

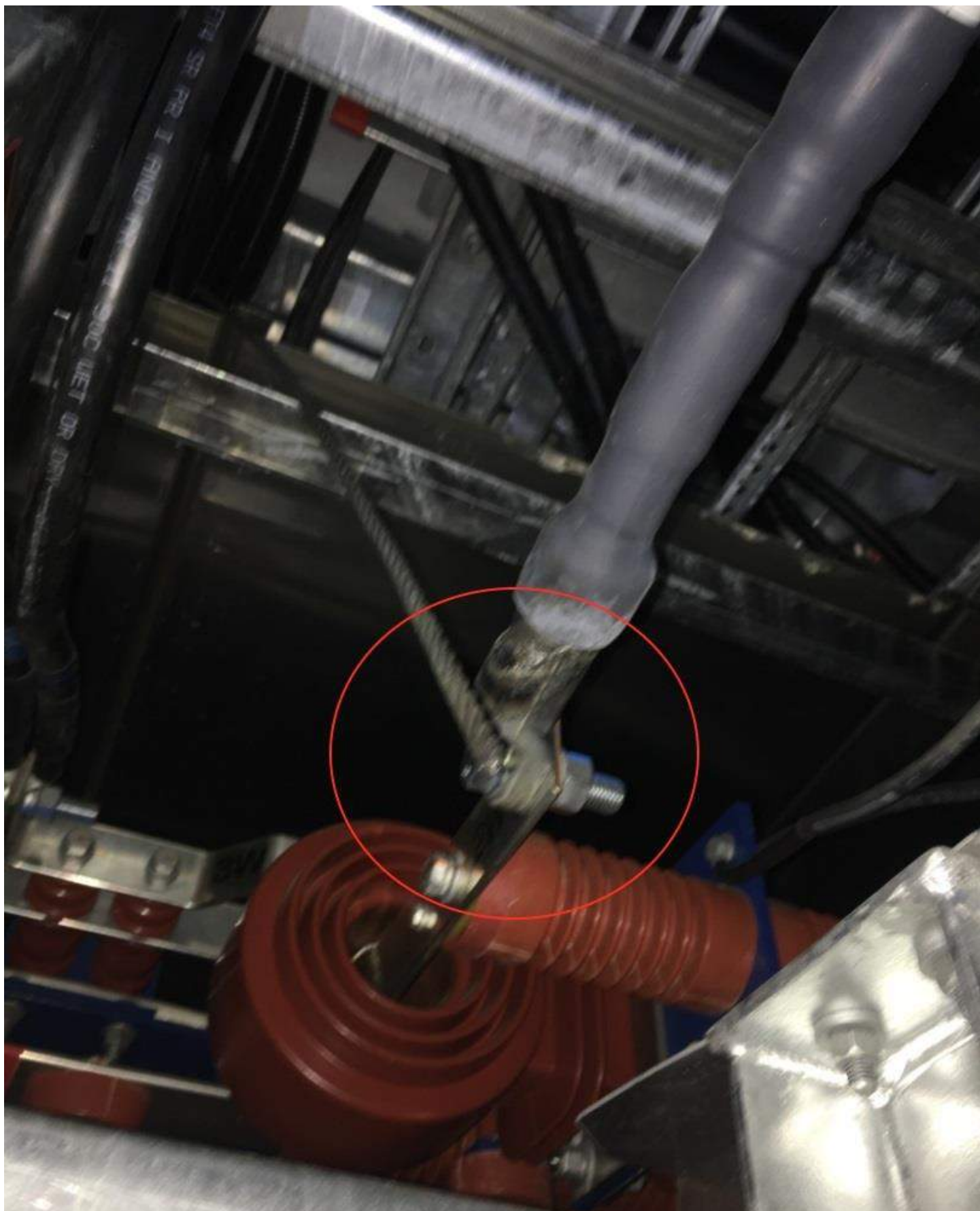
Incident Summary (Reference #5615333) Final

SUPPORTING INFORMATION	Incident Date		February 18, 2017	
	Location		Tumbler Ridge	
	Regulated industry sector		Elevating Devices	
	Impact	Injury	Qty injuries	0
			Injury description	None
			Injury rating	None
	Damage	Damage	Damage description	The safety back-up steel wire rope shorted a 6KV transformer terminal burning the steel wire rope.
			Damage rating	Major
Incident rating		Major		
Incident overview		Workers were re-installing a steel wire rope cable that is used as part of the personnel hoists safety system. The steel wire rope was fed through the lift and the loose end was lowered down the personnel hoist hoistway. As the loose end of the steel wire rope was lowered down the hoistway it inadvertently made contact with a transformer terminal on an energized high voltage transformer.		
INVESTIGATION CONCLUSIONS	Site, system and components		<p>This model of wind tower personnel hoist is suspended using a traction steel wire rope system. There is a backup safety on the hoist that also uses a steel wire rope, if the hoist descends too fast the backup safety will activate and stop the hoist using the secondary steel wire rope. The personnel hoist travels from one deck above the main entrance deck to the top deck located below the nacelle.</p> <p>The high voltage transformer and it's terminal that was contacted are located in the bottom level of the turbine, located below the main entrance deck. The bottom level is secured from personnel entry by a locked hatch.</p>	
	Failure scenario(s)		Adjustments were being made to the hoistway so the steel wire rope systems were temporarily removed. After adjustments were complete the steel wire ropes were being re-installed. Workers were re-installing the safety rope when it was fed through to the bottom deck level. The rope coiled up on that deck and slipped through a small opening in the floor where it contacted a 6KV terminal on a transformer in a controlled area below.	
	Facts and evidence		<p>An incident report created by the asset owner was supplied along with pictures of the equipment involved and some of the damage. From the pictures the safety rope had clear heat damage at the point of contact where it lined up with the 6KV transformer terminal as well as damage where the rope lined up with the deck at the converter platform level.</p> <p>Phone interviews with the two of the people that were performing the work at the time of the incident revealed a lack of knowledge of the proper technique outlined for installing the safety rope. The proper technique was outlined in the installation manual with notes on safe work practices, including directions that during rope installations the entire length of the rope</p>	

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	<p><i>should be monitored at all times. The phone interviews confirmed the information provided by the asset owner in their incident report. One of the workers also stated that when they returned to work on that job they noticed there was evidence of an additional arc between the safety rope and the deck the workers were performing the work.</i></p> <p><i>Based on evidence provided in the phone interviews, the energy being grounded out through the steel wire rope traveled through the cable and arced out to the deck that one worker was standing on. The other workers were on the same level but were standing on the personnel hoist. Workers standing on the hoist were within one to three meters of the energized wire rope, handling the rope just above where it arced to the deck and grounded out.</i></p>
<p>Causes and contributing factors</p>	<p><i>It is plausible that workers were untrained in conducting the required work, and it is likely the safe work procedures were not reviewed prior to work being performed. It is highly likely these factors contributed to the incident.</i></p>

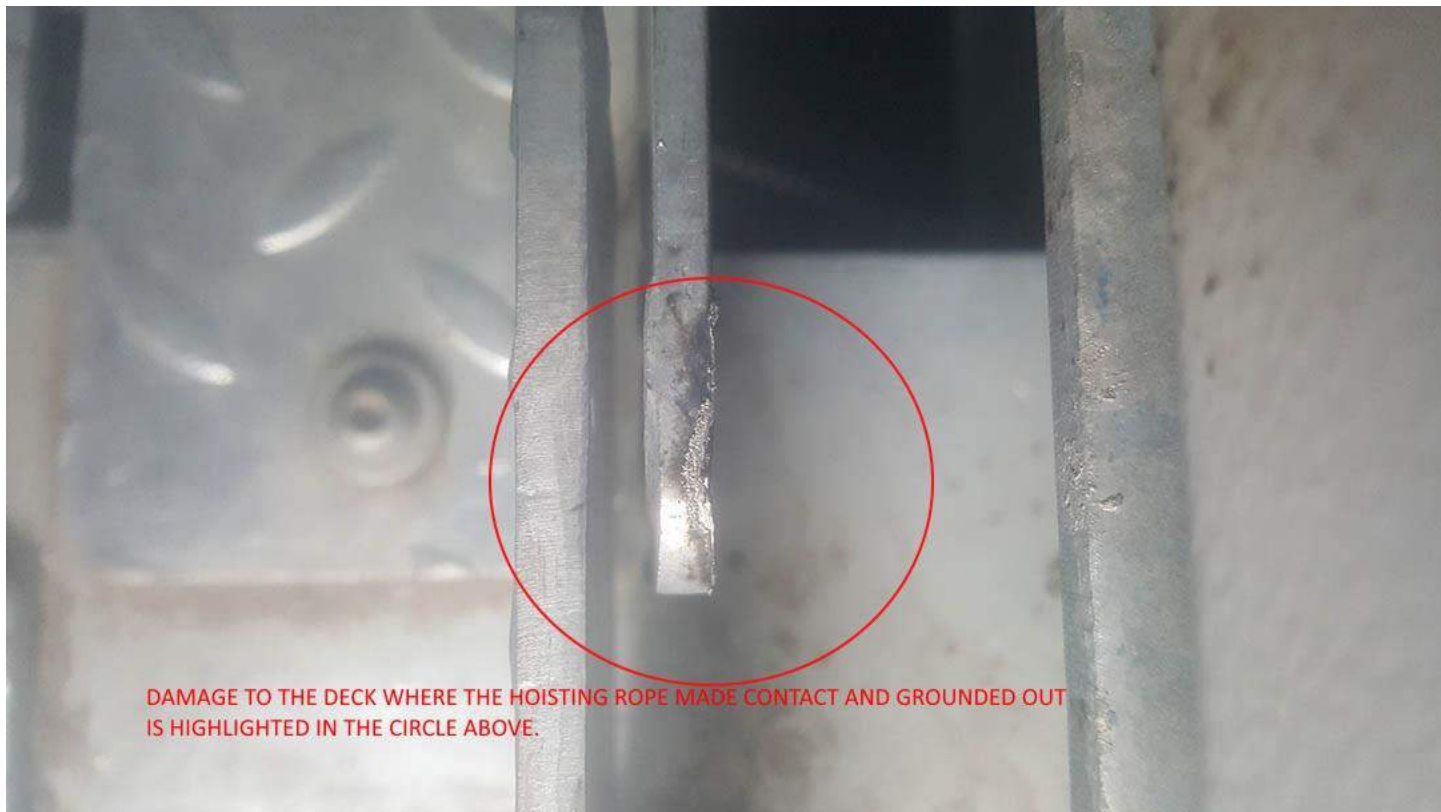




THE HOISTING ROPE CONTACTING THE TRANSFORMER TERMINAL IS HIGHLIGHTED IN THE CIRCLE ABOVE.



DAMAGE TO THE ROPE WHERE IT CONTACTED THE DECK IS CIRCLED ABOVE.



DAMAGE TO THE DECK WHERE THE HOISTING ROPE MADE CONTACT AND GROUNDED OUT IS HIGHLIGHTED IN THE CIRCLE ABOVE.