



Session: Transportation, Loading and Unloading of PCC Pole





Learning Objective	Evaluation Criterion
Identify the correct and incorrect methods of loading, unloading and carrying poles on a handcart	Interactive Questioning

	Duration	30 Minutes
	Resources	PowerPoint Presentation, Markers and Whiteboard
	Facilitator's Notes	Through video presentation and interactive questioning, teach the participants the correct and incorrect methods of loading, unloading and carrying poles on a handcart.

End of Note







		1.	<p>Tell:</p> <p>Welcome to the video presentation on “Transportation, Loading and Unloading of PCC Pole”.</p>
		2.	<p>Tell:</p> <p>By the end of this session, you will be able to identify the correct and incorrect methods of loading, unloading and carrying poles on a handcart.</p>
		3.	<p>Tell:</p> <p>Before we begin the session, let us have an open house discussion.</p> <p>Look at these images carefully.</p> <p>Ask:</p> <p>What is the risk involved in carrying goods in the way shown in the images?</p> <p>Possible Responses:</p> <ul style="list-style-type: none"> • In the first image, the vegetables may fall • In the second image, the gas cylinders may fall and burst • In the second image, behind the cylinders, a person is riding a rickshaw with a heavy load <p>Facilitator's Note:</p> <ul style="list-style-type: none"> • Click to display the risks after the participants have described the two images • Appreciate the participants • Encourage those who are hesitant <p>Tell:</p> <p>That's right! In the first image, a cycle rickshaw is overloaded with vegetables.</p>






			<p>There is a risk of imbalance, which may lead to toppling of the rickshaw. This may result in an accident or loss of goods.</p> <p>In the second image, we see two risks. Bicycles are loaded with gas cylinders. There is a chance that the rope knots may become loose and the cylinders may fall. The second risk is about the person riding a rickshaw carrying a heavy load. The person may lose control of his vehicle due to the heavy load, which may lead to toppling of the vehicle.</p> <p>The vehicles were moving along the traffic. If any vehicle topples, it may lead to loss of the goods and cause accidents.</p> <p>Ask:</p> <p>How many of you are involved in carrying poles or other material to the work site?</p> <p>Facilitator's Note:</p> <p>Most participants may raise their hands.</p> <p>Ask:</p> <p>How do you carry such heavy equipment to the site?</p> <p>Facilitator's Notes:</p> <ul style="list-style-type: none"> • To facilitate complete participation of the class, select random participants (especially those who have not answered earlier) • Encourage them to open up and talk about their experiences • Tell the other participants not to comment on the responses shared <p>Tell:</p> <p>Let us look at the image in the next slide and then discuss.</p>
 	<p>4.</p>		<p>Tell:</p> <p>Look at the image on the screen.</p> <p>Ask:</p> <p>Do you think it is the right way of carrying poles? Give reasons for your answer.</p> <p>Facilitator's Notes:</p> <ul style="list-style-type: none"> • Display only the image first • Encourage the participants to point out the mistake <p>Tell:</p> <p>Well! Although the poles are tied, the cart puller should tie a red cloth or use some indication about poles being transported. This will warn other vehicle drivers to drive carefully near the pull cart.</p> <p>As power sector workers, you will be involved in carrying heavy loads like poles from one place to another place. You must know the correct way of transporting equipment to the work site.</p> <p>You will understand that transporting a long item like a pole or ladder is hazardous. Hence, one should take care of self as well as the public while avoiding obstruction of traffic and other hazards.</p> <p>In this video presentation, we will see the correct and incorrect methods of loading, unloading and carrying poles on a handcart.</p> <p>Let us see what Mr. Nitish Vajpayee has to say. He is the ZRDMO of Zone 571 in</p>

			Tata Power Delhi Distribution Limited.
		5.	<p>Tell:</p> <p>Let us first look at the method of transporting LT PCC pole.</p> <p>Facilitator’s Note:</p> <p>Click to play the video.</p> <p>Ask:</p> <p>What did you observe in the video?</p> <p>Possible Responses:</p> <ul style="list-style-type: none"> • The person was explaining the right way of lifting and loading a PCC pole • He was showing the types of axes of a PCC pole <p>Ask:</p> <p>What will happen if the pole is placed on its major axis?</p> <p>Possible Responses:</p> <ul style="list-style-type: none"> • The weight may not be distributed correctly • The pole may crack <p>Ask:</p> <p>What is the length of a PCC pole?</p> <p>Possible Responses:</p> <ul style="list-style-type: none"> • LT pole is 9 metres long • HT pole is 11 metres long <p>Tell:</p> <p>Well! We have seen the correct way of lifting and loading a PCC pole. Let me quickly summarise.</p> <p>LT poles are 9 metres in length; whereas HT 11 kV poles are 11 metres in length. There is not much difference in carrying any type of pole on the handcart except the length and weight.</p> <p>There are two axes on the pole, namely major axis and minor axis. The upper side, which has smaller width is called minor axis. The side with the larger width, which is to be embedded in the ground, is called major axis.</p> <p>To reduce the cantilever effect, we lift the pole from the minor axis side.</p>
		6.	<p>Ask:</p> <p>Can you think of the common mistakes that power sector workers do while lifting poles?</p> <p>Possible Responses:</p> <ul style="list-style-type: none"> • Loading the pole on the wrong axis • Not inserting the rod in the clamp • Not placing the cone at the end of the pole <p>Ask:</p>

			<p>What are the consequences of loading the pole incorrectly?</p> <p>Possible Responses:</p> <ul style="list-style-type: none"> • Causes damage to the pole • The pole may develop cracks • May cause accidents
		7.	<p>Tell:</p> <p>Most of your responses are correct. Incorrect way of loading the pole or other long equipment may cause damage to the pole. It may also endanger the safety of the staff and the public.</p> <p>Let us watch this video clip to get a better understanding.</p>
		8.	<p>Facilitator's Notes:</p> <p>Click to play the video.</p> <p>Ask:</p> <p>What was your observation from the video?</p> <p>Facilitator's Notes:</p> <ul style="list-style-type: none"> • Capture the responses of the participants • Appreciate the responses <p>Tell:</p> <p>First, the handcart should be kept in place along the side of the stack to keep the pole on the bed and clamp it. You may see the PCC pole is lifted without using the rod. There is possibility of the individual technical helper losing the grip.</p>
		9.	<p>Facilitator's Notes:</p> <p>Click to play the video.</p> <p>Ask:</p> <p>What was your observation from the video?</p> <p>Facilitator's Notes:</p> <ul style="list-style-type: none"> • Capture the responses of the participants • Appreciate the responses <p>Tell:</p> <p>The pole is placed with a jerk at the edge of cart. This may cause an accident. The pole is loaded on major axis. The swing of the PCC pole while balancing on the cart is quite visible. This may cause cracks and damage the pole.</p>
		10.	<p>Facilitator's Notes:</p> <p>Click to play the video.</p> <p>Ask:</p> <p>What was your observation from the video?</p> <p>Facilitator's Notes:</p>

			<ul style="list-style-type: none"> • Capture the responses of the participants • Appreciate the responses <p>Tell:</p> <p>Here, you can see that the pole is being pulled or pushed by the major axis without tying the pole properly to the cart.</p> <p>Here, we can see that the pole has been wrongly loaded. It cannot be roped or clamped in this way as it was loaded on major axis. However, the right way of loading is to load on the minor axis. Swinging of the pole is clearly observed when the pole is lifted for balancing on the cart. It causes extra pressure on pole and may lead to cracks in the pole. Further, it may lead to accidents while turning the handcart on road.</p> <p>Let us see the right way of loading the pole.</p>
		11.	<p>Facilitator’s Notes:</p> <p>Click to play the video.</p> <p>Tell:</p> <p>Here you can see that the pole is being loaded on a handcart in the right way. To load the pole, the team has inserted the iron rod on the MS hook at upper end of PCC pole on minor axis.</p>
		12.	<p>Facilitator’s Notes:</p> <p>Click to play the video.</p> <p>Tell:</p> <p>Now, they will lift the pole collectively making a rhythm call to lift the pole and place it on the cart. We will place this pole on the cart in such a way that the pole weight remains equal on both sides when placed on the platform. It should be balanced in such a way that the cart does not tilt too much on any side.</p>
		13.	<p>Facilitator’s Notes:</p> <p>Click to play the video.</p> <p>Tell:</p> <p>After creating a firm grip of PCC pole with the handcart chassis with many rounds of rope, the technical helpers are tightening the rope by using reef knot.</p> <p>Now, you might have seen that a safety cone is placed and tied to the end of PCC pole. This is a caution signal for public and traffic.</p>
		14.	<p>Facilitator’s Notes:</p> <p>Click to play the video.</p> <p>Tell:</p> <p>Apart from firm gripping by rope, we will further tighten the PCC pole with MS clamp at this position. This is to avoid slipping or sliding of the pole, which can happen while transporting the pole on the road.</p>
		15.	<p>Facilitator’s Notes:</p>

			<p>Click to play the video.</p> <p>Tell:</p> <p>After seeing the correct and incorrect methods of pole transportation, now we will see the correct method to carry and transport lengthy heavy materials like iron rods in a handcart. We will also see how a lineman will carry a ladder, tools, PPE and safety equipment in a rickshaw.</p>
		16.	<p>Facilitator's Notes:</p> <p>Click to play the video.</p> <p>Tell:</p> <p>Caution tape on safety cones is placed on the road for clear visibility to alert the public and traffic that men are at work.</p> <p>Let us see the unloading of a pole from the handcart.</p>
		17.	<p>Facilitator's Notes:</p> <p>Click to play the video.</p> <p>Tell:</p> <p>Now, you can see that we have reached the pole stack site after crossing the road. The pole will be placed here. The unloading process is the same as that of loading. Technical helpers will lift the iron rod collectively by fixing the MS clamp to the PCC pole and placing it on ground.</p> <p>Let us see the tools and materials carried in the rickshaw.</p>
		18.	<p>Ask:</p> <p>Can you name some of the equipment used by a lineman?</p> <p>Possible Responses:</p> <ul style="list-style-type: none"> • Ladder • PPE • Toolkit <p>Tell:</p> <p>That's right!</p> <p>Ask:</p> <p>How is the equipment carried?</p> <p>Facilitator's Notes:</p> <ul style="list-style-type: none"> • The participants may or may not answer the question • Appreciate the participants who attempt to answer <p>Tell:</p> <p>Well! Let us watch Mr. Sant Ram Singh, a lineman, talk about how he carries his work tools.</p> <p>Here are the tools and materials that will be carried in this rickshaw to the work site.</p>

		<p>19-22.</p>	<p>Facilitator’s Notes:</p> <p>Click to play the video.</p> <p>Tell:</p> <p>The PPE, safety tools and other tools carried and maintained by a lineman are:</p> <ul style="list-style-type: none"> • Safety helmet • Visor • Full body safety harness • Insulated safety shoes • Insulating rubber gloves • Safety cone • CRC spray • Screw drivers • Lock-out, Tag-out tags • Ladder <p>The rickshaw shown in the video is used for carrying tools and materials to the work site.</p>
			<p>Tell:</p> <p>In this video presentation, you have seen the “Transportation, Loading and Unloading of PCC Pole”.</p>
<p>Key Learning Outcomes</p>			
		<p>23.</p>	<p>Tell:</p> <p>In this session, we have learnt that:</p> <ul style="list-style-type: none"> • Linemen should follow the correct methods of loading, carrying and transporting of PCC poles on pull cart • The common mistakes that power sector workers make while loading PCC poles include: <ul style="list-style-type: none"> ○ Lifting the pole on its major axis ○ Not tying a rope to the pole before it is lifted ○ Not checking the balance of the pole • The consequences of incorrect loading include damage to the pole and danger to the staff and public • A lineman should correctly assemble his working tools and ladder on a manually pulled rickshaw
<p>Glossary</p>			



Transportation Loading and Unloading of PCC Pole

