



# LESSONS LEARNED

## Modified Ladder Causes Fall

### USE OF MODIFIED LADDER CAUSES SERIOUS INJURY

A chemical manufacturer hired an environmental firm to perform emissions testing at its plant. The contractor's employee who conducted the testing used the top half (fly) of an extension ladder to access an elevated platform normally used to service mixing vessels. While descending the ladder, he alleged that the ladder spun, causing him to fall and catch his right leg between the rungs. The injured man claimed that an employee of the manufacturer provided the ladder to him as



a means to access the platform and had a witness to corroborate his story. The manufacturer claimed that none of its employees were working at or near the location when the accident occurred and that the contractor's employee did not have permission to use the ladder, which had been modified by plant employees for use at a scrubber machine. The manufacturer also stated that the platform had an access stair located at the back of the mixing vessels, approximately 30 yards from the accident site, and that the contractor's employee used the ladder as a "short-cut." The injured employee claimed that he did not know about the stair.

### CONSEQUENCES

The 59-year-old male employee suffered a bro-

ken thighbone, requiring complex surgical placement of a metal rod, and severe damage to his knee and back.

Total cost of the accident including medical bills, rehabilitation, lost wages, compensation for pain and suffering, and a lawsuit for negligence was over \$900,000.

The manufacturer received an OSHA citation for the incident and three other citations for violations the inspector observed during the visit, resulting in a \$75,000 fine.

### PRIMARY CAUSES

The primary cause of the accident was the modified ladder, which was unsuitable for the task because it lacked spread feet and outriggers for stabilization.

### UNDERLYING CAUSES INCLUDED:

- Failure to provide adequate access to the scrubber.
- Failure to remove the modified ladder from service prior to the accident.
- Failure to properly instruct or supervise the contractor employee.
- Failure to tie-off the ladder or have someone stabilize it while the employee ascended and descended.

### LESSONS LEARNED

Prohibit unauthorized modification of equipment. Ladders and most other types of equipment have built-in safety devices that are frequently removed or disabled when modified. Removing

the top half of the extension ladder compromised its safety features because it detached the stabilizing spread feet. It was only a matter of luck that a plant employee had not been injured on the same ladder. Consequently, it was immaterial whether or not the contractor employee received permission to use the ladder since the ladder was a hazard and should have been removed from the worksite by a first line supervisor

A job task analysis (JHA) should be performed for each primary task in the plant. This involves a step by step analysis of what procedures and equipment are necessary to complete a task safely and successfully. JHA could have determined that suitable access to the scrubber was required without employees having to improvise an alternative.

Any individual entering the plant, including contractor employees, must receive instruction on established safety and job task procedures. The injured lab employee should have been shown the access stair to the elevated platform and instructed that it was the only permissible means of access. Such instruction should be documented. In this instance documentation could have established that the lab employee knew about the stairway.

Working from ladders is potentially hazardous under any circumstances. Employees should be trained to use them properly. Specifically, ladders should always be in good repair, have safety

features intact, be set and braced properly, and tied-off if required by OSHA regulations.

#### **ACTIONS TAKEN**

The insured installed a fixed ladder on the scrubber, which allowed employees safe access.

JHA was conducted for each primary task in the plant, resulting in other safety improvements and correction of unsafe procedures including those noted by the OSHA inspector.

Supervisors completed an equipment survey and removed from service any tools or equipment that was broken, inoperable, modified, or otherwise unsafe for use.

All contractor employees now receive at least one hour of safety training before being allowed in the plant. Among the topics covered are approved job procedures, accessing elevated areas, and a prohibition against using any equipment that belongs to the insured. The training is documented.

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