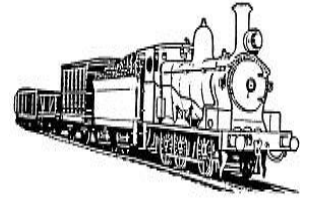


# Rainforest



## RAILWAY NEWS No. 21 – August 2010

### **Rainforest Railway News**

is the information bulletin of Glenreagh Mountain railway Incorporated.

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Address all correspondence to:

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[www.gmr.org.au](http://www.gmr.org.au)

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### **Board of Management:**

President: Kevin Anderson  
Vice President: Steve Martin  
Colin Sambrook  
Secretary: David Page  
Treasurer: Helen Bamford  
Directors: Colin Campbell  
Dawn Gillson  
Trevor Kelly  
Ron Paul  
Bill Harrison  
Valmai Thomson

Web Site

Administrator: Eric Shaw

### **PRESIDENT'S REPORT**

As you can see from the Secretary's Report there is plenty of work to be done. If you are able to help, please give us a call so that we can arrange a suitable time.

As reported in the last Newsletter, we are now the proud owners of the old Fettle's Cottage at Glenreagh West. A small but dedicated and enthusiastic team has cleared all the vegetation away from the Cottage resulting in a large cleared area that can be used for car parking. The fruit trees have been pruned and minor repairs have been made to the building. A lot more are required and any help that can be provided or donation of materials would be appreciated. I would like to particularly thank the crew who turned up on Good Friday to make big inroads into the clearing of vegetation. In particular, Valmai and Lindsay Thomson, and Geoff Hart have put an enormous effort, on Thursdays, into the transformation of the Cottage yards.

The Cottage is currently being used as our office, meeting room, and meal room.

At our Board meeting (14 August) our application for infrastructure Accreditation was finalised and approved for submission to ITSRR for approval. This process will take a few

months. Once this is approved, we can start on the application for Rolling Stock Accreditation.

On 28 August the Jacaranda Motor Cycle Club will be visiting Glenreagh West for their show and shine. GMR will be providing lunch which should prove to be a good money spinner. I believe there will be around 60 bikes and about 100 people in attendance.

Once again I would like to thank members for standing by us during these hard times and look forward to more members making the trek to Glenreagh West to help clean up ready for when our accreditation is approved.

Kevin Anderson  
President.

### **SECRETARY'S REPORT**

## **Glenreagh Mountain Railway taking steps to protect our railway heritage.**

Glenreagh Mountain Railway has taken on the task of cataloguing and preparing conservation management plans for all our rolling stock and infrastructure. These conservation

management plans are the key to the correct restoration of our important heritage items. We have been able to retain the help of well known railway heritage expert, Ray Love to assist and guide this process. One key conservation management plan will be for CPH 11 which will be one of the first restoration projects. The conservation management plan will guide the restoration team to ensure that we are faithful to the heritage of the item.

We are also developing heritage information sheets for all our rolling stock and infrastructure. These will be placed on our web page for the general public and as handouts at both Glenreagh and Lowanna. If members would be interested to assist with the maintenance of heritage records, please contact our Secretary at [secretary@gmr.org.au](mailto:secretary@gmr.org.au)

## **Glenreagh West Development Application Approved**

Clarence Valley Council has approved the modification to the development approval for Glenreagh West. This is a huge step forward with the removal of the unrealistic financial burden on Glenreagh Mountain Railway for the need to construct a new road through the Glenreagh Recreational Ground as well as geotechnical and consultancies reports. This new approval also legally allows general public to access the workshop to view 1919 and other rolling stock. Finally the stage one tram shed is now legal as part of this approval.

However we still need to comply with the Building Code for Moorland Station and all the work that has been done now has to be rechecked and supervised by a Licensed Builder. Until Glenreagh Mountain Railway can find a willing Licensed Builder to undertake

this work further activities are on hold with that project.

## **Heritage Station saved from weather.**

Glenreagh Mountain Railway would like to thank the members and supporters in the raising of over \$5,400 for the repairs to the Lowanna Station roof. Special thanks go to the team of workers under Rex's supervision who placed the new roof on the building.

## **New Workshop is being fitted out.**

When Glenreagh Mountain Railway applies for its Rolling Stock Accreditation at the end of this year we will need to show that we have facilities to undertake repairs and maintenance of all rolling stock. A key part of this is to have an operational machine workshop. We have the space and the machines but need Fitters, Boiler Makers and Carpenters to help set up the machines and build the work benches.

This is urgent so if you can help please contact the [secretary@gmr.org.au](mailto:secretary@gmr.org.au) or phone on 66545350. If you are unable to help in person, a donation of funds to purchase materials would be gratefully received.

## **WE NEED YOUR HELP!**

Members are being asked to put their hand up to help clean our rolling stock one weekend every three months. The aim is to maintain the heritage items by basic cleaning until restoration can start. Accommodation will be in our cottage or in the TAM and we are seeking a team of people who are prepared to be trained and work under a supervisor to undertake this important task. If you feel you can assist please email the Secretary at [secretary@gmr.org.au](mailto:secretary@gmr.org.au) or phone on 66545350.

## **Glenreagh Mountain Railway getting out among its members.**

The membership of Glenreagh Mountain Railway is widely dispersed and for that reason the board of management wishes to establish information and members days in some key locations. We are looking to hold these information days in key towns and cities of Sydney, Canberra, Coffs Harbour and Grafton. If there is enough interest in some of the small towns and villages these will be held there as well. If you are interested in attending these information days or hosting these, please contact the secretary on: [secretary@gmr.org.au](mailto:secretary@gmr.org.au) or phone on 66545350.

These information days will cover; update of current operations, projects we need assistance from members, overview of training and risk management. This will also allow members to provide feedback to the board of management.

David Page  
Secretary

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## **FROM THE EDITOR**

The Board has agreed to have another Member's Meeting on Sunday 3 October 2010. A Special General Meeting will be held in conjunction with this meeting to vote on changes to our constitution. The changes are designed to bring GMR into line with other similar organisations and to streamline our operations. The changes will also enable all members to vote on the election of Board Members thus giving all members a say in how the Organisation is run. A summary of the

proposed changes is attached for your perusal. Members wishing to obtain a copy of the current Constitution can do so by emailing the secretary at secretary@gmr.org.au or by telephoning 02 66545350.

Members wishing to obtain a copy of the minutes of Board Meetings can do so by sending their email address to the Secretary.

In the interest of economy Members can now have their copy of the newsletter emailed to them as a PDF file to save on postage. To arrange this please provide the Secretary with your current email address.

Our application for Accreditation for Infrastructure Management has been completed following a workshop held on 17 July 2010 where a number of changes were made and was presented to the Board meeting on 14 August 2010 for consideration. Approval was given by the Board for it to be lodged with ITSRR for approval. This will take a number of months. A special thanks must go to Bill Harrison, Andrew Simpson and Robert Wilson for the hundreds of manhours put into the research and preparation of the Accreditation application. Once it is approved we will be able to start on the Application for Rollingstock Accreditation.

Once the Infrastructure Management Accreditation is approved we can start assessing and costing the work needed to restore the track and bridges. It is intended to restore the line from Glenreagh West to Glenreagh Station and restore the Glenreagh Goods Yards.

At the Board meeting the following positions that form part of the Accreditation were filled by Board members: Infrastructure Safety Manager – Colin Sambrook,

Infrastructure Manager – Bill Harrison, Assistant Infrastructure Manager-Steve Martin. The second position of Assistant I. M. was left vacant for the time being.

The Annual General Meeting will be held 11am on Sunday 12 December 2010 at the Glenreagh Community Hall.

Colin Sambrook  
Vice President

### ACCREDITATION REPORT

The Accreditation documentation team has now completed a substantial number of documents to complete most of our Safety Management system (SMS) documentation. This comprises 3 guidance documents, the Safety Management Plan, 18 Policies, 2 standards, a Risk Register and 41 assessment forms or other documents. A small number of documents are still to be completed. The documents that will be attached to our accreditation application were reviewed and approval by the Board on 14 August 2010 and are comprised of the Safety Management Plan, 13 Policy documents, 2 standards, the Risk Register and 20 assorted documents relating to Audits, Hazard/Incident management, track inspections and change management.

Bill Harrison  
Director

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Work has started on cleaning 1919. Steve Martin is seen here cleaning the ash from the smoke box.



Lowanna Station showing the completed new roof.



Rear view of the Fettle's Cottage

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# Gang Sheds on the Glenreagh-Dorrigo branch line

By Ray Love

## An Overview

In 1894, the Per-Way Engineer for the NSW Railways discussed the idea of providing structures adjacent to running lines where equipment, tools and materials, necessary for track maintenance could be stored. These structures were referred to as 'tool houses' and would replace local 'tool boxes', which in those days, were located at various work locations along the line.

Over the next 70 years, the original 'tool house' concept was improved in design, size and purpose. As a result of the changes in purpose, these structures were known variously as a 'Fettler's Tool House', 'Trolley Shed', 'Gang Shed', 'Per-Way Shed', 'Fettler's Shed' or a combination of similar terms. Probably the most common term and one which describes all, is the 'Gang Shed'.

## Gang Sheds – General History

The basic 'standard' tool house, designed in 1926 (and later to be known as a Gang Shed), comprised a simple rectangular structure 12ft.1½in. wide, by 9 feet deep. Walls of the shed were second hand sleepers, placed vertically. The shed was fitted with a skillion roof, sheeted in galvanised corrugated steel and was divided into two sections, with a row of sleepers forming the dividing wall. One section of the shed was open at the front (running line side) and housed the 'trolley' (with run-in rails allowing the trolley to be taken from the running line and moved into the shed) while the other section was a lockable room containing the tools. Subsequent improvements to this basic shed included an increase in physical dimensions, provision of a sleeper floor within, and a sleeper apron out the front of the shed.

The 'ganger' was a track repair man, part of the Permanent Way Branch (Per-Way) who was responsible for maintenance and repair for a set 'length' of railway track. Depending on the location, the ganger was in charge of a 'gang' comprising a group of other men, referred to as 'fettlers'. The 'length' could be a couple of miles (depending on frequency of rail traffic) or substantially longer (20-30 miles) in remote country areas.

The ganger (and his gang) were equipped with the usual manual tools (picks, shovels) but frequently (depending on location) equipped with a rail vehicle allowing the ganger to inspect the 'length' or to transport men and tools to a work site. These vehicles could range from a manually-operated tricycle (usually suitable for transporting one man) through to powered tricycles, and powered quadricycles (four wheels). Often the gang was equipped with small four-wheel trailers, towed by the powered vehicles and suitable for carrying men and/or tools. In the designs of 'tool sheds', provision was made for these rail vehicles, which were commonly called 'trolleys'.

Over the next few years, new and larger sheds were designed, all as a result of the use of powered trolleys. Changes and improvements included timber framing (in lieu of old rails and sleepers), the use of galvanised corrugated sheet steel for walls, wider sections for trolleys and tools, provision of work benches and racks for tools. Further design changes (in the 1940s) included provision of concrete floors, and a separate 'poison store room' to house weed spraying chemicals at one end of the structure. Commonly, the final design of the gang shed comprised a poison store (usually the right-hand end of the structure when viewed from the track), then the tool shed (with benches, racks and equipment bins), with the trolley/tricycle sheds at the left-hand end. In the arrangement, one or two trolley sheds were usual, but variations occurred depending on the size of the gang and number of trolleys in use. It was usual for 'gangs' to be given a number and that number was prominently displayed high up on the front wall of the trolley shed, facing the running line.

In the late 1960s, with the advent of mechanised track gangs using larger machines, large road vehicles for transport to work sites and more extensive track repairs, the traditional gang sheds (and their variations) were phased out. They were replaced by new and larger custom designed sheds, which were built from commercially available 'kits' incorporating steel sheeting (usually fluted), with appropriately placed doors and windows. These new sheds included accommodation for road vehicles, tools, showers, meal rooms and other essential facilities for the track gang.

With the increasing use of private track maintenance companies (such as Leighton's, John Holland and Laing O'Rourke), the local track gangs have disappeared from the scene and their interesting 'Gang Sheds' are no longer in use.

### **Gang Sheds on the Glenreagh-Dorrigo Branch Line**

By 1961, four gang sheds provided for men and machines employed on track maintenance and repairs on the 43-mile long Glenreagh-Dorrigo branch line. A gang shed was built at each of Glenreagh, Timber Top, Lowanna and Dorrigo.

Details of the gangs, length and equipment are shown in the table:

<b>Location</b>	<b>Gang No.</b>	<b>Strength (men)</b>	<b>Length (miles)</b>	<b>Equipment</b>
Glenreagh	52	4	8 miles	Fairmont Inspection Car
Timber Top	53	4	8 miles	Motor Quadricycle and Fairmont Inspection Car
Lowanna	54	4	13 miles	Motor Quadricycle and Fairmont Inspection Car
Dorrigo	55	4	15 miles	Motor Quadricycle and Fairmont Inspection Car

Two significant and historic gang sheds remain on the Glenreagh-Ulong section of the Glenreagh-Dorrigo branch line.

One gang shed is located at Glenreagh West at the GMR Depot. The other gang shed is located just west of Lowanna Railway Yard near the up home signal.

Both are 1940s design incorporating a poison store at right-hand end, tool shed and two tricycle sheds at the left-hand end of the structure.

A 1960s-designed gang shed remains in situ at Glenreagh railway yard.

### **Gang Sheds on the Glenreagh-Dorrigo Branch Line – Condition, Significance and Rarity**

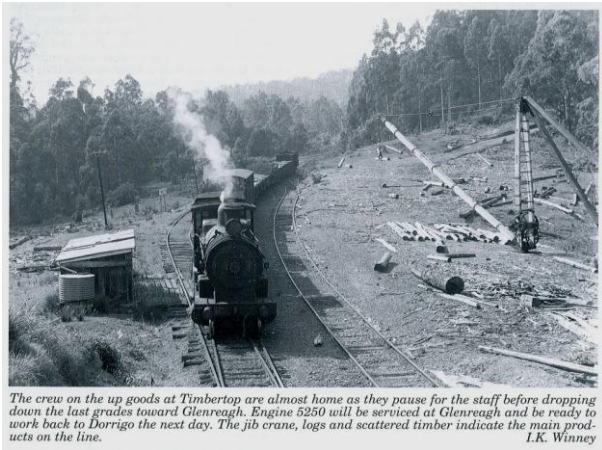
All three gang sheds remaining on the Glenreagh-Dorrigo branch line, particularly those owned by the Glenreagh Mountain Railway group are in good condition.

All three are historically significant and are part of a relatively rare group of historic NSW railway structures. They are in prominent locations allowing interpretation by the general public.

All efforts must be made to preserve these valuable exhibits.

## References

*A Desk-Top History of Gang Sheds of the NSW Government Railways.* Jim Longworth. *ARHS Bulletin.* May 1999. *Per-Way Workshops at Parkes. NSW. A Comparative History.* Ray Love. 20 November 2002. *Report and Historical Assessment of Per-Way Workshops in NSW, prepared for Rail Infrastructure Corporation (RIC).*



*The crew on the up goods at Timbertop are almost home as they pause for the staff before dropping down the last grades toward Glenreagh. Engine 5250 will be serviced at Glenreagh and be ready to work back to Dorrigo the next day. The jib crane, logs and scattered timber indicate the main products on the line.*  
I.K. Winney

Photo by I.K. Winney



Photo by Robert Wilson 2010

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## Rolling Stock that operated on the Glenreagh to Dorrigo Branch Line: The 48 Class.

By S Preston

The 48 class was one type of diesel electric locomotive that replaced steam locomotives in the latter years of the Dorrigo lines operation. The last regular train to operate to Dorrigo was hauled by 4816 in October 1972.

The 48 class was officially classed as a DL531 model introduced by the American Locomotive Company (ALCO) to compete with the EMD (General Motors) G8 and G 12 locos in the export market. The design was intended to be suitable for use on almost all gauges including the small metre gauge used by some networks.

The DL531 model had six axles, all driven by traction motors and which allowed for a distributed and lighter axle load to make the model suitable for even the lightest branch line. Most of the DL531 models were built by AE Goodwin in NSW for use in Australia. The NSWGR ordered a total of 165 units being numbered 4801 to 48165.

The first twenty DL531's (4801 – 4820) were ordered to reduce the cost of operations on the North East wheat lines radiating from Werris Creek. From 1959 fourteen units operated from Werris Creek, and the remaining six were sent to Casino to replace steam operations on the Murwillumbah branch. The use of 48 class was hailed an immediate success and a second order for more locos was placed.

Locos 4821 – 4830 were first allocated to Goulburn depot and used to work the Southern lines including the branches to Canberra, Cooma, Batlow and Captain's Flat. In later years on the Cooma run carriage heating was provided by using electric power jumpered to the carriages from the locomotive main generator to passenger trains.

The next allocation for 48 class locos was Junee which became the home depot for 4831 – 4845 and which took over working the South Western branches and also more prestige roles including the alternative day working of the Riverina Express to Griffith.

As the 48 Class proved to be a general-purpose locomotive capable of replacing a 32 Class or 50 Class steam loco on the main lines as well as on light track several were allocated to Eveleigh for Illawarra passenger working bettering running times of the 32 class and without the need for water stops.

Another three orders each of forty locomotives were placed, resulting in a total class of 165 locomotives. From 4886 onward the 48's were fitted with a larger fuel tank (3178 versus 2270 litres) and had an externally mounted battery box on the No1 end running board.

Following the introduction of the 82 & 90 class locomotives in 1994 a sale of surplus locomotives by FreightCorp saw some small freight operators purchase and reactivate 48 Class locomotives. Austrac, based at Junee, obtained two units, 4814 and 4836. These worked their early main line container services and had additional fuel tanks fitted to extend their range. The Cargill corporation acquired a single unit, the former 4812, renumbered as CAR 1, to shunt their plant on Kooragang Island near Newcastle.

The Silverton Tramway company originally ordered three DL-531's new from A E Goodwin and later bought two more from AN Tasmania and six more from NSW which became their numbers 29 to 36.

In recent years 48 class including 4819, 4827 & 4850 have been fitted with exhaust "scrubber" catalytic convertor systems for safe use in the Sydney system Underground tunnels. Despite some withdrawals many 48 class units remain in service with Pacific National with recent upgrades including improved cab side windows, cab air-conditioning and new liveries.

Some other 48 class units have been rebuilt as "PL" units with modified drivers cabs to improve visibility. The 48 Class continues to be the backbone of the railway and remains in service as an extremely reliable and capable locomotive adaptable for any duty type.



**Photo R Preston**



**Photo S Preston**

4801 - 4845

4846 - 4885

4886 - 48165

## PERFORMANCE

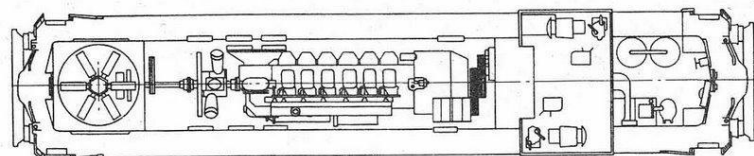
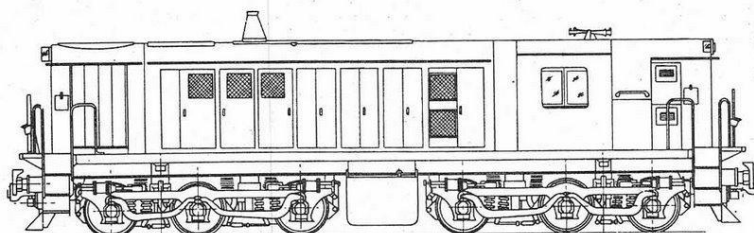
Tractive Effort at 30% Adhesion	49,700 lb (22 107 daN)	49,700 lb (22 107 daN)	51,500 lb (22 907 daN)
Tractive Effort at 20% Adhesion	33,200 lb (14 768 daN)	33,200 lb (14 768 daN)	34,300 lb (15 257 daN)
Continuous Tractive Effort	40,200 lb at 5.8 mph (17 880 daN at 9 km/h)	40,200 lb at 5.8 mph (17 880 daN at 9 km/h)	42,500 lb at 6.5 mph (18 900 at 10 km/h)
Maximum Load and Speed on a Grade of 1 in 40	450 tons at 8 mph (457 tonnes at 13 km/h)	450 tons at 8 mph (457 tonnes at 13 km/h)	450 tons at 8 mph (457 tonnes at 13 km/h)
Maximum Speed	75 mph (120 km/h)	75 mph (120 km/h)	75 mph (120 km/h)

## SPECIFICATIONS &amp; EQUIPMENT

Engine Model	Alco 251B	Alco 251B	Alco 251B
Engine Type	Turbo-supercharged 4 stroke	Turbo-supercharged 4 stroke	Turbo-supercharged 4 stroke
Number of Cylinders	6	6	6
Bore and Stroke	9" (229mm) bore 10½" (267mm) stroke	9" (229mm) bore 10½" (267mm) stroke	9" (229mm) bore 10½" (267mm) stroke
Engine RPM Idle and Maximum	375 : 1025	375 : 1025	375 : 1025
HP of Engine	1050 (780kW)	1050 (780kW)	1050 (780kW)
HP available for Traction in Generator	950 (710kW)	950 (710kW)	950 (710kW)
Traction Generator Type	GE 5GT 584	AEI TG 3602	AEI TG 3602
Traction Motor Type	GE 761	GE 761	AEI 253 CT
Number of Traction Motors	6	6	6
Traction Motor Gear Ratio	92 : 19	92 : 19	92 : 19
Axle Load	12.3 tons (12 tonnes)	12.3 tons (12 tonnes)	12.8 tons (13 tonnes)
Total Weight	74 tons (75 tonnes)	74 tons (75 tonnes)	76.6 tons (78 tonnes)
Wheel Arrangement	Co - Co	Co - Co	Co - Co
Wheel Diameter	40" (1 016mm)	40" (1 016mm)	40" (1 016mm)
Bogie Wheelbase	12' 0" (3 660mm)	12' 0" (3 660mm)	12' 0" (3 660mm)
Distance between Bogie Bearing Centres	28' 0" (8 535mm)	28' 0" (8 535mm)	28' 0" (8 535mm)
Length over Headstocks	44' 3" (13 490mm)	44' 3" (13 490mm)	44' 3" (13 490mm)
Length over Coupling Faces	48' 5" (14 760mm)	48' 5" (14 760mm)	48' 5" (14 760mm)
Height (roof)	11' 11 1/8" (3 635mm)	11' 11 1/8" (3 635mm)	11' 11 1/8" (3 635mm)
Height (max.)	14' 0" (4 270mm)	14' 0" (4 270mm)	14' 0" (4 270mm)
Width (max.)	9' 9" (2 970mm)	9' 9" (2 970mm)	9' 9" (2 970mm)

## SUPPLIES

Fuel Oil Capacity	500 gals. (2 270 litres)	500 gals. (2 270 litres)	700 gals. (3 185 litres)
Lubricating Oil Capacity	116 gals. (530 litres)	116 gals. (530 litres)	116 gals. (530 litres)
Cooling Water Capacity	90 gals. (410 litres)	90 gals. (410 litres)	90 gals. (410 litres)
Sand Capacity	10 cu. ft. (0.28 cu. metres)	10 cu. ft. (0.28 cu. metres)	10 cu. ft. (0.28 cu. metres)



No. 2 End

No. 1 End

# Notice of Special General Meeting called by the Board of Glenreagh Mountain Railway

11am, 3<sup>rd</sup> October 2010, at The Fetter's Cottage, Glenreagh West

## Agenda

### **Motion:**

The members of Glenreagh Mountain Railway give approval for the Board of Glenreagh Mountain Railway to proceed with amendments to our Articles of Association.

Members are then invited to ask questions of the Board on any issues. 5 minutes per question, one question per member.

**This will be followed by fellowship, inspection of the site and a Sausage Sizzle lunch.**

## **PROXY VOTING FORM**

**Proxies must be in the GMR PO Box 5104 Glenreagh 2450, 24 hours before the meeting.**

I..... being a financial  
member of Glenreagh Mountain Railway Inc hereby give my voting proxy to  
(Name).....who is a  
financial member of Glenreagh Mountain Railway Inc to vote on the motion in the notice of  
meeting.

**I wish to vote for/against the motion.**

**Signed.....**

**Date.....**

# **PROPOSED CHANGES TO GMR ARTICLES OF ASSOCIATION**

1. Delete all reference to “Proxies”
2. Rule 15 (1) (b) delete 7 and insert 5
3. Rule 15 (2) (b) delete “two” and insert “one”
4. Rule 16 (1) (b) delete 7 and insert 21
5. Rule 16 (6) Delete all after the word “conducted” and insert the following “by postal voting and the result announced at the Annual General Meeting”
6. Rule 21 (5) Delete 7 and insert 5
7. Rule 34 Appointment of Proxies Delete entire rule and insert new rule titled “Postal Voting”

## **34 POSTAL VOTING**

- (1) Voting for positions on the Board at Annual General Meetings will be by postal vote.
- (2) A Returning Officer will be appointed by the Board. The Returning Officer can be a member of GMR who is not a nominee for a position on the Board or a responsible person who is not a member but who is willing to take on the position free of charge.
- (3) The procedure to be followed for Postal Voting is as follows:
  - (a) Members will be invited to nominate for positions on the Board eight (8) weeks prior to the AGM with the cut off date being 3 weeks from date at which the Invitation is posted. Nominations are to made on the form at Appendix A attached to these rules.
  - (b) Voting slips with a list of nominees for positions on the Board together with a brief resume from each nominee will be posted to members. Completed voting slips are to be returned to the Returning Officer nominated on the letter accompanying the voting slips at the address nominated by the returning Officer no later than 1 week prior to the AGM.
  - (c) The successful candidates will be advised at the AGM by the Returning Officer.
  - (d) All paperwork relating to an election must be held in a sealed envelope by the Secretary for a period of 5 years.
  - (e) Voting for motions on the agenda at any AGM or Special General Meeting can only be done by the members present at the meeting.

The purpose of the changes to the Articles of Association is to bring them into line with other organisations in particular with the size of the Board. Postal Voting is designed to give **all** Members a say in the selection of the Board, and reduce the time taken to carry out the election at AGM’s. With the changes in Legislation that have occurred in recent times, all heritage railway groups need to become much more professional in their administration.