

Work Instruction		WO No.:	
		Date:	
Scope:			
Team Leader:		Type:	
Activity: Road Boom Gate Mechanism Like for Like Renewal			
Reference: PR S 40002, PR S 40008, PR S 40009, PR S 40010, PR S 40011			
Activity No.	Task No.	Work Description	Completed Name/Sign
APPARATUS INSPECTION & PREPARATION			
1	1A	Ensure the new Road Boom Gate mechanism including Motor Control Relay (K2) is of the correct configuration. Inspect equipment type and the configuration are in accordance with the specific circuit design and compare to the existing Road Boom Gate mechanism. Also compare the Counterweight positions	
	1B	Bell test and wire/null count the internal wiring of the new Road Boom Gate mechanism and compare to the specific circuit design and existing Road Boom Gate mechanism. Include a correlation of connected links and bridges to the circuit book. Visually inspect and conduct an insulation test of the internal wiring of the new Road Boom Gate mechanism. Ensure that circuit controller contacts are in the correct position as per the specific circuit design	
2	2A	On the existing Road Boom Gate mechanism, wire/null count the incoming terminals, including bridges, links and identify cable numbers on the terminals and compare to issued/current circuit book design	
	2B	Document the disconnections on the attached circuit diagram	
	2C	Conduct an apparatus inspection of the condition of the existing post, mounting brackets, fixings and fittings. Ensure the existing mechanism Rest is secure	
SAFeworking & DISconnection FROM INTERlocking			
3	3A	Switch the Cerberus Monitor to "maintenance mode" to prevent any unnecessary alarms. Advise ICON Infrastructure of the intended work	
	3B	Ensure the level crossing and affected signalling equipment is booked out of use in accordance with PR S 40008. If temporary bridging is required obtain authorisation for temporary bridging in accordance with PR S 40002	
	3C	Disconnect the level crossing and affected signalling equipment in accordance with PR S 40009	
	3D	If applicable, apply temporary bridging in accordance with the authorisation. Test bridging in accordance with PR S 40002 to ensure the bridges are effective and that any contacts remaining in the circuit are functional	
DISconnection, REMoval AND INSTALLation			
4	4A	Open links in location for the Road Boom Gate mechanism tail cable/s	
	4B	Disconnect cable/s in the Road Boom Gate mechanism, protect ends and withdraw clear. Secure or remove motor control relay	
	4C	Remove the Counterweights, Road Boom Arm and wiring connections, mounting bolts and remove the mechanism	
5	5A	Install the new Road Boom Gate mechanism, road boom arm and counterweights. Secure mounting brackets, nuts, and bolts and split pins. Remove securing material from motor control relay	
6	6A	Connect all cables in accordance with previously correlated circuit diagram	
	6B	Inspect the cable/s for any signs of damage. Conduct an insulation test of the tail cable/s and record on circuit diagrams	
7	7A	Lubricate the Road Boom Gate mechanism and motor ensuring that oil-ways are clear and all oiling cup caps are refitted, where applicable	

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ADJUSTMENT			
8	8A	Make any adjustments necessary to the Road Boom Gate mechanism drive and the vertical and horizontal torque (counterweight position). Also check for correct operation of the circuit controller contacts, operating-clutch, holding-clutch, ratchet and pawl gap and magnetic brake, adjust as necessary where applicable	
	8B	Conduct a safety, security and reliability inspection of the fixings, locking tabs, boom gate arm, nuts, bolts and split pins. Ensure that the correct shear pin arrangement is in place for the boom gate arm length	
CERTIFICATION			
9	9A	Close all associated terminal links in the location and if applicable, remove any temporary bridging Note: The testing that ensures temporary bridges are removed are done in steps 10 and 12, as part of the overall wire/null count and correspondence testing	
10	10A	Conduct a wire/null count of all terminals with incoming tail cable/s installation to circuit diagram. (NB: links to be counted as wire). Record on circuit diagram	
11	11A	Conduct a power test of the Road Boom Gate mechanism and check operation of motor control relay, circuit controller. Check the road boom arm raised and lowered positions and speed of operation (rise and descent) are correct. Adjust if required.	
	11B	Ensure the Road Boom Gate mechanism operates correctly with smooth motion from the motor/gearbox. Ensure the hold-clear armature falls away freely and without hesitation from the ratchet gear.	
	11C	Check for correct operation of motor drive up, motor drive down, snubbing. Observe the relevant contact to ensure it is of the correct type (N/O or N/C) and opens and closes correctly.	
12	12A	Conduct a correspondence test of the Road Boom Arm Normal detection (XNR). Operate all road boom arms to the lowered position (0°) and raise each boom arm in turn to ensure the XNR relay de-energises and restores. Observe the relevant contact to ensure it is of the correct type (N/O or N/C) and opens and closes correctly. Note: the above test incorporates the out of correspondence test for each corresponding road boom arm (Sydney -side and Country-side)	
13	13A	Ensure the correct operation of the post and boom arm lights and bells/s. Observe the relevant contact to ensure it is of the correct type (N/O or N/C) and opens and closes correctly.	
14	14A	Ensure that any alarms raised with Cerberus monitor are cleared. Switch Cerberus monitor out of 'maintenance mode"	
15	15A	Arrange with the signaller to conduct an operational test of the affected signalling equipment in association with the level crossing protection equipment. Ensure the Road Boom Gate mechanism is secure	
	15B	Book the level crossing and affected signalling equipment back into use.	

I certify that _____ Side Road Boom Gate mechanism at _____
the _____
Level Crossing location has been correctly reinstated, inspected, tested and is fit for service

Signature

Date

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