

# When Lightning Strikes

## PERSONAL SAFETY TIPS

In a previous white paper presented by BKT Tires, Inc. (<http://info.bkt-tires.com/tiredangersoflightningstrikes>) we discussed the hidden dangers of tires on heavy equipment if the machine is struck by lightning or comes in contact with electric transmission lines. It's important also to know what to do to protect your personal safety.

The obvious dangers from lightning strike or vehicle contact with electrical transmission lines are the potential for fire or possible electrical shock. Your first instinct may be to get off the truck as quickly as possible, but first there are important considerations to think about.

- 1] Is electric current still running through the vehicle?
- 2] Is the vehicle still running?
- 3] Is the vehicle on fire?
- 4] Assume the process of pyrolysis started in one or all of the tires.
- 5] Has heat generated inside the tires, resulting in increased air pressure and potentially rapid air loss?

Personal safety procedures may vary depending upon the nature of electrical current passing through the vehicle. In the case of a vehicle coming into contact with electric transmission lines, the truck operator must determine if the vehicle is still in contact with the transmission lines.

## Electrical Transmission Line Contact

### WHAT YOU SHOULD NOT DO:

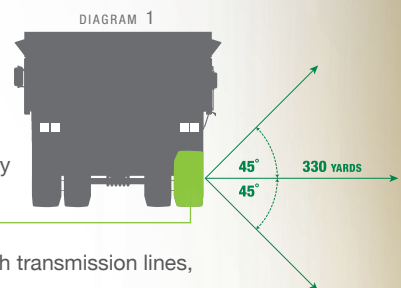
- 1] Don't assume everything is okay.
- 2] Don't open the cab of the vehicle until you know you are not in contact with live electrical lines.
- 3] Don't move the vehicle if there is danger of coming in contact with other vehicles or persons by dragging the transmission lines.

### WHAT YOU SHOULD DO:

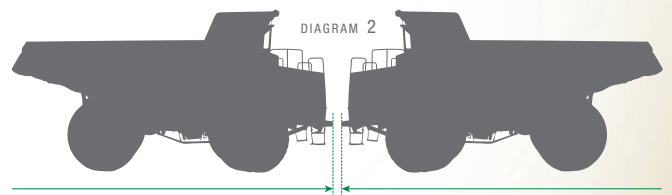
- 1] Remember safety is the prevailing directive according to Richard Kithill, Jr., founder and CEO of the National Lightning Safety Institute, <http://www.lightningsafety.com/>
- 2] Stay in the cab of your truck and call for assistance.

- 3] If your mine has safety protocols and procedures for this type of emergency, follow that protocol.
- 4] If your mine does not have safety protocols and procedures for this type of emergency, immediately contact designated emergency personnel to safely

determine whether or not the truck is still in contact with the transmission lines. These personnel / vehicles should stay out of the **tire danger zone**.



- 5] If the truck is not in contact with transmission lines, as quickly as possible pull to the side of haul road if this can be done safely and turn engine off.
- 6] Operator should exit the cab and vacate the vehicle as quickly as possible. Remember the hidden tire danger should be a primary concern. At this point electrical current is no longer running through the truck, but the operator and nearby personnel should still exercise caution and take the following steps.
  - A. Egress ladders on many haul trucks are within the tire danger zone. Alternative procedures should be used to vacate vehicles.
  - B. Position a similar size vehicle nose-to-nose (but not touching) with the affected truck [SEE DIAGRAM 2].
  - C. Operator should carefully step from his / her vehicle to the unaffected vehicle.



- 7] All personnel should promptly move 330 YARDS (300 METERS) away from the truck and maintain that distance for at least 24 hours in case there is unseen pyrolysis occurring in the tires.
- 8] After at least a 24 hour period remove and scrap all tires.

## Lightning Strikes Haulage Truck

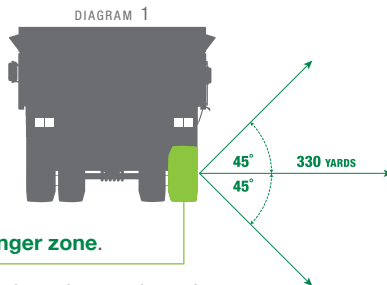
### WHAT YOU SHOULD NOT DO:

- 1] Don't assume everything is okay.
- 2] Don't open the cab of the vehicle if there is still a danger of lightning strikes. The cab creates a Faraday-like cage and is safe, assuming there are no other dangers present as a consequence of the lightning strike.

### WHAT YOU SHOULD DO:

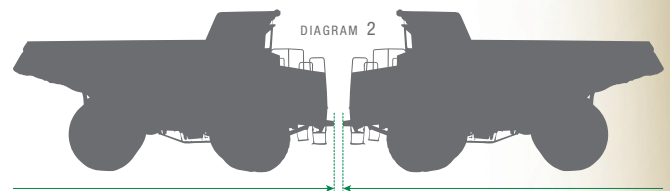
- 1] Remember the dangers relating to lightning strikes often cannot be seen, especially pyrolysis in tires.

- 2] Stay in the cab of your truck and call for assistance. Emergency vehicles and personnel should approach the vehicle cautiously and only from the front or back to avoid getting in the **tire danger zone**.



- 3] If your mine has safety protocols and procedures for this type of emergency, follow that protocol.
- 4] As quickly as possible pull to side of haul road if this can be done safely and **turn engine off**.
- 5] Operator should exit the cab and vacate the vehicle as quickly as possible. Remember the hidden tire danger should be a primary concern. At this point electrical current is no longer running through the truck, but the operator and nearby personnel should still exercise caution and take the following steps.

- A. Egress ladders on many haul trucks are within the tire danger zone. Alternative procedures should be used to vacate vehicles.
- B. Position a similar size vehicle nose-to-nose (but not touching) with the affected truck [SEE DIAGRAM 2].
- C. Operator should carefully step from his / her vehicle to the unaffected vehicle.



- 6] All personnel should promptly move 330 YARDS (300 METERS) away from the truck and maintain that distance for at least 24 hours in case there is unseen pyrolysis occurring in the tires.
- 7] After at least a 24 hour period all tires should be removed and scraped.

LIGHTNING IS AN UNPREDICTABLE ACT OF NATURE AND MAY CAUSE SERIOUS INJURY, DAMAGE OR DEATH DESPITE FOLLOWING THESE PROCEDURES OR OTHER SAFETY MEASURES.

**We appreciate your interest in maintaining a safe operation. Watch for additional tips on the proper use and maintenance of your heavy equipment tires. At BKT Tires, Inc., we're interested in your safety and profitability.**



**About BKT:** Balkrishna Industries Ltd, is a leading specialty tire manufacturer headquartered in India. BKT's innovative solutions and services are designed to meet the most demanding of customer needs, and include more than 2,300 products sold in over 130 countries worldwide. BKT Tires, Inc., located in Brentwood, Tennessee, is the Americas OTR sales and service subsidiary for mining and heavy construction tires. And, BKT USA, Inc. is the North American sales and service subsidiary for agricultural, industrial and light construction off-highway tires. Visit the website [www.bkt-tires.com](http://www.bkt-tires.com) or contact our U.S. office at 844.258.8473 for further information.



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