

## SESSION 3: GROUP 2 – BALLAST DISTRIBUTION UNIT, BALLAST BROOMS, PLOUGHS AND BLADES

### LEARNING OBJECTIVES:

At the end of the session the delegate will be able to:-

1. Explain the requirements for the controlling the use of Ballast Distribution Units, Ballast Ploughs, Blades and Brooms, attached to a machine

KEY POINTS	CONTENT	REF
<b>3. Introduction</b>	Explain that there are a number of different Ballast Distribution Units, Ballast Brooms, ploughs and blades approved for use on Network Rail infrastructure, each requiring slightly different control measures.	Slide1
	<u>Ballast Distribution Unit (BDU)</u> Explain that BDU is used to distribute ballast into the 4', 6' and onto the sleeper ends. It is attached to a 360° RRV excavator/crane and the host machine is used to fill the hopper and move the BDU as ballast is released.	Slides 2-6
	<u>Ballast Ploughs</u> Explain that Ballast Ploughs are used to regulate and profile excess ballast. Explain that the operator must be competent to operate the Ballast plough.	Slide 7
	<u>Ballast Blades</u> Explain that Ballast Blades are used to regulate and profile excess ballast. Explain that the operator must be competent to operate the Ballast blade.	Slide 8
	<u>Ballast Brooms</u> Explain that the ballast broom is best used to sweep ballast after it has been regulated or profiled by a ballast plough or blade. Explain that the operator must be competent to operate the Ballast broom supplied.	Slide 9
<b>3.1 Survey of site</b>	Explain that the MC must survey the site to be regulated or profiled prior to undertaking the task. The survey will take into account any obstructions which may be damaged by the attachment or may damage the attachment. Obstructions include: <ul style="list-style-type: none"> <li>• AWS magnets</li> <li>• Cables</li> <li>• TPWS beacons</li> </ul>	Slide 10

KEY POINTS	CONTENT	REF
	<ul style="list-style-type: none"> <li>Breathers</li> </ul>	
	<p>In addition, the ballast level should be taken into consideration when deciding which attachments should be used.</p>	Slide 11
<p><b>3.2 On and Off Tracking</b></p>	<p>Explain the requirement to confirm pre-work tests are undertaken (including brake testing).</p> <p>Explain the brake test procedure and emphasise that any rail mounted attachment (with three or more rail wheels) that does not have a correctly functioning brake must not be used and must be off-tracked and quarantined immediately.</p>	
<p><b>3.3 Speed of operation</b></p>	<p>Explain that the speed of operation must be limited to 5mph at all times. Explain that use of excessive speed and the taking of run ups is prohibited.</p>	<p><b>Ashby safety bulletin IGS 249</b></p>
<p><b>3.4 Ballast Broom</b></p>	<p>Explain that ballast should be regulated or profiled prior to using the ballast broom.</p> <p>Explain that the ballast broom will sweep ballast from the 4' and sleeper ends and it can be distributed to either side of the track it runs on using a conveyor belt. This is controlled by the operator or MC depending on the type of ballast broom used.</p> <p>Explain that the height of the brush can be altered so that if the ballast is high, the brush can be raised for the first run and then gradually lowered until the ballast is level with the sleepers.</p> <p>Explain that the ballast profile left will depend on how the brush rubbers have been set. When the ballast broom is ordered or requested from a company, they must be made aware of the ballast profile required. Explain that different sleeper profiles will require different brush rubber profiles e.g. F40 sleepers are a different profile to Wooden sleepers.</p>	<p>Slides 12-13</p>
<p><b>3.5 Ballast Plough</b></p>	<p>Explain that the ballast plough will regulate ballast from the 4' and sleeper ends and it can be distributed to either side of the track it runs on. The plough can be adjusted to set the height and flow of ballast through the plough.</p>	<p>Slides 14-19</p>
<p><b>3.6 Ballast Blade</b></p>	<p>Explain that the ballast blade is used to move ballast in the 4' and the sleeper ends.</p>	<p>Slides 20-22</p>