A **47 year old man** was electrocuted while conducting maintenance work on the HVAC unit in an attic of a residence home by himself. He was troubleshooting because the unit was not keeping up with the outside temperatures.

About a week prior to this accident, a different technician had been to this residence to trouble shoot the HVAC system. During his visit, he noted in his report that he was shocked when his elbow touched the supply of the duct work. He also indicated that he shut the breaker off to the unit in the attic to see what would be causing electricity to run through the ducts. He tested the ducts after turning off the power and found it still to be energized. Again, this was noted in his report.

On the day of the accident, it was determined that the victim's temperature clamp was on one of the suction lines (copper line). This would be done to check the temperature of the pipes to see what the unit was doing/diagnosing the unit. First steps to troubleshooting for the unit not keeping cool include hooking up the gauges to see if the refrigerant is low on the outside unit and go outside to check refrigerate pressures. The second step would be to take temperatures on the duct work of the supply and return. To do this, the technician would stick a temperature thermometer in the duct work. This checks the temperature differentials between the furthest point and the closest point to the unit. The third step is to determine duct sizing to see if the duct was the correct size for the home and to see if the right air flow is blowing the correct air for the duct. The HVAC needs to be running when taking temperatures.

Through interviews, we were informed that the power to the HVAC unit was turned off to the upstairs unit by a detective after the incident. When two Hiller employees came to pick up the work van and victim's tools; the detective used one of the Hiller employee's hot sticks to test the duct work. The hot stick showed the duct work had an electrical current running through it. The detective stated that on the left side about a foot off of the unit there was aluminum tape. He said everything after the aluminum tape tested hot even after shutting off the unit. It was confirmed that there were no panels removed exposing the inner workings of the unit. The unit was intact, as in a final installation, when the victim was found.

It appears that the victim may have started going through the steps stated above when he contacted the energized duct work. The victim was found to have burn marks on his upper right arm, back of his arm, and across a small area of his abdomen. It is believed that the victim was electrocuted due to the electricity running through the duct work of the HVAC system. An HVAC unit in its completed installation should not have current in the duct work.

After the accident, the homeowner's insurance adjuster sent TOSHA an email explaining that through their investigation it was determined that a dryer circuit passed through the attic near the duct work and may have somehow been compromised whereby energizing the duct work.

Citation(s) as Originally Issued

A complete inspection was conducted at the accident scene. Some of the items cited may not directly relate to the fatality.

Since the source of the energized duct work could not be specifically determined, there were no citations issued.

Electrocution—Insp # 1606779 Hiller, LLC