BHP BILLITON ASSET LEVEL PROJECTS

RAIL CONSTRUCTION INTERFACE

(291km Bridge Replacement Newman Main Line)

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Table of Contents

1.0 Purpose and Scope

The purpose of this construction document is to provide a safe and efficient method to manage, co-ordinate and carry out construction activities and rail vehicle movements within the rail construction zone, whilst interfacing with BHP Billiton Rail Network.

This procedure will detail a safeworking process for construction crews to safely work on construction track for the new alignment at the 291km Newman Main Line (NML) Bridge Replacement Project and is applicable to all BHP Billiton Asset Level Projects' rail construction personnel.

2.0 References and Related Documents

BHP Billiton Iron Ore Rail Rule Book - RRB M01 General Rail Rules & Procedures (1DOC No- 0119114)

BHP Billiton Iron Ore Rail Rule Book - RRB M02 Trackside Safety Rules & Procedures (1DOC - 0119115)

BHP Billiton Iron Ore Rail Rule Book - RRB M03 RCS Rules & Procedures (1DOC No – 0119116)

BHP Billiton Iron Ore Rail Rule Book - RRB M16 Radio Rules & Procedures (1DOC – 0119129)

3.0 Introduction

The existing low level bridge at 291km on the BHP Billiton Rail Operations Newman Mail Line is approaching the end of its designed fatigue life and is to be replaced with a new structure. To facilitate ongoing operational requirements, a new culvert structure is being constructed adjacent to the existing rail bridge.

4.0 Rail Construction Zone Interfacing with BHP Billiton Rail Network

4.1. Rail Construction Zone

The rail construction zone incorporates the area beyond three metres from the closest rail of BHP Billiton Rail network or as defined by barricading within three metres but outside two metres from the nearest rail of the BHP Billiton Rail network.

The rail construction zone will be located between the 290.287km to 291.347km on the eastern side of the BHP Billiton Rail Network on the Newman mainline.

Work within the rail construction zone includes but is not limited to:

- formation earthworks including blasting;
- bridge works;
- track construction;
- Lifting activities;
- track maintenance machine (TMM) movements; and
- commissioning activities.

5.0 Safeworking Requirements

5.1. Track Access

All persons that require access to the BHP Billiton Rail Network during construction works must have completed the BHP Billiton Rail Operations Induction, Restricted Track Access and work under the direction of a BHP Billiton approved Track Protection Officer (TPO).

5.1.1. Adjacent Line Protection

Prior to commencing work in the rail construction zone, if the worksite is less than three metres but greater than two metres from the closest rail of BHP Billiton Rail network, hard barricading for high risk worksites (workers and machinery) and soft barricading for low risk worksites (machinery only) shall be installed.

Where there is no barricading and the worksite is within three metres of the closest rail of BHP Billiton Rail network, than an appropriate level of track protection as set out in BHP Billiton Iron Ore Rail Rule Book - RRB M02 Trackside Safety Rules & Procedures shall be implemented.

5.2. Separation of Workgroups

Where workgroups are working independently to other workgroups and / or rail vehicles within the limits of the rail construction zone, a minimum separation distance of 50 metres shall be maintained between the workgroups and / or the rail vehicle. The separation distance shall be defined by either a red flag or Stop board.

The red flag or Stop board may only be removed for the passage of rail vehicles on the authority of the applicable TPO.

6.0 Rail Construction Track

6.1. Protection of Rail Construction Track

The construction track (~750m in length) will not be connected to the BHP Billiton Rail Network for the duration of construction and will be constructed independent of the mainline. The construction track is located approximately 3.6m – 7.6m away from the mainline (track centre to track centre).

TMM will be craned onto the construction track to allow construction to occur. Temporary ballast piles and a white timber sleeper shall be installed across each end of the construction track to delineate the end of the construction track.

The Construction track will be tied into the mainline during a 12hr mainline track shutdown (schedule for the 30th March 2015.) For the duration of crane activities and for the shutdown to tie in the construction track the appropriate level of track protection as set out in BHP Billiton Iron Ore Rail Rule Book - RRB M02 Trackside Safety Rules & Procedures shall be implemented.

7.0 Rail Vehicle Movements

7.1. Entry and Exit from the Rail Construction Track

7.1.1. Entry / Exit into Construction Track

All rail vehicle/s / TMM will be placed on to the construction track via crane or ramp (i.e. Hi-rail excavator). When rail mounted vehicles are required to travel on the track the TPO shall ensure that all workgroups have moved to a position of safety.

When the TMM will remain on the construction track until the track is tied into the mainline during the mainline shutdown.

7.2. Rail Vehicle Movements on the Construction Track

7.2.1. Permissible Construction Track Speeds

All rail vehicle movements within the rail construction zone shall be at a speed of no greater than:

- 10km/h on skeleton track: and
- 20km/h on construction track, after ballasting and two tamps or as directed by the worksite supervisor.

7.3. Rail Movements on Construction Track

All rail vehicle movements on the construction track shall be by verbal authority from the TPO. Prior to issuing a verbal authority for a proposed rail vehicle movement on the construction track the TPO shall ensure that all personnel have moved to a position of safety.

7.4. Stabling Rail Vehicles on Construction Track

When rail vehicles are to be stabled on the construction track, every effort is to be made to do this on minimal track gradient. TMM will be secured by wheel chocks and lowering tamping heads or ballast ploughs onto the track to prevent movement.

The TPO is to be advised of all rail vehicles that are stabled on the construction track.

8.0 Disruption to BHP Billiton Rail Operations

In the event of disrupting or a potential disruption of trains on the BHP Billiton Rail network, the TPO shall inform BHP Billiton Train Control immediately.

9.0 Radio Communications

The TPO shall be equipped with a specially programmed radio set on the applicable channel to communication with BHP Billiton Train Control. In addition the TPO shall also have a UHF radio to communicate with all equipment on the work site.

For the 291km bridge project the following radio channels are to be used:

Train Control	VHF Zone 1 Channel 2 (Newman Control)
Worksite	UHF 15 or VHF Zone 6 Channel 15
BHP Billiton Access Road	UHF19

9.1. Emergencies

In the event of a rail emergency, the TPO will be utilised to contact BHP Billiton Train Control by standard emergency processes and protocols.

(Ref: *BHP Billiton Iron Ore Rail Rule Book - RRB M16 Radio Rules & Procedures R16 Emergency Messages*)

10.0 Rail Safety Incidents

Any worker becoming aware of an accident or incident or if the potential for an accident or incident exists or if a breach of safeworking procedures occurs, they shall ensure that it is immediately reported to train control. The TPO shall take the necessary steps to protect the incident site / workers.

Defects to the BHP Billiton Rail Network that have the potential to cause derailment or damage to track or equipment shall be immediately reported to the train controller.

Appendix A. Rail Construction Zone Schematic