

## ELECTROCUTIONS INVOLVING AERIAL LIFTS

### **Accident: 101350643 - Electric Shock - Direct Contact With Overhead Line**

Two apprentice linemen were assigned the task of installing a grounded static line on a deenergized 230-kilovolt overhead power line. The employees were working from an insulated aerial lift. One of the employees had attached one end of a grounding cable to a grounded phase conductor. He then moved the aerial lift bucket to the other phase conductor. He had positioned the bucket so that this conductor was between the two apprentices. The two employees were so close to the conductor that the second apprentice had to bend backwards to avoid contacting the conductor. The employees had not tested the conductor for voltage. The first apprentice grabbed the conductor with his bare hand while he was holding the grounding cable. The phase conductor was energized by induced current, and the employee was electrocuted.

### **Accident: 200550457 - Electric Shock - Direct Contact With Overhead Line**

A power line worker was working from an insulated aerial lift, repairing a broken conductor on an 8000-volt overhead power line. The employee grabbed each end of the broken conductor and was electrocuted.

### **Accident: 14242333 - Electric Shock - Contact With Overhead Line**

An employee was working from an aerial lift, pressure washing the side of a bank. He was working alone at the time. The employee, the aerial lift, or the equipment he was using contacted an overhead power line. The employee was electrocuted.

### **Accident: 200840387 - Electric Shock - Direct Contact With Overhead Line**

Two power line workers were installing a new 7200-volt overhead power line. At the time of the accident, they were installing temporary jumpers from an existing power line to the new one. One of the employees was on a newly installed utility pole. His coworker was in an aerial lift assisting him. The new pole was not supporting any energized power lines. However, an existing pole supported an energized power line above the deenergized existing line to which the jumpers were to be connected. The existing pole was about 4.3 meters away from the new pole. The energized line was not protected with insulating equipment. The employee on the pole was using a body belt, positioning strap, and pole climbers and was tied off to the pole. The employee in the aerial lift was holding one end of the jumper as the employee on the pole began connecting the other end. The employee in the aerial lift moved the bucket away from the pole and toward the existing power line. While he was holding onto one end of the jumper and while his coworker was holding onto the other end, the employee in the aerial lift contacted the energized line with his right shoulder. Both employees were electrocuted.

### **Accident: 200450500 - Electric Shock - Direct Contact With Overhead Line**

A power line worker was working from an aerial lift, taking the slack out of a 7200-volt overhead power line that had been moved from an old utility pole to a new one. When the employee was finished pulling the slack out of the line, it had formed a loop in front of him. When the employee cut the loop, one end hit one side of his body, and the other end hit the other side. He was electrocuted.

### **Accident: 201270592 - Electric Shock - Direct Contact With Overhead Line**

A power line worker in an aerial lift had lowered himself to get additional materials to complete his work. When he ascended back to the work location, he contacted an overhead power line and was electrocuted. Coworkers on the ground were performing

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other tasks did not witness the accident. (The dead employee was not listed properly on the injury line on the original form.)

### **Accident: 800409 - Electric Shock - Direct Contact With Overhead Line**

A crew of three cable television workers was lashing a cable television cable to a utility pole. One employee was in an aerial lift; another employee was on the ground assisting; and the third employee was about 0.4 kilometers away, directing traffic. The ground worker noticed the employee in the aerial lift slumped over in the bucket, lying on the controls unconscious. The aerial lift bucket was moving in the direction of an overhead power line. The employees on the ground could not safely reach the emergency shutoff. The bucket went into the power line, electrocuting the employee inside.

### **Accident: 898668 - Electric Shock - Contact With Overhead Line Thru Tree Branch**

Two employees were trimming tree branches away from a three-phase 19.9-kilovolt overhead power line. The trees were wet from a recent rain, but the weather was clear and breezy. The trees were not touching any of the line conductors before the employees began working. One of the employees was working about 2 meters from the power line. The supervisor left to talk to the aerial lift operator. On his way back, the supervisor he heard the employee near the power line holler. The employee was touching a branch he had cut, and the branch was on the power line with its other end just barely attached to the tree. The branch had contacted the power line 2.4 meters from its base. The employee was electrocuted.

### **Accident: 301986162 - Electric Shock - Direct Contact With Overhead Line**

A power line worker was in the bucket of an aerial lift, connecting a grounding cable to a utility pole for the down feed to an underground line. He was carrying the grounding cable with him in the bucket. While moving the aerial lift, the employee contacted an overhead power with his shoulder. He was electrocuted.

### **Accident: 201350485 - Electric Shock & Burn - Contact With Overhead Line**

Two power line workers were working from an insulated aerial lift, installing armor rods on a 240-kilovolt overhead power line. One of the employees, a supervisor, was using a live-line tool to install the armor rods. The tool contacted the concrete pole and the ground wire hanging from the top of the pole, and current arced from the power line. (The ground wire was connected to the static wire on top of the pole.) The employee holding the live-line tool was electrocuted. His coworker received an electric shock and sustained second- and third-degree burns when the aerial lift burst into flames. He was hospitalized for his injuries.

### **Accident: 812479 - Electric Shock - Direct Contact With Overhead Line**

A power line worker was working from an aerial platform mounted on a digger-derrick. He contacted a 7200-volt overhead power line while he was holding a No. 6 copper ground wire. He was electrocuted.

### **Accident: 171055783 - Electric Shock - Direct Contact With Overhead Line**

A power line crew was installing a new overhead power line off a 4160-volt (phase-to-phase) overhead power line. The employees were going to install jumpers to keep the existing line energized as they installed the new one. One of the power line workers ascended in an aerial lift and, without using rubber insulating gloves, started to connect

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one of the jumper cables. He received an electric shock, sustained a burn on his right hand, and was knocked unconscious. His coworkers summoned emergency medical services and administered cardio-pulmonary resuscitation. Their rescue efforts went to no avail, however, as the employee was declared dead on arrival at the hospital. He had been electrocuted.

### **Accident: 200010130 - Electric Shock - Direct Contact With Overhead Line**

A power line worker, who was wearing a hard hat and safety glasses, was installing a guy on an existing utility pole. Two employees on the ground were assisting him. The overhead power line conductors supported by the pole were to be tapped for new residential construction. One existing residence was supplied by the power line. However, the transformer on the pole had been moved to the south side of the pole, and the existing residence was not receiving power from the line. Despite this, the supervisor had decided to leave the line energized. The power line worker was elevating himself in an aerial lift, pulling the guy up with him. The guy was touching the ground and the neutral conductor for the power line. The 7200-volt phase conductor was located 1.2 meters above the neutral. When the power line worker raised his head, he contacted the phase conductor with the back side of his head near his right ear. He was electrocuted.

### **Accident: 200961795 - Electric Shock - Direct Contact With Overhead Line**

Two power line workers were standing in a crane-suspended personnel platform being hoisted by a truck crane. They were going to attach a grounding cable to a static line for an overhead power line. After that, they were going to install a block for pulling in a new fiber-optic cable. While the personnel platform was being hoisted, high winds blew the platform toward the deenergized power line. One of the employees reached out, touched the power line, and received an electric shock. The platform continued toward the line, and the employee contacted it a second time. His coworker saw that the injured employee was in trouble, so he signaled the crane operator to lower the platform. The injured employee was not breathing, so his coworkers administered cardio-pulmonary resuscitation to no avail. The injured employee was transported to a hospital, where he was pronounced dead. Although the power line was deenergized, a nearby line had induced voltage on it. Neither of the employees was using electrical protective equipment at the time of the accident.

### **Accident: 201350352 - Electric Shock - Direct Contact With Overhead Line**

A tree-trimming crew of six employees was trimming trees as part of a line-clearance operation. Around noon, all of the employees on the crew, except for the supervisor, went home for the day. The supervisor began to operate a tree-trimming machine, which had a boom and a blade. As he was using the machine, the blade cut an overhead power line. The conductor fell across the cab of his machine. He got off the machine and, without wearing any electrical protective equipment, grabbed the conductor to remove it. He was electrocuted. His body was not found until around 10:30 PM that night.

### **Accident: 200200327 - Electric Shock - Direct Contact With Overhead Line**

A power line contractor was upgrading a 14.4-kilovolt overhead power line from single phase to three phase. A power line worker on the project was in an aerial lift bucket, completing construction on the power line. The employee contacted the power line with his upper left arm near the triceps and was electrocuted.

### **Accident: 201040334 - Electric Shock - Contact With Overhead Line**

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Two power line workers were working from a two-person aerial lift. They were removing the static line above a deenergized, three-phase, 230-kilovolt overhead power line. The static line was located about 34 meters above the ground. The deenergized line was on the east side of the supporting towers, and an energized three-phase, 230-kilovolt overhead power line was on the west side of the towers. The static line was apparently energized by induction from the energized transmission line. The jumper on the bottom phase conductor had been protected by a polyethylene cover; however, this cover had been displaced, possibly because of movement of the platform or vibration. The boom on the aerial lift contacted the exposed jumper, and one of the power line workers was electrocuted.

### **Accident: 20000180 - Electric Shock - Direct Contact With Overhead Line**

A power line worker was working from an aerial lift. He contacted an overhead power line and was electrocuted.

### **Accident: 200960854 - Electric Shock - Contact With Overhead Line Thru Boom**

An employee was electrocuted when he brought an aerial lift into contact with a 7600-volt overhead power line.

### **Accident: 201350279 - Electric Shock - Contact With Overhead Line Thru Boom**

An electric utility had contracted for the replacement of lightning arresters. A power line worker and a ground worker working for the contractor were performing the work. The power line worker was working from an aerial lift. The ground worker was helping the line worker and was taking the arresters apart as they were lowered to the ground. The crew had previously worked single-phase lines, but on the day of the accident the employees were working on a two-circuit, three-phase 7200-volt overhead power line. They removed two arresters in the morning and returned to the job after lunch. The arresters were located between the two lines. The power line worker got into the bucket of the aerial lift and attached himself to a lanyard, which was connected to the boom. He installed a line hose on the phase conductor above his head. He then apparently moved the boom tip assembly into contact with an uncovered conductor, and grabbed a pair of channel locks to remove the ground wire. When he put the channel locks on the nut holding the ground wire to the arrester, he was electrocuted. His rubber insulating gloves were found attached to the side of the bucket.

### **Accident: 201360260 - Electric Shock - Direct Contact With Overhead Line**

An electric utility hired an electrical contractor to install service to a new subdivision. The contractor's crew had installed and energized the new line and needed to adjust the sag on the line and install a streetlight. The supervisor was across the street adjusting the tension on an anchor to reduce the sag. According to the supervisor, one of the employees on the crew, without being told to, elevated himself in an aerial lift. The employee was wearing a hardhat, positioning belt and lanyard, rubber insulating gloves with leather protectors, jeans, and a shirt that was neither 100 percent cotton nor flame resistant. He maneuvered the bucket on the aerial lift next to an open cutout switch, the top of which was energized. He contacted the energized portion of the switch with his elbow and was electrocuted. (His clothing also ignited and burned away from his upper body.)

### **Accident: 937086 - Electric Shock - Direct Contact With Overhead Line**

A cable installer was installing a cable television cable from an uninsulated Telsta aerial lift (Model No. T40, Serial No. 540149). The employee was not using personal fall

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protection equipment while he was working from the bucket of the aerial lift, and he was wearing a baseball-style cap rather than an insulating hard hat. An 8000-volt overhead power line was located about 4.9 meters above the ground. The rigging for the cable television line was located 4.0 and 4.3 meters above the ground. While he was working, the employee contacted the power line with his head and was electrocuted.

### **Accident: 200000156 - Electric Shock - Direct Contact With Overhead Line**

A power line worker was in an insulated aerial lift, holding onto a grounded guy. The employee was electrocuted when his head contacted a 7200-volt overhead power line.

### **Accident: 301171807 - Electric Shock - Direct Contact With Overhead Line**

A power line worker was working from a Hi-Ranger aerial lift (Model No. 5PI - 45PBI, Serial No. 98010952). He was installing three new phase conductors. The employee was moving into position to attach a grounding cable to the new conductors. The grounding cable was attached to the grounded neutral conductor. As the employee was moving the aerial lift bucket, a hydraulic line on the bucket contacted the existing phase conductor, which was covered with rubber insulating line hose. The employee, who was holding the grounding cable, reached out to move the phase conductor off the controls. He reached past the line hose and contacted the conductor. He was electrocuted.

### **Accident: 170577688 - Electric Shock - Direct Contact With Overhead Line**

A contractor for an electric utility was installing a new phase conductor to an existing overhead power line. A power line worker for the contractor was working from the bucket of a Reach All aerial lift (Model No. AP52MH; Serial No. 7814), which was rated for 69 kilovolts. The employee, who had about 8 year's experience as a power line worker, was equipped with a hard hat, a jumper cable, rubber insulating gloves, and a live-line tool (shot gun stick). The superintendent for the operation was switching the line from a location about 3.2 kilometers (2 miles) away. The superintendent and his crew were reducing the load on the line, so that the power line worker could safely apply a jumper to the conductor he was installing. The ground worker working with the power line worker was in communication with the superintendent's crew. The ground worker told the power line worker that the load had been dropped, and the power line worker started attaching the jumper cable. The ground worker looked up to find the power line worker slumped over the bucket. The ground worker, who did not feel qualified to operate the lower level controls on the aerial lift, requested help by radio. The injured employee was transported to a hospital, where he was pronounced dead of electrocution. He had entry and exit wounds on his right hand, by the fingers, and on his left foot. The boot had been torn off this foot by the electric current. The power line worker had not been wearing his rubber insulating gloves. (The superintendent stated that he had told everyone to wear them.) Apparently, the power line worker's right hand contacted the power line at some point in the operation. The live-line tool was still connected to one of the jumper clamps; this clamp was fastened to the new phase conductor.

### **Accident: 201750080 - Electric Shock - Direct Contact With Overhead Line**

A power line contractor was hired to replace an existing power line in a remote community of Colorado. A power line worker employed by this contractor was working alone in an aerial lift near a 7620-volt overhead power line. He was not wearing rubber insulating gloves even though he was working inside the minimum approach distance for the power line. The employee contacted the power line and was electrocuted.

### **Accident: 201400165 - Electric Shock - Direct Contact With Overhead Line**

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A power line worker was working from an aerial lift, installing a new overhead power line. He contacted a hanging energized 4800-volt tail line and received an electric shock. He died from his injuries 9 days after the accident.

### **Accident: 170084610 - Electric Shock - Direct Contact With Overhead Line**

An employee had been assigned to paint a metal utility pole with a spray gun. He was working from an aerial lift and had painted one side of the pole. As he was rotating the bucket of the aerial lift so that he could paint the other side of the pole, he leaned back in the bucket, and the back of his neck contacted a 7960-volt overhead power line. The employee received an electric shock, which knocked out of the bucket and into the bed of the aerial lift truck. Two coworkers broke his fall and administered cardio-pulmonary resuscitation. Unfortunately, the injured employee had no heartbeat and was not breathing when the emergency medical team arrived. He had been electrocuted.

### **Accident: 14242036 - Electric Shock - Direct Contact With Overhead Line**

A power line worker was working from an aerial lift, stringing a new neutral conductor. He was not wearing electrical protective equipment. He contacted a 4800-volt overhead power line and was electrocuted.

### **Accident: 170086326 - Electric Shock - Ground Fault In Aerial Lift**

Two employees were installing drywall. They were working from a battery-powered aerial lift, using an electric drill with a screwdriver attachment to attach the drywall to the metal building studs. The drill was plugged into an extension cord set that was tied to the platform guardrail and was connected to a temporary receptacle that was not protected by a ground-fault circuit interrupter. Someone drove the aerial lift forward and ran over the extension cord. This caused the cord set to be pulled tight against a metal member on the lift, which cut into the insulation and energized the frame of the aerial lift. An employee in the aerial lift platform touched the metal studs while he was leaning against the platform guardrail and was electrocuted.

SAMPLE