

Greetings All,

I watched with wide eyes the wonderful lightning display that occurred last night from the back room at home. The sky was lighting up with amazing intensity for a good while as a large front passed over my part of the world. The Spring storm season is upon us and it reminded me of an email I received from one of our readers last week, which included some fantastic pictures which are included below.

Way back in June 2009, in the VCA Crane Safety Bulletin number eight, we discussed a topic that was referred to as Tyre Pyrolysis. When a machine has suffered from a contact with an electrical source, there is potential for that energy to be released through the rubber tyres that are fitted to it. This energy may have come from high voltage contact incidents such as contact with overhead supply lines, or as these pictures show, it can also be caused from lightning.



The machine pictured above is a Cat 789C and the tyres were said to have blown off the truck minutes after the lightning strike. One wheel assembly weighing 1.6t was thrown about 100m from the machine, and other components found up to 275m away as seen in the image below. The truck also suffered extensive damage including major driveline damage and the door & glass blown open.



Information on Tyre Pyrolysis that was distributed by the Qld Department of Mines in 2004 can be found here http://mines.industry.qld.gov.au/assets/inspectorate/safety_bulletin047.pdf, but in summary, the following points were made. **In the event of a rubber tyred vehicle making contact with overhead powerlines, the vehicle should be parked in an isolation area with a minimum 300m radius, all personnel should be removed from the area and fire fighting services should be notified.**



These dump trucks weigh 130t unloaded, and have a loaded weight of 320t, so they are somewhat bigger than any of the cranes that travel on our roads. They carry a larger tyre sizes as well. Yet the potential for a similar event is possible. When the size of one of the tyre sections that blew off is shown up close below, it's easy to appreciate that that a greater understanding of this phenomenon is something that all of us in the crane and related industries should be aware of.



While these machines are not cranes, their initial assembly and subsequent maintenance is more than likely to be undertaken in the field with a mobile crane located within a very close radius to safely handle the components such as the ~30t rear body.

Cheers for now and have a safe week.