

# Abstract of a Mishap

**Mishap Type:** Contractor  
**Injury:** Non Fatal Electrocution  
**Type of Work:** Excavation and pipelaying  
**Equipment:** Broderson, IC-80-3G series Carry Deck Crane



## **DESCRIPTION OF THE MISHAP:**

- Mechanical contractor employees were installing piping in an open excavation using a Broderson, IC-80-3G series carry deck crane. The boom came into close proximity of an energized 7,200 volt over head power line (12,470V phase to phase), causing the line to arc and energizing the crane. A contractor employee working in the excavation was holding onto the cable of the crane at the time of the arc and received a serious electrical shock and burns resulting in his hospitalization.

## **DIRECT CAUSE:**

- The boom of the Broderson IC-80-3G series crane came into close proximity of an energized 7,200 volt over head power line (12,470V phase to phase), causing the line to arc and energize the crane.

## **INDIRECT CAUSES:**

- There is no SSHO assigned in writing that meets the training requirements of the EM-385 and Section 01-35-26, Governmental Safety Requirements
- Daily/frequent safety inspections of the site are not being conducted.
- There was great pressure for the project to be completed on schedule, which led to excessive overtime and worker fatigue.
- Throughout the duration of construction, project oversight by Government representatives was severely deficient.
- No one questioned the unsafe construction practices that were ongoing at the project site.

## **ROOT CAUSE:**

- Piedmont Mechanical did not perform a hazard determination as to whether any part of the Broderson Crane, load line, rigging, or load if operated at its maximum working radius would be within 20 feet of an overhead power line, as required by section 16.G.09(a) of the EM-385.

## **LESSONS LEARNED:**

- For future NFESC executed projects, local ROICC and PWD/FEAD offices must be part of the project development and execution.
- The costs for full time ET/CM supervision and project oversight must be incorporated into the project cost and planned for upfront.
- After contract award, project execution and construction oversight must be transferred to the field. Additionally, ACO authority should similarly be transferred to the field.
- No project should be awarded by NFESC without the expressed, written acknowledgement of the local PWD/ROICC leadership.
- Field leadership needs to reinforce all employees safety awareness. Safety is everyone's responsibility. If you see an unsafe condition – correct it!

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