

Rail Safety Regulation Branch

Rail Safety Audit

of

Mary Valley Heritage Railway

Infrastructure Condition Compliance Audit

conducted on

1 June 2011

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1. OVERVIEW

The Mary Valley Railway Associated Incorporated (MVHR) is a heritage/tourist type railway operating steam, diesel hauled passenger trains and railmotors between Gympie Station and Imbil on the Mary Valley Railway Line, a distance of approximately 42 kilometres.

MVHR is currently operating a passenger train service each Wednesday and Sunday between Gympie and Imbil and railmotor services as and when required.

2. AUDIT SUMMARY

A rail safety audit of MVHR was conducted on 1 June 2011 of track infrastructure reviewing specific areas of the MVHR track and bridge infrastructure between Nashville Station at the 170.000 km on the old North Coast Line and Gildora at approximately the 6.000 km on the Mary Valley Branch Line.

The audit focused on infrastructure features on this section of track, identified and claimed by a Gympie resident as having some defective components with these being reported by this person to the Media. The audit investigated the alleged infrastructure faults and assessed the progress of MVHR track maintainers' work programs in addressing any confirmed infrastructure deficiencies.

The audit also focused on the monitoring and maintenance of railway infrastructure under the control of MVHR in accordance with an action plan to address infrastructure deficiencies identified during the Rail Safety Regulation Branch (RSRB) previous rail safety audit in December 2010.

The audit examined MVHR's compliance with its "*Rail Infrastructure Management*" document (revision 15 June 2006) which specifies three Queensland Rail publications as the reference documents for MVHR infrastructure maintainers to use for track and bridge management – namely, *Bridgeman's Manual*; *Trackmans Manual Parts 1 & 2*.

Two adverse findings were made on MVHR. The audit found that MVHR had not complied with its documented standard in relation to track maintenance and procedures. Neither of the two non-compliances are of a critical safety nature and are being addressed by the MVHR as a matter of priority. The non-compliances are further detailed in the findings of this report.

The audit was conducted by the Rail Safety Regulation Branch of Department of Transport and Main Roads. Departmental representatives were:

- Kev Daley – Principal Advisor (Rail Safety Regulation)

During the audit MVHR was represented by:-

- Jim Walker – Secretary of MVHR
- The MVHR track maintenance supervisor was present during these inspections.

At all times during the audit, the representatives provided information and evidence to the audit team in an open manner.

3. AUDIT METHODOLOGY

Section 63

The railway operations undertaken by MVHR were audited to verify compliance with Section 63 of the Queensland *Transport (Rail Safety) Act 2010*, including the requirements contained in Schedule 1 of the *Transport (Rail Safety) Regulation 2010*.

The audit scope included the following elements of Schedule 1 of the *Transport (Rail Safety) Regulation 2010*:

3. Responsibilities, accountabilities, authorities and interrelationships
9. Corrective action
16. General engineering and operational systems safety requirements
17. Process Control
27. Resource availability

During the audit, the areas and features of the MVHR infrastructure that were inspected by the auditor in the presence of the MVHR track section supervisor were:

- Butler Road – sleeper condition at 12 km on the Mary Valley Railway
- Gildora – sleeper condition in vicinity of occupational road crossing at 14 km on the Mary Valley Railway
- Near the RSPCA facility – sleeper condition
- Mary River Bridge – sleeper condition on approaches and transom deck
- Mary River Bridge – drainage on approach
- Appolonion Vale – sleeper condition
- Deep Creek Bridge – approaches – sleeper condition
- Deep Creek Bridge – approaches – fishplate rail joints
- Deep Creek Bridge – approach – track subsidence around old rotted buried timber pile
- Deep Creek Bridge – approach – track guard rails
- Deep Creek Bridge – bridge stage examination scaffolding support rail

3. AUDIT FINDINGS

During the course of this audit three (3) areas identified in the December 2010 RSRB rail safety audit as still requiring corrective action to replace marked out deteriorated sleepers were examined.

One of these locations was at Appolonian Vale where the Gympie resident claimed there were thirteen defective sleepers in a row. During the audit, the inspecting parties saw eight sleepers in a row that were marked as requiring

replacement. It was noted that not all of the sleepers were exhibiting the same degree of deterioration and given the heavy 47 kg/metre rail laid on double shouldered sleeper plates over that track section, it is considered that the overall integrity of this section of track remains fit for purpose for the passage of the 10 tonne axle load MVHR trains. The MVHR track supervisor advised the auditor that he inspects this section of track once a week and delegates the track inspection duties to a competent track infrastructure person for the regular Monday track inspection. Track inspections are also undertaken prior to the running of trains and as required in order to monitor any changes in the track condition.

The other two locations where defective sleepers remained in the track since the last RSRB inspection were also inspected. These locations contained no more than four defective sleepers in a row which complies with the requirements of the current Queensland Rail Civil Engineering Standard “*SAF/STD/0077/CIV/BUS Module CETS 3 – SLEEPERS AND FASTENINGS*”.

In regard to the track standards being used by MVHR track maintainers, the auditor and MVHR track managers discussed the sleeper management regime which MVHR is currently using. The “*Rail Infrastructure Management*” document in the MVHR Safety Management System contains a reference to the Queensland Rail “*Trackmans Manual 1 & 2*” as the reference document for track management. During these discussions, MVHR management acknowledged that these track management reference documents may not be appropriate for MVHR operations.

The auditor concluded that, in practice, MVHR track maintainers have adopted a defective sleeper cluster management regime for their track maintenance, which reflects the intent of current Queensland Rail Standards for defective sleeper cluster management. The auditor suggested to the MVHR Manager that MVHR consider whether the Queensland Rail track standards may be more appropriate than the standards MVHR currently use. If this is to be the case then the MVHR Safety Management System documentation should be amended to show that MVHR is using contemporary Queensland Rail track standards for management of defective sleepers. (NCR01)

MVHR management has advised RSRB that any such proposed amendments to the MVHR Safety Management System documentation will be discussed and subjected to an approval process by the MVHR Management Committee at an early date.

The auditor was advised that the three locations where the defective sleepers were identified in the last RSRB audit (December 2010) have been listed on the current immediate sleeper replacement program. The MVHR manager advised that the sleeper replacement at these three locations was to commence in the third week of June 2011.

The detailed findings identified from the audit were:

- During the previous five months of this year the MVHR defective sleeper replacement program has not met the planned replacement targets due to wet weather and floods in the Mary Valley area requiring a deployment of resources to undertake repairs to flood affected track.
- In order to address the shortfall in the sleeper replacement program, MVHR has arranged for its track maintenance gang to give immediate attention to replacing defective sleepers on a priority basis. The details of this program are to be supplied to RSRB. (NCR02)
- Some of the initiatives proposed by MVHR and discussed with the auditor included:
 - Approximately 550 sleepers identified as requiring replacement will be replaced in the track over a two month period commencing in the third week of June 2011
 - The locations of clusters of deteriorated sleepers in track will be assessed by the MVHR track section supervisor on a safety priority basis
 - The drainage in eight narrow cuttings with poor drainage will be improved

- Recent bridge inspection reports prepared by an external bridge inspector will be reviewed to determine whether the priority listing of the bridge repairs requires adjustment. These details will be provided to RSRB as part of the revised MVHR program action plan
- The blocked drains listed by the Gympie resident have been inspected by MVHR maintenance personnel and are regarded as requiring non urgent attention as part of the MVHR works program.
- The auditor in conjunction with the MVHR track section supervisor did a detailed inspection of the Mary River Bridge and its approaches which were listed by the Gympie resident as having maintenance issues. This inspection showed that the transomed deck bridge is maintained to the required standard in accordance with Queensland Rail Bridgemans Manual standard which forms part of the MVHR Safety Management System.
- The track on eastern (Gympie) end approach to the bridge is in a rock cutting which exhibits a quantity of algae on the rock faces due to the recent inundations by flood water. The track alignment and sleeper conditions through the cutting have been maintained to a standard required by the Queensland Rail standards accepted by MVHR in its Safety Management System. No evidence of “pumping sleepers” was found at this location during the inspection, despite water being seen around the track.
- The auditor in conjunction with the MVHR track section supervisor did a detailed inspection of the Deep Creek Bridge and its approaches. In response to the track issues mentioned by the Gympie resident, the auditor in conjunction with the MVHR track section supervisor found the following:
 - The deteriorated timber sleepers on the Deep Creek bridge approaches are listed on the sleeper replacement program, but are not regarded as critical safety issues
 - There is evidence of non- critical minor subsidence around old buried rotted timber bridge piles in the track at approximately 40 metres from the Gympie end of the bridge. The MVHR track maintainers advise that this slight depression will be filled with new track ballast as part of the track maintenance program over coming weeks. The bearing capacity of the sleepers near this minor formation depression does not appear to be compromised.
 - The railway line guard rails described by the Gympie resident as “*weak restraint of safety feature*” on the approach to Deep Creek Bridge was found by the inspecting parties to be adequately secured to solid timber sleepers in accordance with Queensland Rail standards used by MVHR.
 - The bridge bracing which the Gympie resident describes as unsupported and “*swinging in the breeze*” is not a piece of bridge bracing, but is a length of railway line securely attached to two timber piles of the Deep Creek Bridge for use as a permanent support for scaffolding planks to facilitate examination and inspections of the bridge.

5. ACTIONS

MVHR is to provide the Regulator with an updated Action Plan by 29 July 2011, to address the infrastructure condition issues identified during this audit. The framework of this plan should provide the basis for MVHR to implement and monitor the planned track infrastructure maintenance task for the next 6 months.

MVHR is to provide the details of its amended SMS documentation in regard to the Track Standard references being used by MVHR by 26 August 2011.

6. AUDIT FINDINGS SUMMARY

Reference	Legislative Requirement (Schedule 1 of the Transport (Rail Safety) Regulations 2010)	Finding (Include Notices Issued)
10086/NCR01	<p>16 General engineering and operational systems safety requirements</p> <p>(2) Details of how the standards and procedures for ensuring the safety of rail infrastructure for the railway operations have been implemented and how they have been updated.</p>	<p>MVHR is to reflect the current civil engineering infrastructure standards appropriate for MVHR operations in its Safety Management System documentation as required by s16 of Schedule 1 of the <i>Transport (Rail Safety) Regulation 2010</i>.</p>
10086/NCR02	<p>9 Corrective action</p> <p>(1) Systems and procedures to ensure, so far as is reasonably practicable, corrective action is taken in response to any deficiencies relating to safety identified following an inspection, test, audit or investigation under the Act or a notifiable occurrence.</p>	<p>MVHR is to address overdue defects for its track and bridges as listed in the latest MVHR inspection reports in accordance with the requirements of s9 of Schedule 1 of the <i>Transport (Rail Safety) Regulation 2010</i>.</p>