

## SE TX Possible Rigging Related incidents - Fiscal Year 2020 and 2021\* (May 2022)

There were an estimated 20 serious incidents and five fatalities reported that appear to be related to rigging during this two year time period.

- Five fatalities occurred with four on construction and one in general industry
- Of the twenty serious incidents reported, nine occurred in construction and eleven were in general industry.



### Rigging Related Fatalities Construction

#### Struck by falling object or equipment

- Employees were working in a 30' pit putting together two 20' sections of a 108" diameter pipe. They were trying to join the sections together with the use of a sleeve. The employee welded an I-beam onto the end of a pipe so that the excavator could maneuver the pipe into the sleeve. As he was standing near the I-beam, the weld on the I-beam broke, and the I-beam fell on him.
- Employees were in an excavation installing the cone section of a manhole/drainage assembly. An excavator with an attachment was being used to hoist the concrete manhole cone down into the trench. After placing the cone into position, the operator proceeded to move the excavator arm out of the trench when the lifting chain caught the lifting point of the cone causing it to tip over and strike an employee.

#### Fall lower level structure or equipment

- Two employees were in a personnel basket that was attached to the jib of a crane. The employees were assisting with the installation of arms for a power line tower/monopole. As the employees were adjusting a bracket on the arm of the monopole, the personnel basket fell 150' when it came off the crane boom. One employee died at the scene and the second employee was transported to the hospital and survived.

#### Struck by collapsing structure, equipment, or material

- Three employees employed by a precast concrete and structural steel company, were installing precast concrete stairs for a new 15-story commercial building, a multi-employer construction project. They were on the 13th and 14th floors and adjusting the stairs for proper elevation. The employees were using a 20-foot webbed sling and two 3-ton chain hoists. The stairs below the 13th floor had been installed, including necessary welding. The stairs on the 13th and 14th floors were not yet welded or secured. The employees were in the process of adjusting the stairs for proper elevation when the 14th floor staircase collapsed and hit the 13th floor. This caused all of the stairs directly below to collapse as well. The three employees, who were tied off to the staircases, were pulled down with the collapsing concrete, which had a total weight of approximately 75,000 pounds. The employees and concrete fell down the staircase shaft, a fall height of approximately 150 feet. All three employees were killed.

### Rigging Related Fatalities General Industry

- Employees arrived at an oil and gas well and were in the process of rigging up a mobile rig platform. An employee was in the area between the base beam and rig floor. The rig floor fell and crushed him.

## **Rigging Related Serious Incidents Construction**

### Caught between moving objects or equipment

- Employee was attempting to lift 15' steel products using a chain sling and an overhead crane. His left thumb was pinched between two chain pieces when he started the lift. His thumb was lacerated and fractured.

### Caught between stationary and moving equipment or objects

- Crane operator hoisted a load of two 40' sections of pile driving leads, placed it, lowered it. Two riggers unhooked the rigging and put the empty hooks beside the load and signaled the operator to hoist the empty hooks. When the operator hoisted, a hook inadvertently hooked onto the load shifting it and creating a pinch point where an employee was positioned. He suffered a skinned part on the backside of his right calf, a 1"x6" minor cut, and a 4" cut on front side lower right leg.

### Struck by falling object or equipment

- Employee was on the ground as a signal person. They were using a 75 ton crane to lift a 12' long, 4' diameter, 500 lb. tube. The rigging slipped because it started raining and the tube fell, bouncing off a 2nd story beam, and hit him. He suffered a broken bone to his foot and three cracked ribs.
- Employee was directing a 6" pipe spool during a bull rigging operation using a come-along. He went to move a piece of chain out of the way when the pipe came down onto his right forearm fracturing two bones in right forearm.
- Employees were hoisting a garbage chute with the assistance of a crane. During the lift, the chute broke free, striking two employees. One employee was treated with first aid on site, while the other employee was taken to a medical facility for treatment.
- Employee was moving a large 2300 lb. metal table with an overhead crane in a welding shop. He used a single sling for rigging instead of two slings and the table got overbalance and fell on his right leg breaking it.
- Employee went over to assist another employee with a load of steel metal pieces that were being lifted by the crane. The load was approximately 3' off the ground when a piece of steel metal fell striking his left foot fracturing it.

### Struck by shifting load or equipment

- Employee was standing between two concrete forms. One of the forms was lifted and during the lift, it shifted and struck his leg injuring the ankle and knee.

### Struck by swinging load or equipment

- Employees were working on a concrete ground box and attempted to set the steel lid. They were guiding the lid which was suspended using a back hoe the knuckle of the backhoe curled causing the load to swing. His hand was pinched between the lid and box amputating two fingers on his left hand.

## **Rigging Related Serious Incidents General Industry**

### Caught between moving objects or equipment

- Employee was connecting rigging for removing sections of steel piping. He reached and grabbed the cable of a winch and his hand was pulled into the winch snatch block between the cable and pulley. Four fingers were crushed.

#### Caught between stationary and moving equipment or objects

- Temporary employee was bundling pipe using a 5 ton overhead crane. As he operated the crane to lift the pipe from a table, the chain sling was not spaced evenly and the pipe was lifted off center. After realizing this, he immediately lowered the bundle and as he did, he placed his left hand on the pipe to try to level and balance the load. The hand was positioned behind the chain sling and the chain sling slipped as he lowered the crane. His left hand became trapped between the chain and pipe injuring it.

#### Struck by falling object or equipment

- Employee was preparing to raise a steel frame using an overhead crane and chain sling. The tip of the crane hook was being used in an attempt to raise the frame to position the chain sling for rigging. After the frame was raised 6-12" from the floor, he reached beneath to position the chain and the frame fell. He suffered an amputation to the middle, ring, and pinky fingers on the left hand.
- Employee was attempting to flip a 1,100 pound disc on a table to grind the opposite side. He had put softeners between the disc and the sling since the disc had sharp edges. The softeners slipped out and the nylon sling was sliced by the sharp edges on the disc during the lift. His left foot was caught under the disc. He was taken to the clinic for evaluation of left foot and released with restrictions. Pain in the right foot wasn't mentioned. Later he experienced pain in his right foot and went to the hospital and was admitted for a fracture. The disc may have fallen on his right foot but then rested on his left.
- Employee was working inside a gondola rail car rigging bundles of steel rebar for hoisting out of the car. While making a partial break out lift (hoisting approximately 2' to gain access for slinging), a nylon strap parted under the load. It fell back into the car, striking him. The process involved lifted the end of a load which is 8 bundles (1100-2200 lbs. approx. weight), and using a bent section of rebar called a chicken catcher to reach under and hook the loop of the lifting strap being passed from the other side. In this case the strap holding up the end parted and the load fell against the side of the car where he was positioned. His femur and collarbone were fractured.
- Employee was standing between two flatbed trailers retrieving a chain being used to lower machinery onto a trailer. Somebody told him to watch out the when the machinery started falling down. He ducked under a flatbed trailer with his left hand holding onto the trailer. His hand was caught between the trailer and the machinery amputating the tips of the ring, middle, and index fingers.
- Contractor was assisting the maintenance manager in replacing the autoclave seal. The seal was being lifted by the hoist when the connecting I-bolt came loose. This released the weight of the seal onto the contractor's hand. A wrench was laying across the surface which helped break the full weight of the seal. He sustained a severe crushing injury to his right hand and fingers, especially the pinky finger.

#### Struck by rolling object or equipment

- Employee was working inside of a cargo vessel breaking out loose pipe. He was standing adjacent to a partially-lifted load of mixed length pipe, preparing to pull slings from beneath the load supported by the vessel's crane. One 20' piece of pipe stowed on top of 40' pipe was not engaged by the slings and when partially lifted, it rolled from the bundle and onto the ankle of the longshoreman. It caused multiple fractures to the left ankle.
- Employee was working on the dock while discharging round bars from a vessel. He was flagging the vessels crane operator and momentarily lost awareness of his foot placement while reaching for the strap in order to remove it from the eye hook and he placed his foot on the landing timbers where the bars were placed. A bar suddenly rolled against his left foot fracturing his ankle.

### Struck by shifting load or equipment

- Employee was lifting a cord of angle iron onto a rigging table, when the cord suddenly moved approximately 10". He was not maintaining proper hand placement or awareness and his left ring and middle fingertips were amputated.
- Employee was working to fit two 1-1/2" stainless steel spool pieces together at a flanged connection to bolt up. To align the two spool pieces, the top 10' section of pipe was rigged using a nylon strap choker, attached to a 1/2 ton chain. As he attempted to move the pipe, the load shifted in the nylon strap causing the top section of the pipe to drop approximately 1-2" pinching his left index finger in the flanged connection. He suffered a distal tip amputation.

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\*Fatalities and SIRs are logged or recorded in various mediums and reports are generated using various criteria. Late reporting, change in status, and other factors may affect the overall numbers over time. SE TX specific data is edited to determine a count of fatalities/SIRs under OSHA jurisdiction and may change over time as records are updated. Narratives are rewritten for brevity and edited and may not reflect the final results of an investigation. Data in many cases is used 'as is'. The numbers and information are for accident prevention purposes and trending and is not intended to be a statistical study or evaluation. For questions email Jim Shelton at the HNAO at: [shelton.james@dol.gov](mailto:shelton.james@dol.gov)