-volt overhead power line. Employees #1 and #2 were electrocuted.

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An employee was standing on the structure of an oil well work-over rig. The employee was using a board to prevent a 7620-volt overhead power line from being caught by the rig. (He had been instructed to place the board on top of the rig.) As the employee was using the board to guide the grounded neutral conductor over the rig's highest point, he contacted the phase conductor and was electrocuted.

Employee #1 was transporting a cement head device suspended from a chain and secured to the forks of the rough terrain forklift vehicle. While transporting the device, the forklift made contact with the overhead power lines which were operating at a voltage of 12,800 volts and were suspended 26-ft 8-in. above the ground. Employee #1 suffered an electric shock and was killed.

On July 29, 2004, coworker #1 was using a fork truck, traverse lift, to retrieve a 4-in. HCR valve. Coworker #2 was holding the electrical line up so the fork truck could get closer. The electrical line, 110 volts, was connected from the water pump used to cool the mud pumps to the electrical trailer. Coworker #2 let the electrical line down contacting the top of the boom on the fork truck. Employee #1 was unhooking a chain on the fork truck to retrieve the HCR valve and was electrocuted. The two coworkers received electrical shocks, but they were not injured.

On December 5, 2006, Employee #1 was raising a derrick into position when the derrick contacted a overhead power line. Employee #1 was electrocuted.

On October 1, 2001, two employees were electrocuted while erecting a flagpole on the grounds of their workplace. The flagpole came into contact with an overhead power line energized at 14,400 volts.

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At approximately 9:30 a.m. on January 2, 2007, Employee #1 was operating a Grove Hydraulic Crane, lifting a 40 ft long I-beam onto the bed of a tractor trailer. The wire rope from the extended boom contacted a 13.2 kVA overhead power line. He received an electrical shock, which knocked him to the ground and sent him into cardiac arrest. Employee #1 died.

At approximately 11:25 a.m. on October 5, 2011, Employee #1, an employee of All Tree Services, was performing tree trimming duties while suspended by a safety belt in a tree approximately 15 ft high. A coworker on the ground handed Employee #1 a running STIHL gas powered telescoping pole saw. As soon as Employee #1 touched the saw, his body went limp and he fell backwards hanging from the tree. The Brenham Police and Fire Departments responded to the accident and transported Employee #1 to Scott & White Hospital-Brenham, where he was pronounced dead at 12:22 p.m. The cause of death was suspected to be electrocution due to touching overhead power lines.

On August 28, 2010, Employee #1 was removing and trimming tree in a residential area. Using a boom truck, he positioned himself near a delimbed tree to place a cable around the limb. The limb was located by 2400 volt overhead power lines. As he raised the basket approximately 27.33 ft, he contacted the power line and received an electrical shock. The employer used the controls on the boom truck to lower him and the basket. Emergency medical personnel were summoned and found him in cardiac arrest. He was transported to a hospital where he was stabilized. Employee #1 was then transferred to a medical center, and underwent additional medical procedures. He died nine days later.

On August 9, 2010, Employee #1, a 30-year-old tree service company worker, was trimming tree limbs away the service feed (power line) going into a customer's home. While in the basket of the truck-mounted aerial lift, at 25 feet above ground, Employee #1 pulled the chain saw out of the cradle holding it. The chain saw made contact with the energized power line, and Employee #1 was immediately electrocuted. Once the basket of the lift was lowered to the ground, a fellow tree trimmer tried CPR. However, attempts to resuscitate Employee #1 were unsuccessful. Reportedly, Employee #1 was dead when EMS (emergency medical services) personnel and the coroner arrived at the accident scene. Weather conditions were extremely hot but favorable on the day of the accident. The temperature was 95 degrees, with a heat index factor of 105 degrees (apparently Fahrenheit). The sky was clear, and no wind was blowing.

Employee #1, a 29 year-old-male, was a person hired to trim trees in the front yard by the homeowner. Employee #1 struck an overhead energized power line with a metal pole and was electrocuted. Employee #1 was to be paid in cash by said homeowner and the dollar amount for the job was \$300.00. OSHA determined that it did not have jurisdiction for this incident.

On October 31, 2008, Employee #1 was trimming a tree at a jobsite in the backyard of a private citizen. Two employees were on the site. Employee #1 was in the tree as a coworker stood on the ground. Employee #1 was attached to the tree at a height of approximately 20 ft. He was using an aluminum extension pole (approximately 12 ft in length) with a mechanical cutting device for trimming tree limbs. The cutting device pole was made of aluminum. There was plastic at the ends of the cutting tool; however, the plastic grips were not made to insulate the tool from electric shock. As he trimmed the tree, Employee # 1 contacted one of three uninsulated electrical power lines. The electric current caught his clothing on fire. The lines carried 72,000 volts phase to ground, and the one, he contacted was 12,470 volts phase to phase. Employee #1 was pronounced dead at the scene due to electrocution.

At approximately 10:55 a.m. on September 8, 2008, a landscaper was trimming a palm tree in front of a private residence. The employee was standing at the top of a 20-ft aluminum extension ladder, cutting the fronds. There were overhead power lines on the sidewalk that ran parallel to the palm trees. The overhead power lines were approximately 6 ft from the tree he was trimming. As the employee was cutting one of the fronds, the frond contacted the power line, electrocuting the worker.

On January 23, 2008, Employee #1 of Asplundh Tree Expert Co. was electrocuted when he came in contact with live power lines at the pole. His task was to trim tree limbs away from the lines and no limbs were in proximity to the pole.

At approximately 4:15 p.m. on August 28, 2006, a 43-year-old owner of a company, which had been incorporated for approximately two months, was in a tree, cutting branches off and lowering them to the ground. The sole company employee, whom the owner spoke primarily Spanish to, was on the ground. When the owner threw a branch down to his employee, it struck a 7,200-volt power line, causing it to come back and strike the owner in the chest. The owner grabbed the branch as it struck him, and he was killed, when electrocuted through the hand and chest. It was unknown if the owner had previous experience or was trained in tree trimming. He was wearing fall protection during the operation. The company did not have a safety program. It was raining at the time of the accident and had been raining for most of the day.

On July 25, 2006, Employee #1 was positioning himself in a tree, near a power line, in order to cut branches out of the tree. Employee #1 apparently contacted a power line (7,620 "Volts to ground") that was 33 inches from the tree, while rigging his positioning gear. Employee #1 was electrocuted and killed.

On May 17, 2006, Employee #1 was in the process of conducting a tree trimming operation on a residential property. While in the tree, he made contact with the overhead power lines rated at 4800 volts. Conditions were that it had rained the night before and the pine trees were still wet. He was electrocuted and died.

On August 22, 2005, Employee #1 of Francisco Lawn Service & Lands, was trimming branches of a tree. While trimming the branches he was approximately 35 feet in the air and tied with a rope to the tree. After cutting a branch with a machete the branch came into contact with a 14.4 kV power line. Employee #1 was killed.

At approximately 10:30 a.m. on June 24, 2005, Employee #1, with Asplundh Tree Expert Co., was trimming a tree in the backyard of single-family residence. He was approximately 15 to 18 ft above ground using an 11-ft-long wooden pruner. Employee #1 had tied himself to a limb with a harness before starting to trim branches that were near the top of the tree. Energized 12000 volt power lines ran over the house between two power poles. A foreman was working on another tree located about 25 ft away in the same backyard. When he heard Employee #1 call for him, he descended and saw smoke coming from the tree where Employee #1 was working. When the foreman began to ascend this tree, he sustained an electric shock. Emergency responders were summoned. Employee #1 was electrocuted.

On May 12, 2005, Employee #1, a crew leader/climber for a power line-clearing/tree-trimming team, had climbed up into a tree and had cut several small branches. Employee #1 climbed higher and was cutting another branch. When he cut halfway into the branch, the branch fell on top of the 7,600-volt power line that was next to the tree. Employee #1 attempted to pull the branch off the power line with a pruning pole. He told the ground-man he was going to need another part of a pruning pole to finish pruning the limb draped over the power line. At that time, Employee # 1 stated that he couldn't put his gaffs (the climbing spikes attached to his boots) into the tree because the tree was "hot." The tree that Employee # 1 was in apparently became electrified by the power line. Employee # 1 then calmly said, "oh no." At that time, Employee # 1's body began to shake and tense up from electricity. The ground man stated that he started yelling at Employee # 1, in an attempt to get him to respond. Employee # 1 did not respond to his yells, and the ground man observed Employee # 1 hanging lifeless from the tree.

Apparently, Employee # 1 was electrocuted and killed by the pruning pole contacting the overhead power line.

On May 3, 2005, Employee #1 was standing on top of a ladder, while trimming a palm tree with an extended aluminum pole pruner. The pole pruner contacted an energized overhead power line near the top of the tree, causing Employee #1 to be electrocuted and killed.

At approximately 8:00 a.m. on February 20, 2004, Employee #1 of Asplundh Tree Expert Company was working from a bucket conducting line clearing operations of a 25 kva phase to phase line, was trimming a tree with a pole saw. Employee #1 came in contact with the power lines and was knocked unconscious leaving him touching two of the three phases of the power lines. Employee #1's clothing was on fire and the power lines were arcing across his body. A coworker on the ground signaled to a deputy sheriff, who was in the area, for assistance and the sheriff called for Emergency Medical Services (EMS.) The sheriff and the coworker removed the bucket from the power lines by using a long wooden hot stick to operate the truck's controls from the ground. Once the bucket was cleared, the sheriff retrieved a fire extinguisher to put out the fire that had engulfed Employee #1 in the bucket. The sheriff exhausted his fire extinguisher and requested the coworker to get the one from the truck. The fire extinguisher from the truck was empty. A nearby maintenance worker gave the sheriff another extinguisher to finish putting out the fire. Employee #1 regained conscience during this time and began to thrash around. Emergency Medical Technicians (EMT) arrived on the scene; it took several people to get Employee #1 out the bucket. Employee #1 was transported to the North Hampton High School football field to facilitate Nightingale service to transport him to Norfolk Sentara General Hospital. The Nightingale EMT took control of Employee #1 and transported him to the hospital at approximately 8:30 a.m. Employee #1 died from his injuries on February 24, 2004.

On November 30, 2003, an employee had climbed a tree to cut off a large limb, which had been secured with a rope. When he cut through the limb, it swung downward onto a nearby overhead power line, making contact with the power line and transferring about 20,000 volts of electricity through the employee's body and killing him.

On October 11, 2003, an employee and the company owner were engaged in tree trimming activities. The 1983 GMC truck mounted aerial lift that was utilized, touched a overhead electrical line and energized the truck. The employee was standing on the ground, assisting the company owner who was in the basket of the aerial lift cutting branches. The employee was electrocuted when he made contact with the truck.

On July 29, 2003, an employee was removing web worms from pecan trees with the use of a pruner pole. The employee was approximately 30 ft up in a pecan tree with power lines in close proximity. The employee had the pole pruner tool fully extended when he snipped off a limb and accidentally lost control of the pruner tool. The tool made contact with the power lines adjacent to the pecan trees. The employee was electrocuted.

An employee was working in a tree that had branches close to overhead power lines energized at 7,200 volts. At some point while he was in the tree, the employee or tree branches he was touching came into contact with the power lines. He was electrocuted.

At approximately 5:42 p.m. on March 12, 2003, an employee was part of a tree trimming crew working at a private residence in Tampa, FL. A 32-foot aluminum extension ladder was leaned against a tree to provide the trimmer with access. As he removed the ladder from the tree, the ladder came into contact

with an overhead power line energized at 7,620 volts. The employee was transported to Tampa General Hospital in Tampa, FL., where he was pronounced dead at 6:31 p.m. The medical examiner determined that electrocution was the cause of death.

At approximately 8:07 a.m. on September 18, 2002, Employee #1 and a coworker were replacing ornamental trees with a Terex truck crane. The trees were lifted directly over nearby power lines. During the lift, the wire mesh covering the roots of a tree contacted the power line and energized the crane. Employee #1, working at ground level, received an electrical shock and died on October 14, 2002.

On May 29, 2002, Employee #1, a crew foreman in charge of tree trimming who directed the activities of two other employees, climbed onto a 40-ft rubber tree to begin tree trimming activities. Employee #1 was approximately 15 ft from an overhead 7,200-volt primary power line and transformer. As Employee #1 was moving around to ascertain where his next cut would be made, he either stepped down upon or pushed down on a branch which was adjacent to the power line. The branch end made contact with the power line, resulting in Employee #1's electrocution.

On December 5, 2001, Employee #1, a 29-year-old male, a groundsman with Scott Service Corporation a tree trimming company that was hired by BGE to clear their electrical lines of branches and other vegetation. Employee #1 was working as part of a ten-man crew, which consisted of the two employees on traffic control; two employees as boom truck operators or trimmers; two foremen, a climber who was "monitoring" the work; and three groundsmen which included Employee #1. The groundsmen were to wait for the limbs to be cut and fall to the ground and then go in and pull out all of the downed limbs and branches and pile them up so they can be put into the wood chipper. The crew arrived at the work site and set up the two boom trucks and then partially blocked off the eastbound lane of the road. Two flagmen were placed for traffic control. Boom truck number 1 was set up by a weeping willow tree. The outriggers were put in place and the grounding rod was attached at the rear of the truck. A wood chipper was connected to the rear of the boom truck. Boom truck number 2 was set up by a mulberry tree with the outriggers in place and the grounding rod installed. The operator of boom truck number 1 got in the bucket and raised the boom and moved it into place at the weeping willow tree. The boom arm was positioned like "an upside V". The boom arm was approximately 30-feet to 33-feet above the ground and 2.33-feet above 13,200 kilovolts electrical lines. After approximately fifteen minutes of trimming the "C Phase to Ground" electrical wire or line, located approximately 28-feet above the ground, a wire came into contact with the boom of Boom Truck Number 1. It contacted a wire on an area on the boom that was not insulated. When the wire made contact there was a ball of fire around it for a brief period of time until the operator pulled away from the electric line and the fire stopped. The operator or trimmer was not injured. However, when this operator looked to the ground, he saw Employee #1 down on the ground by the wood chipper. Apparently the electric wire contacted the boom as well as the grounding wire. The grounding wire was connected approximately one-foot to the right of where the wood chipper was connected to the rear of Boom Truck Number 1 and Employee #1 was just standing by the rear of the wood chipper that was attached to Boom Truck Number 1 with his right hand touching the wood chipper. According to the operator of Boom Truck Number 1, he had finished trimming in one area of the weeping willow tree and was ready to move to the next section that needed trimming in this tree. As he looked to his right for the boom basket controls he noticed that the electrical lines below him were bouncing. He yelled down to the groundsmen to stop doing whatever was causing the electric lines to bounce. Within seconds of yelling to the groundsmen and before he could move the bucket and boom arm, the lines bounced high enough and made contact. The two foremen and the climber had been standing back behind Boom Truck Number 2 talking about the job and watching the work of both trimmers. The two foremen who were monitoring the work should have

been able to notice that the groundsmen were pulling on the down limbs while the trimming was going on, which was against company policy. If they were watching closely they should have been able to see the bouncing wires. Whether they would have been able to warn the operator before the contact is not known. For whatever reason these three employees failed to notice that two groundsmen were pulling on fallen limbs and branches. Apparently the act of pulling on these downed limbs and branches by the groundsmen had caused other small trees and branches to move, making all of the cable TV, telephone, and electric lines bounce. They bounced high enough that one of the electrical lines contacted Boom Truck Number 1. Employee #1 was just standing by the rear of the wood chipper that was attached to Boom Truck Number

The owner of a tree trimming company and two of his employees were performing line clearance tree trimming work. The company owner was in the insulated bucket of a bucket truck, and his two employees were on the ground picking up downed branches and putting them through the chipper. The uninsulated knuckle between the upper and lower portions of the truck's boom came into contact with the overhead power lines. One of the employees on the ground grabbed the driver's door in an attempt to move the truck, and the other employee on the ground grabbed him to pull him away. One employee received an electric shock, for which he was hospitalized, and the other was electrocuted.

A worker for a tree trimming company, in order to prune some dead limbs, climbed a tree and tied himself off. As he worked, his chain saw apparently contacted a single-phase conductor energized at 7,160 volts AC, but without drawing an arc. Apparently, he continued to work, and then he backed into the 7,160-volt conductor, with the line contacting him across the back of his shoulders. The exit wounds appeared to be along the insides of his knees, indicating that he might have been bracing himself at the time of contact. He was electrocuted.

A tree service employee had climbed an aluminum ladder that had been placed against the tallest of some palm trees located on the northwest side of the backyard of a house to cut its branches. Apparently one of the branches made contact with an overhead phase conductor energized at 7,600 volts. Current went through the branch, the employee, and the extension ladder and entered the ground. The palm tree that became part of the circuit was located 4 feet, 5 inches from the overhead power line. The employee was transported to the hospital, where he was pronounced dead. He had been electrocuted.

Employee #1 was working for Evergreen Tree Service, trimming a palm tree in the backyard of a private residence. He had climbed about 10.7 meters up into the tree and was using a chain saw to cut the branches. He was wearing a body belt, and he was tied to the tree. A 12-kilovolt (phase-to-phase) overhead power line was located 10 meters above the ground and 2 meters south of the tree. Two coworkers were also present. One was on the ground, supervising the tree trimming, and a second was picking up cut branches that had fallen on the ground. Employee #1 had cut one last branch from the tree, but when it came down, it stopped with one end on his left leg and the other on one of the phase conductors of the overhead line. When the falling branch touched the power line, Employee #1 received an electric shock, and his body became stiff. The coworker supervising the trimming pulled on the rope attached to Employee #1's waist. This action dislodged the branch, but Employee #1 was still tied to the tree and could not fall. The coworker used a ladder and his tree climbers to climb the tree, reach Employee #1, and lower him to the ground. Emergency medical technicians arrived a few minutes later. They performed cardiopulmonary resuscitation on Employee #1 and transported him to Pomona Valley Hospital, where he was pronounced dead. He had been electrocuted.

Employee #1 was working for a firm that provided tree service, trimming trees at a residence. He was in a tree, approximately 6.1 to 7.6 meters high, where he was clearing tree limbs that were within 3 meters of an overhead power line. The tool he was using was on a 3.7-meter aluminum pole. Current arced from one of the conductors to the aluminum pole, and Employee #1 was electrocuted. He fell from the tree, but his body was suspended by his body harness.

A line-clearance tree trimmer was working with a ground worker and a supervisor, performing a line-clearance tree trimming operation. At about 10:25 am, the crew went to a new area. The tree trimmer parked his aerial lift truck below a 13-kilovolt overhead power line, and the supervisor parked his truck behind the aerial lift truck. The supervisor and ground worker placed traffic cones. Then, the ground worker started the auxiliary motor powering the aerial lift and outriggers. He lowered the outrigger on the passenger side of the truck, and the supervisor lowered the outrigger on the driver's side. The tree trimmer climbed into the aerial lift bucket and began elevating it. The supervisor went to fill a chainsaw with gasoline and did not watch the tree trimmer. The ground worker stood about 1 meter from the passenger-side outrigger and watched the tree trimmer. The tree trimmer was facing the aerial lift controls without watching the overhead power line, which was located behind him. He contacted the phase conductor with his head as his lower back contacted the neutral conductor. The ground worker warned the tree trimmer just before he contacted the power line, but it was too late. The tree trimmer was electrocuted. The tree trimmer and ground worker had not been fully trained regarding their respective job assignments. Additionally, the supervisor did not conduct a job briefing for the new location.

A 32-year-old line-clearance tree trimmer was trimming a cherry tree away from a 4160-volt overhead power line. The trunk of the tree had a diameter of approximately 610 millimeters. The employee was in the tree, approximately 9.1 meters from the ground. As he was ready to descend, the tree began to move toward the power line. He called for help, and coworkers pulled on the tail rope to try to pull him away from the power line. However, the line-clearance tree trimmer contacted one of the phase conductors and bounced away. As the coworkers tried to pull him in the other direction, he fell back onto two phase conductors that were 762 millimeters apart. He contacted one conductor on his left leg beneath the knee, severing it at that point, and the other behind his neck and shoulder. He was electrocuted.

Employee #1 was working as a point worker, clearing debris for another employee. The second employee was driving a tractor, cutting underbrush to clear the right of way for a 7200-volt overhead power line. Employee #1 moved a guy toward the power line. Slack in the guy allowed it to contact the power line. Employee #1 was electrocuted.

Some employees were performing a line-clearance tree trimming operation. Two of the employees were felling a tree. One of them was cutting the tree; the other was in an aerial lift, pushing the tree in the direction they wanted it to fall. When the employee on the ground made the back cut, the tree spun and fell across a 7200-volt overhead power line. The power line separated, and apparently fell onto a third employee, who was standing nearby. He was electrocuted.

On September 19, 2011, Employee #1 was pressure washing the exterior of a 30-foot-high to 35-foot-high silo in Woodland, WA, and he contacted a high-voltage line that was located 5 feet from the silo. Employee #1 was electrocuted. No one witnessed the event, but the employer had only stepped away for a minute to get a tool. Upon returning, he saw Employee #1 slumped in the basket. The employer

lowered the basket and performed CPR. Thirty-five minutes later, Employee #1 was pronounced dead at the scene.

On June 30, 2004, Employee #1, a 21-year-old tree trimmer with two years of experience in the trade, was working for his employer, an unlicensed contractor engaged in tree trimming. Employee #1 was assigned to trim an elm tree at the site address. He was in the elm tree, at an approximate height of 21 feet, and was possibly removing a cut branch from that tree. A coworker who was working on the ground heard a moan. He looked up and saw Employee #1 in a bent position on his side and supported by his safety belt. The coworker called Employee #1 several times, but he did not respond. He then called another worker, Employee #1's brother, who was loading branches onto a truck. The coworker asked Employee #1's brother to bring him a ladder to go up in the tree and find out what was going on. Apparently, Employee #1's brother responded quickly. Both workers went up the tree and found Employee #1 unresponsive. They cut the lanyard that was holding Employee #1 and brought him down. The workers asked for someone to call emergency medical services. Los Angeles County sheriff and paramedics responded to the call. Employee #1 was transported to San Gabriel Community Hospital, where he was pronounced dead. Apparently, Employee #1 contacted a 16-kilovolt power line with a branch. Employee #1 had wounds showing that electricity entered through his leather gloves, between his index and thumb fingers, and exited through the back of his right and left leg. The casual factor leading to the accident was Employee #1 standing within six feet from the high voltage power line. The Los Angeles County Sheriff's Office reported the accident.

A company was removing trees, some of which were near an overhead power transmission line energized at 69,000 volts. The phase conductors were supported by wooden poles. One tree was felled onto the line, and its weight caused the ceramic insulators attached to the phase conductors to break on two poles. At least one conductor fell onto a parked wood chipper in the vicinity of three workers. One employee was electrocuted, and two employees, who received electric shocks, were hospitalized.

An employee was trimming a tree. When he cut a branch with a power saw, the branch fell into an overhead power line, electrocuting the employee. (The employee was the son of the family who owned the business.) He had been using a body belt and lanyard as fall protection.

An employer was moving his office to a new location. Three employees were removing an antenna from the side of their employer's old office so that it could be moved to the new one. The hollow antenna mast was 12.5 meters long and grounded to a metal pipe by the side of the building. The employees decided to try to avoid hitting the trucks parked on the company parking lot. A 4800-volt, single-phase overhead power line and a secondary power line ran along the opposite side of the house. One employee removed the device securing the antenna to the wall of the building, about 4.6 meters above the ground. Another employee, who was on the ground, started walking with the mast. The antenna contacted the 4800-volt power line, fell, and eventually came to rest on the secondary power line. The employee on the ground, who was holding the bottom of the antenna mast received an electric shock, lost consciousness, and fell, striking his head on a concrete slab behind him. Current passed through him until the fuse on the power line opened the circuit. (Electrical burns were found on his right foot but not on his hands.) The employee on the roof, who had also been holding the antenna, was not burned. (The original form did not state whether or not he received an electric shock.) The third employee received an electric shock when he tried to push the victim away and was himself thrown away. (This employee was not listed on an injury line on the original form.) After a short delay, this employee called for help. The electric utility, the police, and emergency medical services responded. The

rescuers administered cardio-pulmonary resuscitation to the unconscious employee to no avail. He died of electrocution.

At approximately 11:21 a.m. on November 16, 2005, Employee #1 was cleaning dirt from the inside of a metal irrigation pipe. When Employee #1 raised the pipe in an attempt to force the dirt out, the pipe made contact with an overhead power line. Employee #1 was electrocuted.

On July 8, 2004, Employee #1 was placing a metal ladder upright against a tree, across from an overhead power line. The ladder began to fall, and when Employee #1 grabbed the ladder, the ladder's weight caused him to walk backwards. As Employee #1 attempted to steady the ladder, the ladder contacted the overhead power line and caused Employee #1 to be electrocuted and killed.

At approximately 10:58 a.m. on March 18, 2003, a worker was on a harvester picking avocados in an orchard located in the hills of Moorpark, CA. He was an employee of Rodeo's Farm Labor. The facility was a large avocado orchard, and the worker was harvesting avocados. He was using an 18-foot aluminum ladder, and he was working under high-voltage power lines that were 18 to 24 feet above the ground. When he lifted the ladder into the air to adjust his position or move to another tree, the ladder came into contact with the overhead power lines. He was electrocuted, with an entrance wound on one hand and an exit wound on one of his feet.

On December 13, 2001, Employee #1, a 24 year-old male laborer, with Keyawa Orchard Inc, that grows walnuts, was pruning walnut trees using a pruning tower. This pruning tower is called a tree squirrel. Employee #1 was standing in the work basket on the pruning tower arm, which is raised up and down by a hydraulic cylinder. Employee #1 had finished pruning a row of walnuts and was to go to another row of trees. Employee #1 raised the pruning tower basket to an up position and contacted a high voltage power line. Employee #1 was killed instantly.

Some employees were harvesting oranges in an orange grove. They had finished the south side of the grove and were working at the north side. After picking the oranges, employees would dump them into large plastic tubs, which were loaded onto a field citrus loader. The operator of the loader left the south side of the grove. He drove west down a dirt access road and turned between the last two rows of orange trees on the north side of the grove. When he turned, he saw on his left the guy for a utility pole. The pole was located in the east row of orange trees to the right of the operator. The operator stayed tight to the east side so that the boom of the loader would miss the guy. However, the boom caught the guy, and the pole snapped in two. The top of the pole, with attached transformers and overhead power lines, fell to the ground through an orange tree on the east side of the loader. An employee was working at the tree onto which the top of the pole fell. Either the falling pole hit the employee, or he tripped and fell onto one of the power lines. His son, who was working next to him, found his father lying on his back on top of the downed power line, calling for help. The son received an electric shock when he grabbed his father's hand to pull him up. The son was able to pull his father off the line with a nonconductive object, but to no avail. His father was electrocuted. (The employee who received the electric shock was not listed on an injury line on the original form.)

At approximately 8:15 a.m. on August 4, 2006, Employee #1 was standing on the ground, while operating the lift controls located inside the truck cab of a JLG lift. Employee #1 was electrocuted and killed, when the boom of the lift that he was operating made contact with an overhead power line, which had a phase to ground voltage of 19,920 volts.

An employee was picking up irrigation pipe in an orchard. As he was loading the pipe onto a trailer, a section of pipe tilted up and contacted overhead power lines. The employee was electrocuted.

An employee was harvesting avocados. He was using a 6.1-meter-long fruit-picking metal ladder. A 12-kilovolt overhead power line that was about 6.2 meters above the ground ran through the avocado grove. As the employee was moving the ladder from one tree to another, the ladder contacted the power line. The employee was electrocuted. The employer had not warned employees of the hazards posed by the power line before they started to work.

At approximately 9:30 a.m. on August 27, 2001, Employee #1 was using a Caterpillar tractor to remove old orange trees. The front bucket broke a galvanized wire that was located on the last utility pole in a line of poles, where the overhead power transmission lines end. When the wire broke, the release of its tension pulled its loose end upward approximately 24 feet. The loose end was carried over one of the energized overhead conductors and ended up hanging near ground level. Employee #1 dismounted his tractor and grabbed the galvanized wire to move it away, not knowing that it was wrapped around the energized conductor. He was electrocuted.

An employee was operating a pruning machine being pulled by a John Deere farm tractor. The pruning machine had three horizontal saw blades mounted on a mast, to perform horizontal cuts on orange trees. The employee was told to cease the cutting operation by 3:00 pm, so that he could leave the property by 4:00 pm. At approximately 3:00 pm., he moved the machine, with its mast extended, across a main roadway and turned right. He apparently entered this area to clean and refuel the machine. When he moved into another block in the orchard, a motor-mount bolt on the mast contacted a 13.5-kilovolt overhead power line, located about 6.4 meters above the ground. He exited the left side of the tractor's cab, contacting the tractor and ground at the same time, and was electrocuted. In addition, the cab's fuel tank, which was located on the left side of the tractor's cab, ignited and started a large fire. The fire burned the employee's body extensively.

On October 12, 2010, Employee #1, a farmer, was electrocuted when combine chute contacted overhead power line. No other details were provided in the narrative.

A migrant tree worker removing pine cones from Christmas trees was using a 6-meter-long aluminum ladder to reach the pine cones. (Workers would lean their ladders against the trees without restraining them in any way.) As the tree worker was moving the ladder, it contacted a 7200-volt overhead power line. He was electrocuted. Electric

Employee #1 had been hired in 1995 as a seasonal worker and subsequently as a fulltime employee for approximately 4 years. His main duties included general farm labor, pruning, tractor work, and walnut harvesting. One day, Employee #1, who was bilingual, and a coworker (the employer's only other employee) were pruning trees in a walnut grove. The job began at approximately 6:00 a.m. The employees were working from pruning towers. Employee #1 was using a Weldcraft pruning tower (Model No. 25DLGD, Serial No. 09325189DLGD) with a maximum platform height of 7.6 meters. The employer arrived at the site at approximately 7:00 a.m. The employer wanted the trees cut shorter than the employees had been cutting them. Employee #1 was pruning the very last tree of the row, next to a private dirt road. He was in the tower platform, apparently driving the tower backwards. A 12-kilovolt (phase-to-phase) overhead power line ran near the tree, 8.2 meters above the ground. The employee grabbed a power line conductor and was electrocuted. (A pruned branch was directly under the power line.) The tower platform came down with the employee still holding to the power line conductor. His

coworker ran to a nearby house for help. When he returned he saw the dead employee drop from the conductor. The employee had not been trained in the hazards of working near overhead power lines.

A seasonal citrus picker was harvesting oranges. He was working in a tree that was approximately 4.3 meters in height and 3 meters wide. The tree was beneath a 14.4-kilovolt overhead power line that was approximately 6.4 meters above the ground. The worker was using a 6.1-meter-long aluminum ladder to reach the oranges. As he was moving the ladder, it contacted the power line. A nearby coworker heard the contact and found the injured worker lying on the ground, unresponsive. The ladder was leaning against the tree. Emergency medical services arrived and administered cardio-pulmonary resuscitation. However, their attempt to revive the injured worker was unsuccessful. The employee had been electrocuted. The employer, which had employed the worker since September 2010, did not have written safety procedures.

The general manager for a wholesale chemical sales company drove his 1996 Chevrolet truck near a field. (The employee was also in charge of safety for the company.) He backed up his truck and hit a guy for a utility pole. He moved his truck to the other side of the pole, got out of the truck, and apparently grabbed the dangling guy. The guy had snapped when he hit it with the truck, leaving approximately 610 millimeters on the ground end. The loose guy had flipped up onto one of the transformers on the pole, touching a phase conductor below the insulator on the guy. The employee was electrocuted when he touched the guy. A sprayer in the field saw the injured employee on the ground and administered cardio-pulmonary resuscitation. The manager was pronounced dead on arrival at the hospital.

On November 16, 2011, Employee #1 was tasked to spray fungicide at an agricultural farm using a tractor pulling a 1,200 gallon tank crop sprayer. The sprayer had two metal hydraulic folding booms that were controlled from the tractor cab. On his way to spraying the crops, one of the spray booms that was in the elevated position, made contact with one of the 7,200 volt overhead power lines. After noticing this, the operator stepped out of the cab and walked around the tractor to evaluate the situation. After assessing the situation, the operator decided to get inside the cab again while the boom was still in contact with the overhead power line. Employee #1 came in contact with the energized tractor when he held the tractor rail with his left hand. The electricity that exited through his right boot created a small brush fire. Several coworkers heard a loud noise and ran to assist the sprayer that lay unconscious in the ground. Resuscitation attempts by coworkers and emergency service professionals could not revive him.

A farm worker was operating a John Deere tractor, spraying a broccoli field. The tractor was towing a 4500-liter sprayer equipped with two hydraulically operated spray arms. The 11.6-meter-long arms were suspended perpendicular to the tractor. An irrigation canal ran east and west along the north side of the field. A 13.2-kilovolt overhead power line ran along the north side of the canal. The power line was 7.6 meters above the ground and within the swing radius of the spray arms. The established procedure was for the operator to raise the two spray arms approximately 1 meter at the end of the crop row, before making a U-turn, so that the spray arms would clear a berm adjacent to the canal. The farm worker had been spraying since 8:00 AM that morning, had made about 17 passes, and had one more pass to complete the job. He raised the arms to a height of 7.3 meters before making the U-turn. When the tractor was parallel to the power line, one of the arms caught on the power line conductor nearest the field. The worker apparently exited the tractor and was electrocuted, landing about 1.5 meters away in the irrigation canal. A maintenance mechanic, who was approximately 800 meters away, noticed smoke coming from the tractor. He notified his supervisor, who summoned emergency medical services. The farm worker was dead on the scene.

On June 14, 2006, ten farm workers were performing corn harvesting operations, using a piece of farm field equipment (mule-train), when it came in contact with overhead power lines. Employee #1 and #2 were electrocuted and killed; Employee #3, #4 and #5 were admitted to the hospital for electric shock and burns; and the remaining five coworkers were treated and released.

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At approximately 2:00 p.m. on September 14, 2005, Employee #1, a farmworker of JLG Harvesting, Inc., was operating a pipe puller. During the operation the pipe grabber caused the pipe to flip vertical and contact a power line approximately 30 feet overhead. Employee #1 was electrocuted since he was touching the equipment when the equipment came into contact with the energized line.

On October 8, 2007, Employee #1 was driving a cotton picker. An overhead electric became caught on the picker basket. Employee #1 climbed out of the cab of the truck and onto the top of the basket. When he grabbed the wire in an attempt to remove it, he was electrocuted.

At approximately 9:00 p.m. on March 3, 2011, Employees #1 and #2 were driving a tractor that was hauling a manure wagon to a field. They were local high school students, working as part-time laborers on a family farm in Okawville, IL. The weather was clear, with no rain. Maximum wind speed that day was 6 mph. The employees were driving east on a field drive behind the main farm facilities. They had seen a raccoon run into a 30-foot-long irrigation pipe that was lying in the field and not in use. They stopped the tractor and were attempting to remove the raccoon by raising the pipe. It was dark, and the employees either had not seen or had forgotten about an overhead power line energized at 7,200 volts. The pipe came into contact with the line, and the two workers were electrocuted. Both were pronounced dead at a local hospital. The two were not at the time of the accident performing work related to the job to which they had been assigned that day.

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