

Appendix A – Case Studies

Learning objectives

- Understand how unsafe working conditions might lead to a roof fall fatality
- Each employer -- shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees” (OSH Act Section 5(a)(1)).
- The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury” (1926.21(b)(2)).
- Raise the workers’ awareness of the causes of the roof fall incident
- Provide instruction on safe work practices, in order to avoid falling off the roof edges.

Lesson plan

The student will first be shown the figures, which are to be narrated by the trainer, to understand completely the situation leading to the fall. He/she will be trained the safe ways of task performance to avoid the incident. Worker’s rights to:

- (1) having a safe and healthful work environment and
- (2) filing a complaint free from discrimination are other objectives of this case which should be addressed.

It is recommended that copies of the OSHA safety and health complaint form be distributed to the trainees to show the required elements in a valid complaint. The trainer should emphasize that if the worker request anonymity, the worker’s identity would remain anonymous after filling a complaint form.

Finally, the worker’s knowledge should be assessed through two major questions which address:

- a) The cause of the roof fall incident presented over the training, and
- b) The alternative safe actions that could be taken to avoid similar incidents.

Case Study #1

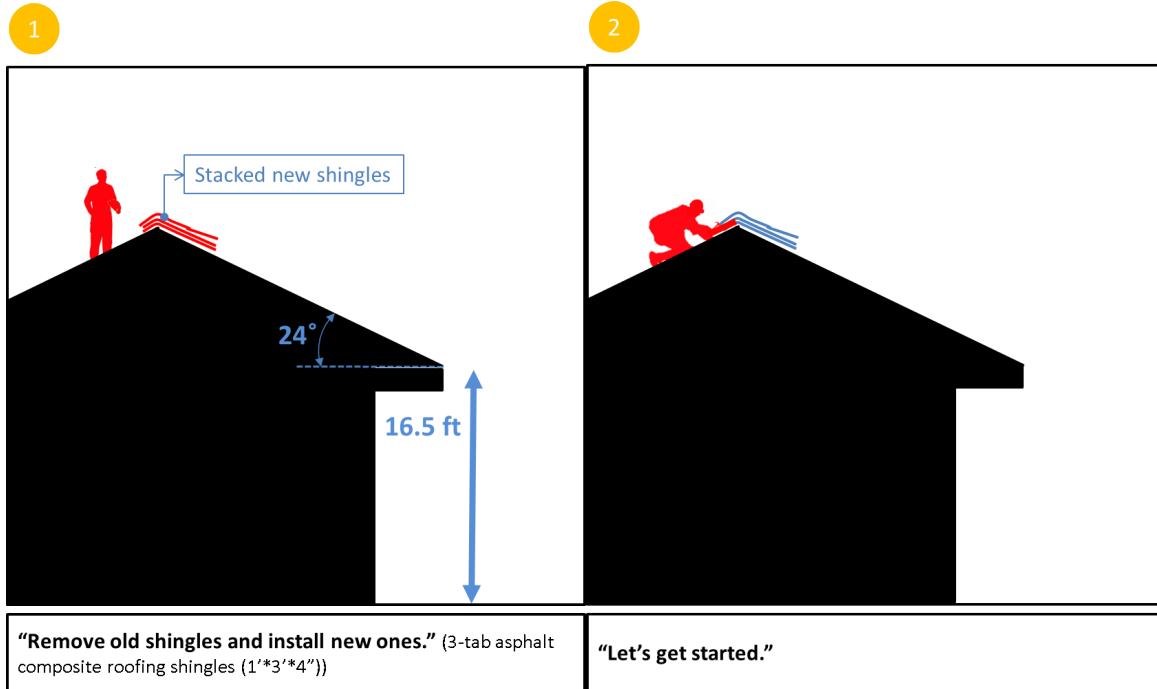
On July 18, 1998, a 25-year-old male roofer helper (the victim) died after falling 16.5 feet from a roof to a concrete basement way while trying to stop a bundle of shingles from sliding off a roof edge.

The company owner had decided to replace the shingles on the roof of his residence and his adjacent garage. He and his eldest son, the company co-owner, had instructed his youngest son, 25 years of age, to ask two of his friends to help him remove the old fiberglass shingles from both structures. A 25-year-old (the victim) and a 16- year-old agreed to help with the job.

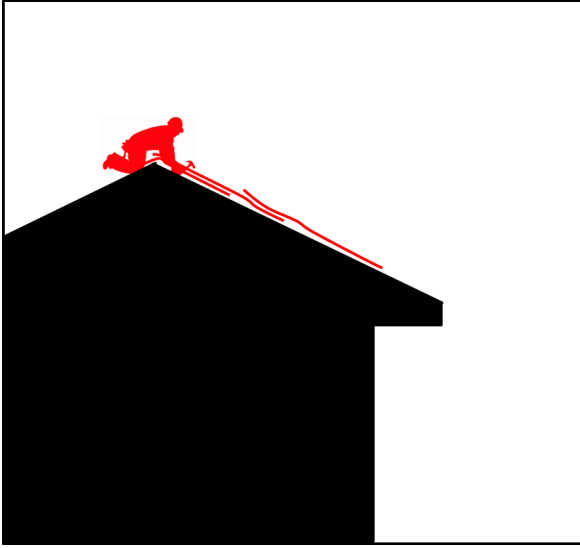
On the first day of the job, all five workers carried bundles of new shingles to the peak of the residences 5.5:12 (5.5 inches of rise for every 12 inches of width) pitched roof. The shingles were stacked 3 or 4 bundles high along the roof’s peak. The 25- and 16-year-old workers then took shovels up the ladder to the residence’s roof while the father and two sons climbed a ladder to the garage roof to determine what materials would be needed to complete the garage roof.

As the two men began removing the shingles the victim contacted a stack of shingles with part of his body, or the shovel, and a bundle began to slide down the back side of the roof. The victim began to chase the bundle in an attempt to retrieve it. None of the other workers saw the victim fall off the roof, but he apparently lost his balance and fell 16.5 feet from the roof to a concrete driveway below, striking his head on the concrete.

The co-owner stated that approximately 0.5 hours before the incident, he knocked a whole stack of shingles off the back side of the roof, damaging the eaves. He stated that at that time he instructed the workers to let the shingles go if the materials began to slide down the roof

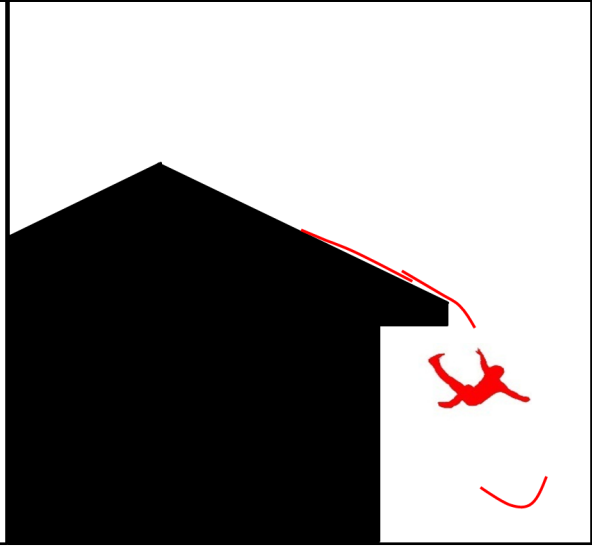


3



“Oops! I should stop the shingles.”

4



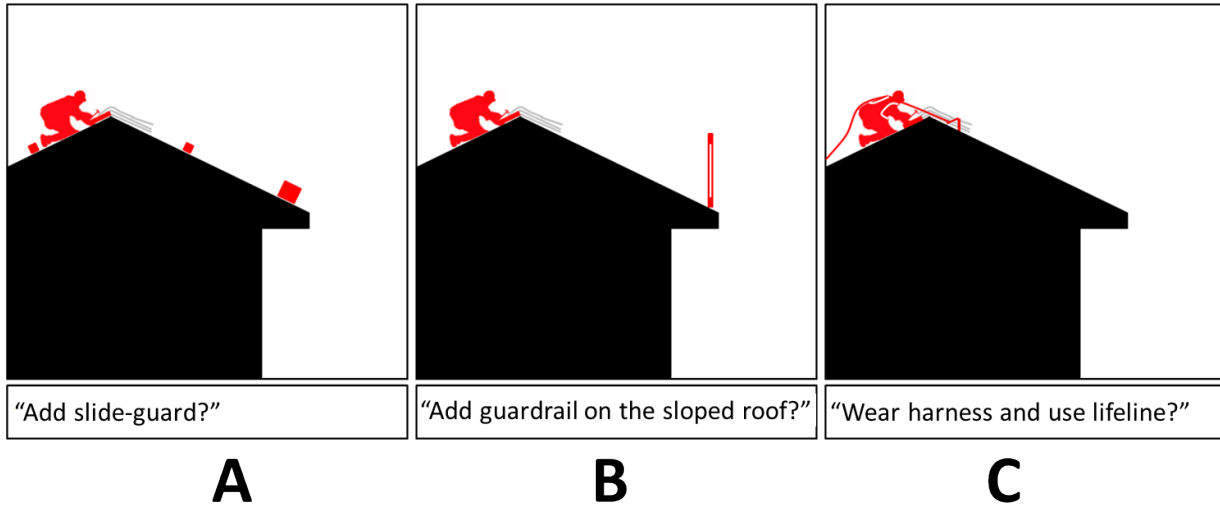
“Helppppppppppppp.”

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What could I have done differently before my death?

1. Why was the method used to perform the task in this example unsafe?
2. Which is the correct, or safe, way of performing the task?



Case Study #2

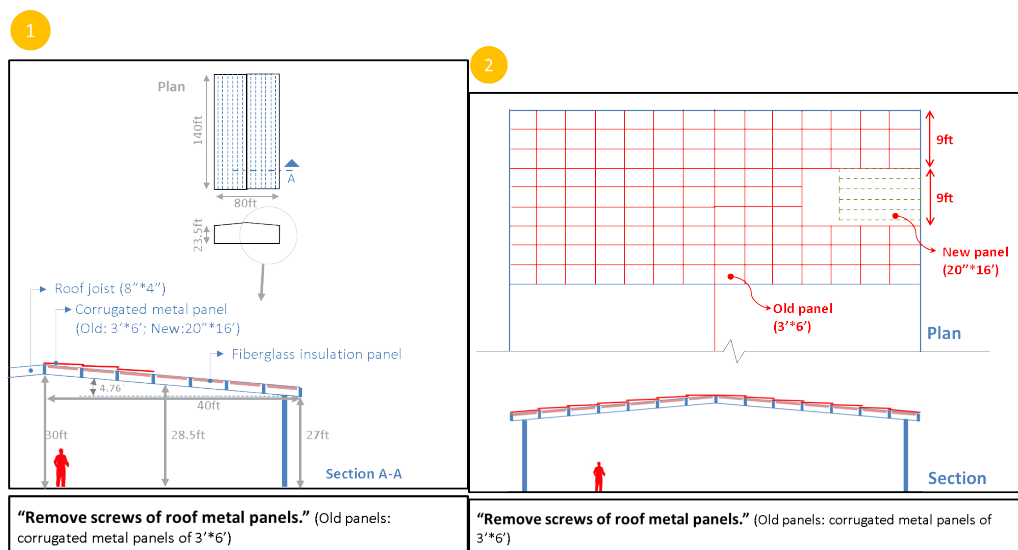
On July 20, 1995, a 41-year-old male sheet metal mechanic (the victim) died after falling 30 feet through roofing insulation and landing on a hardwood floor.

The employer in this incident was a roofing contractor that had been in operation for 22 years and employed 12 workers. The employer had a written safety policy and safety program. General written safety rules were reviewed with all employees upon hire. Training was accomplished on the job. Tailgate safety meetings were conducted by the job foreman when necessary. Safety meetings were held prior to the start of each job to discuss the safety hazards associated with that job. The victim had worked for the employer for 12 years and had 15 years prior experience. This was the first fatality experienced by the employer.

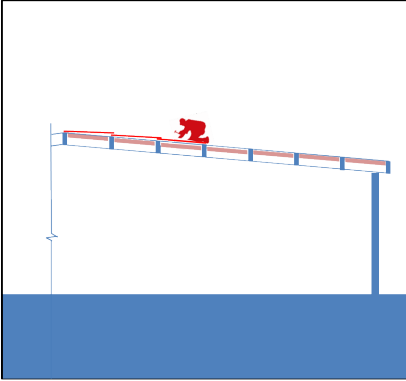
The employer had been contracted to replace the fiberglass insulation and corrugated metal roof panels on an 80-foot-wide by 140-foot-long church roof with a 1:12 pitch. A five-man crew (general superintendent, foreman, roofer, and 2 sheet metal mechanics) was sent to the site to complete the task. The men were to remove 36-inch wide sections of metal roof panels and insulation at a time and replace them with new panels and insulation. This required removing three, 3-foot-wide by 6-foot-long panels and replacing them with the new 20-inch-wide by 16-foot-long panels.

To remove the panels, the roofer would hold the end of the old panels up and pull them back as the sheet metal mechanics removed the screws that attached the panels to the roof joists. Because the men were installing panels smaller in width than those being replaced, open space with exposed insulation existed around the work area.

At 3:00 p.m. on the second day at the site, work had progressed to a point where the men had completed work on an area measuring approximately 25 feet by 115 feet. As the victim finished removing the screws holding the next piece of old panel, he stood up and stepped backward into an opening approximately 3 feet by 6 feet that was covered only with fiberglass insulation, and fell 30 feet to the hardwood floor inside the church, striking his head.

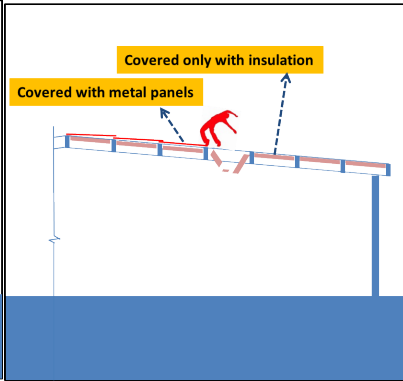


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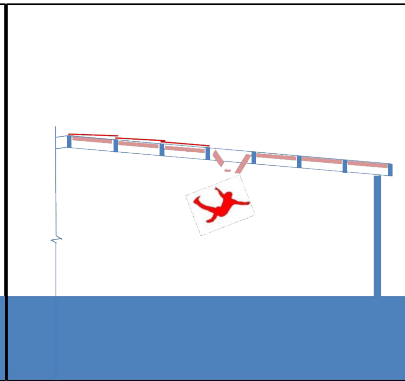
"Let's get started."

4



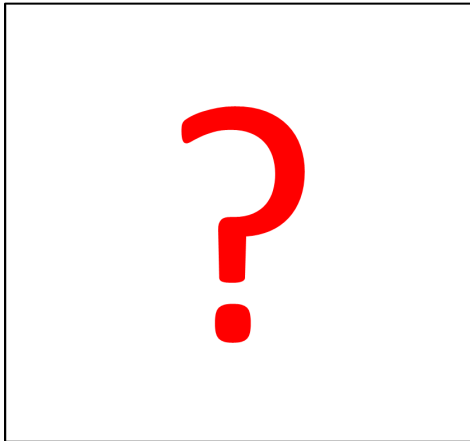
"Oops! This part of roof was covered just with insulation."

5



"Auuuuuuuuuuuu!"

6



What could I have done differently before my death?

1. Why was the method used to perform the task in this example unsafe?
2. What is the safest way of performing the task?

