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Naval Facilities Engineering Command

Abstract of an Accident

98-1

ACCIDENT TYPE: **Fall from 4th floor double door wall opening**
INJURY: **Fatality**
TYPE OF WORK: **Demolition phase, securing hand made debris removal system at end of shift**
EQUIPMENT: **Regulation building guard rail system not in use. Fall arrest system (FAS) with harness was present but not in use. FAS improperly attached to unknown anchorage and shock absorber.**

DESCRIPTION OF MISHAP

Employee on roof pulled arm of roof mounted pillar crane 90 degrees closer to building in order to detach the winch/hoist assembly. Another employee standing in 4th floor opening lifted the lower unistrut extension, also attached to the winch/hoist assembly, so the roof man could detach it by removing the chain link from the open hook. The 4th floor employee fell from the doorway, striking the adjacent roof in first 11 feet of fall.

DIRECT CAUSE

Improperly guarded opening.

CONTRIBUTING CAUSE

- Lack of Activity Analysis on demolition debris removal process.
- Debris removal system designed, installed contrary to Contract and Accident Prevention Plan.
- Failure to recognize, train personnel and control fall hazard.

PREVENTION/LESSONS LEARNED

- Ensure debris chutes are used IAW Specifications and Accident Prevention Plan
- Ensure existing building guardrail system is used
- Ensure passive fall arrest system is used whenever fall hazard exist as secondary system
- Ensure hoisting systems are designed by an engineer

Dol OSHA: 4 Citations issued: $11,120.00 to controlling employer cited & victims employer. -- Employer rep. did not ensure that the employee leaning through the access opening or out over edge of the access opening to receive or guide equipment & material....shall be protected from fall hazards by a personal fall arrest system. (1926.501 b 3) -- Guardrail system was not used when hoisting operations were not taking place. Removable 'pipe' was used as guardrail system. (1926.502 b 10)--No training program was provided for @ employee who might be exposed to fall hazards. (1926.503 a. 1)

YOUR SAFETY CONTACT IS....

CONTRACTOR FALL

Naval Facility

Failure to Use Debris Chute

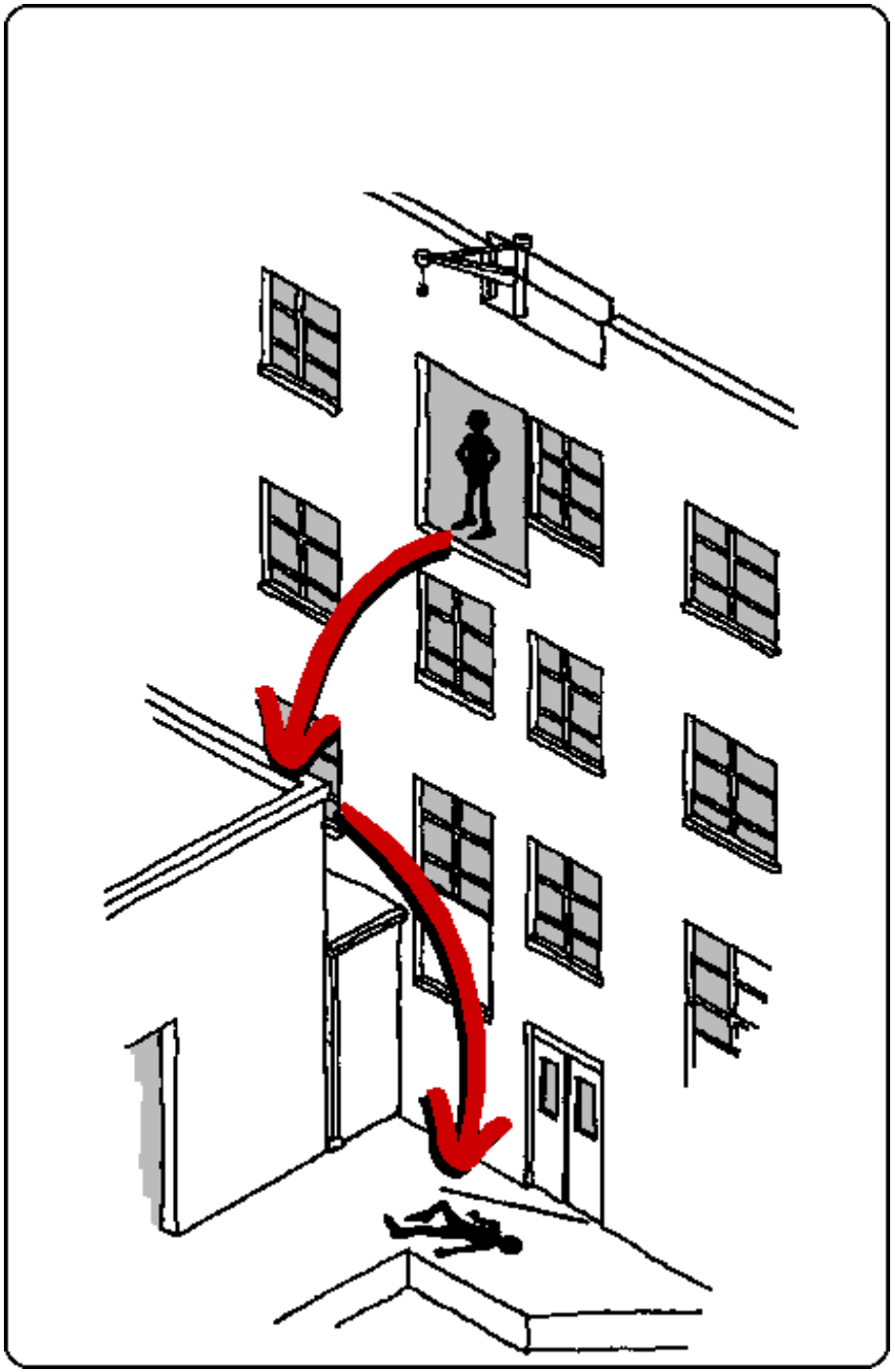
NAVFACHQ Abstract 98-1

BACKGROUND:

Work: Demolition phase, end of shift securing of hand made debris removal system

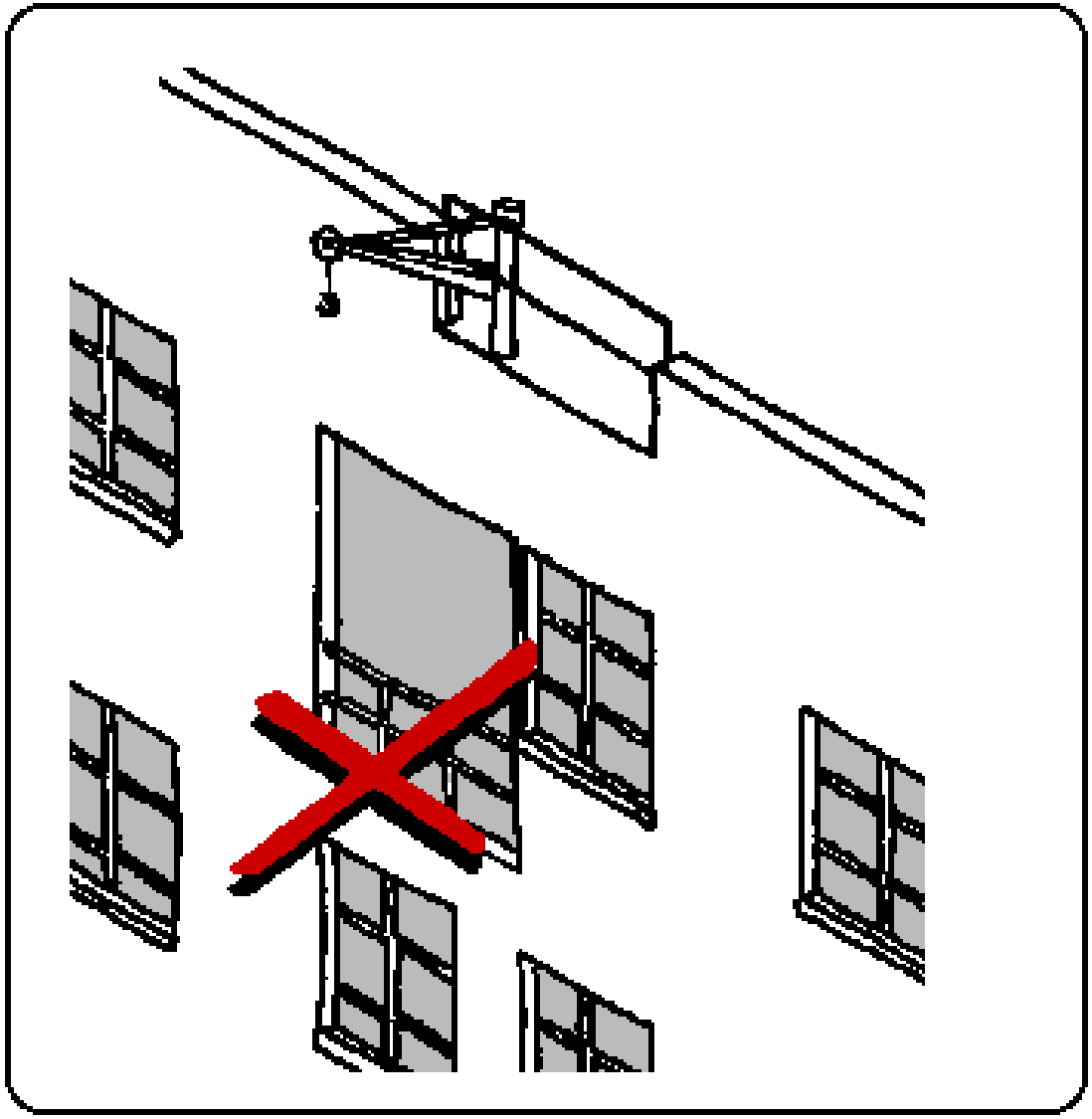
Accident Scene:
4th floor bldg, fell 30 feet

Electrical sub contractor fell out of unguarded wall opening



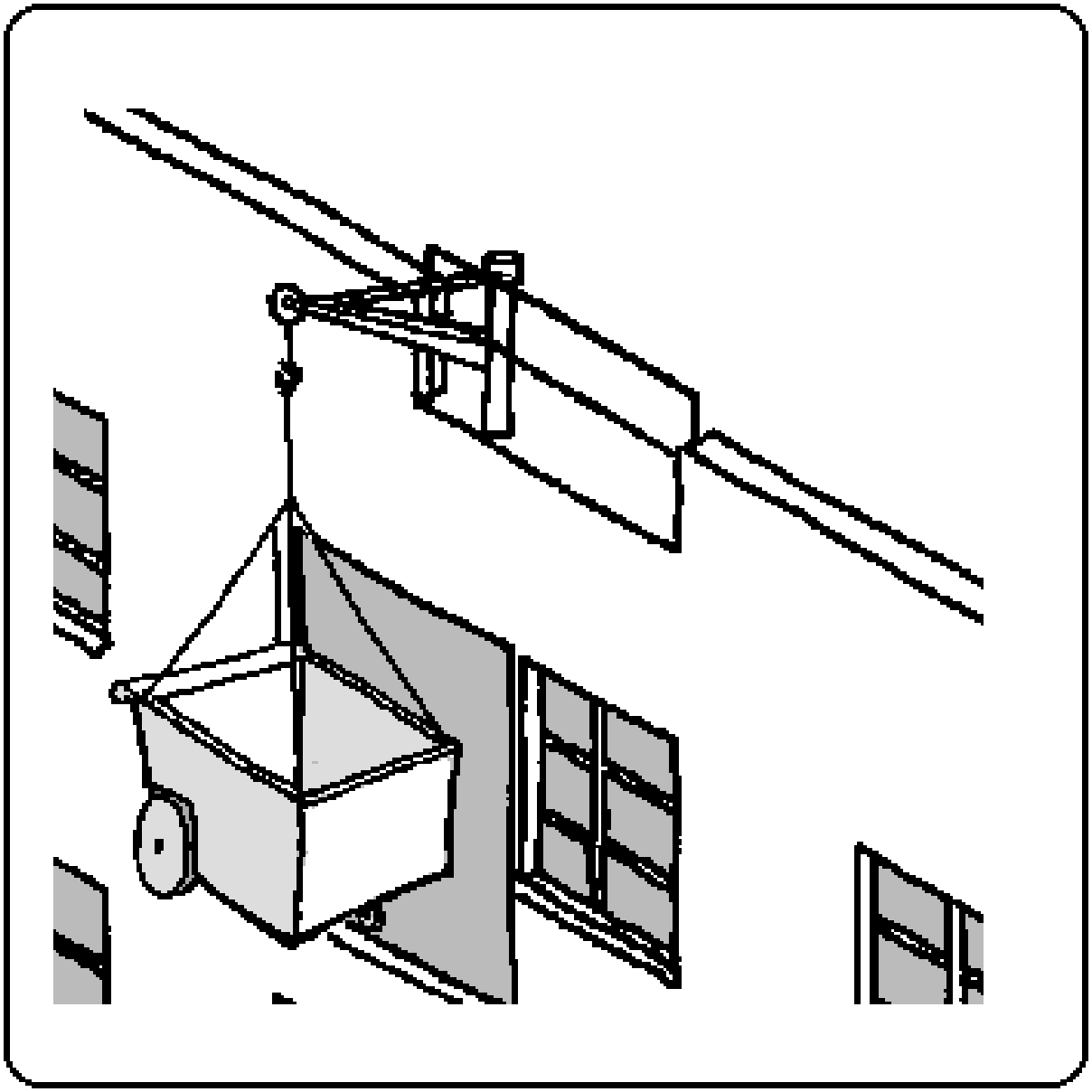
Sequence of Events

1. Guard rail removed by contractor.



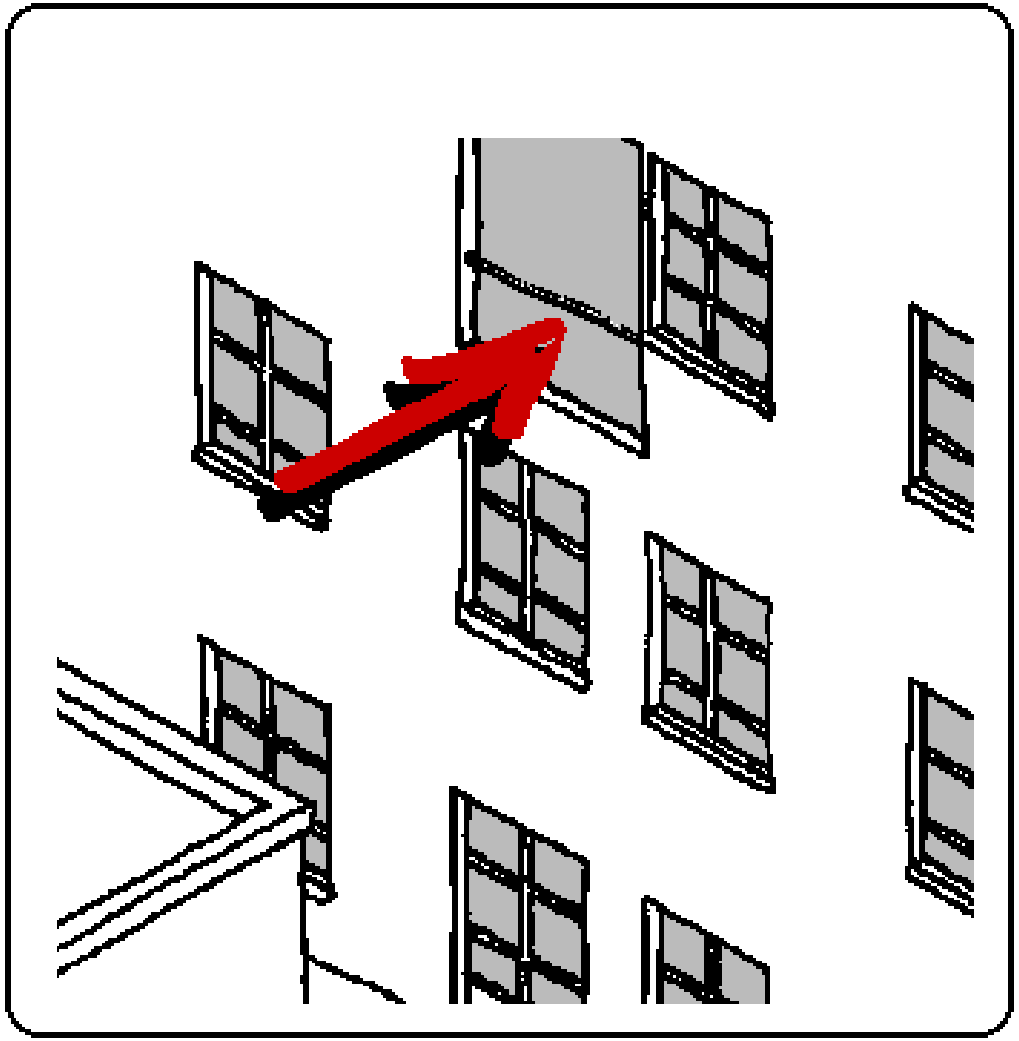
Sequence of Events

2. Tilt cart used instead of debris chute. Contractor rigged winch to out-of-service pillar crane with wrong hoist.



Sequence of Events

3. Copper pipe with crimped ends improperly substituted as a "guardrail"

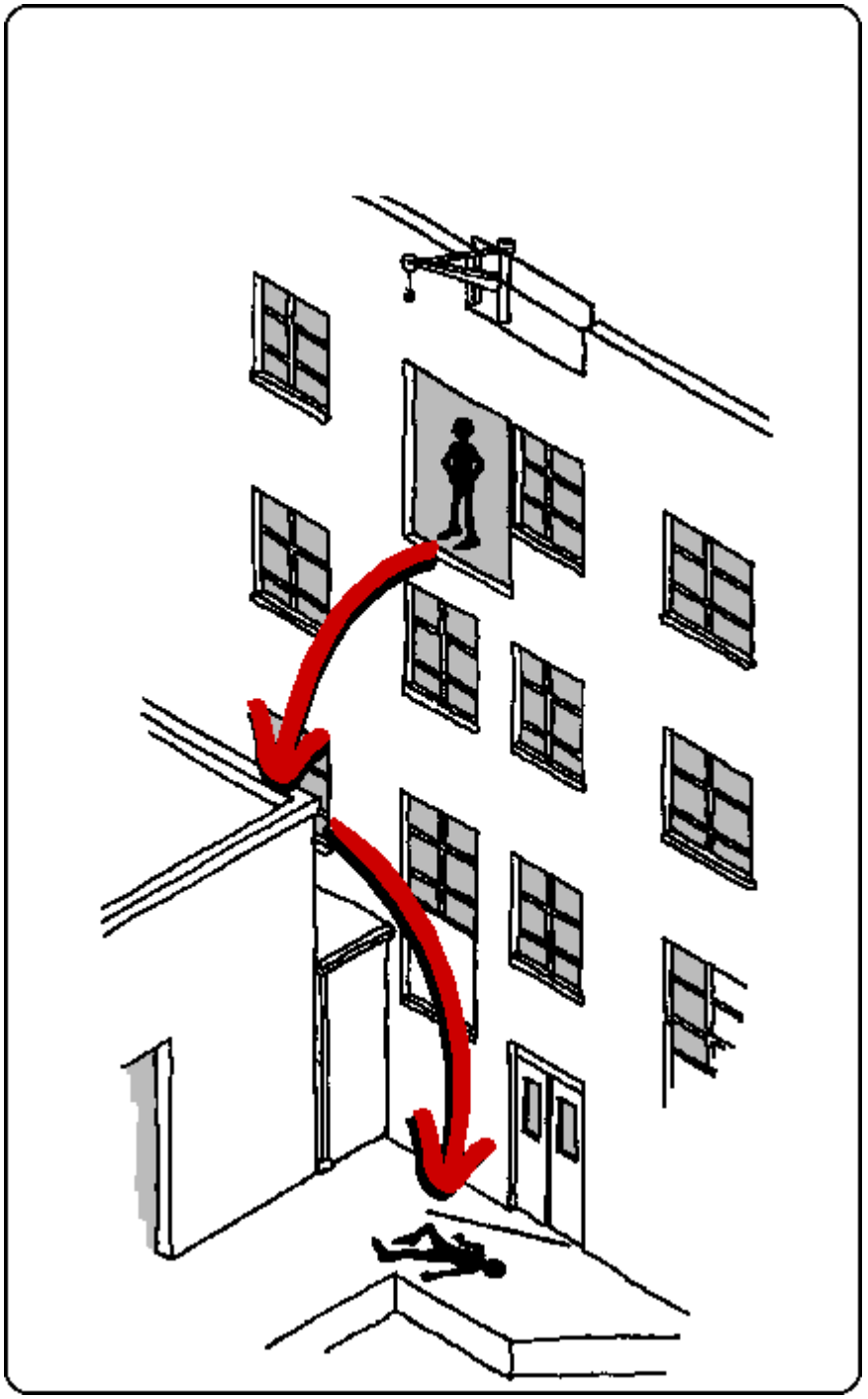


Sequence of Events

4. Worker leaned against copper pipe, which gave way, and he fell through the 4th floor opening to the loading dock below. (sketch shows pipe at bottom with victim)

Worker died from fractured C-1 vertebra.

Elapsed fall time:
about 1.5 sec.



ACCIDENT SUMMARY

ACCIDENT TYPE: **Fall from 4th floor double door wall opening.**

INJURY: **Fatality. C1 cervical spine fracture**

TYPE OF WORK: **Demolition phase, end of shift securing hand made debris removal.**

SAFETY EQUIPMENT: **Regular building guard rail system not used.**

Fall arrest system (FAS) w/harness was present but not used. FAS improperly attached to unknown anchorage & shock absorber.

DESCRIPTION: Man on roof pulls arm of roof mounted pillar crane 90 degrees closer to building, in order to detach the winch/hoist assembly. Man standing in 4th floor opening lifts the lower unistrut extension also attached to the winch/hoist assembly so the roof man can detach by removing chain link from open hook. 4th floor man falls from doorway, striking adjacent roof in first 11 feet of fall.

CONTRIBUTING CAUSES:

Lack of Activity Hazard Analysis for demolition debris removal process.

Debris removal system "designed" and installed contrary to Contract & Accident Prev Plan.

Failure to recognize, train personnel and control fall hazards.

LESSONS LEARNED:

Use debris chutes IAW Spec & Accident Prevention Plan

Use existing building guardrail system

Use passive fall arrest system whenever fall hazard exists - as secondary system.

Ensure hoisting systems designed by an engineer.

OSHA CITATIONS

4 CITATIONS ISSUED: $11,120.00* to controlling employer & victim's employer.

--Employer rep. did not ensure that the employee...leaning through the access opening or out over edge of the access opening to receive or guide equipment & material…protected from fall hazards by a personal fall arrest system (1926.501 b 3)

-- Guardrail system was not used when hoisting operations were not taking place. Removable 'pipe' was used as guardrail system.(1926.502 b 10)

--No training program was provided for employee who might be exposed to fall hazards. (1926.503 a. 1)

* The amount of the penalty is not critical, the fact the employer was cited is the concern. For their next incident, the employers may be cited as "Willfull"

Victim’s truck…in parking lot after accident.

For Construction Safety Information, contact:

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