

**CASTLEDARE
MINIATURE RAILWAYS**

W.A. (INC)
www.castledare.com.au

JANUARY 2014

ISSUE NO: 326

Castledare Miniature Railway
P.O Box 337
Bentley, WA 6982

Patron: Dr. M. Lekias

Contact listing for CMR Management Committee members.

All information on this page ratified by Management Committee on 19th April 2013

President:

Craig Belcher - Ph: 9459 6495 Mob: 0417 984 206
Email: craig.belcher@bigpond.com

Vice President:

Chris Doody – Mob: 0498 473 119
Email: cdoodyc@gmail.com

Secretary:

Ken Belcher - Ph: 9375 1223, Fax: 9375 2340
Email: cmr1963@tpg.com.au

Minute Secretary:

John Watson – Ph: 9458 9047

Treasurer:

Tania Watson – Ph: 9479 5045

Committee:

Les Smith – Ph: 9314 6382 Email: ausrail@box.net.au
Victor Jones - Ph: 9527 5875 Email: jonses12@optusnet.com.au
Trish Stuart - Ph: 9295 2866 Email: richard.stuart@bigpond.com
Richard Stuart – Ph: 9295 2866 Email richard.stuart@bigpond.com
Eno Gruszecki - Mob: 0408 908 028

Membership + Licenses: Sue Belcher

Boiler Inspectors: Richard Stuart - Ph: 9295 2866, Keith Watson - Ph: 9354 2549, Phill Gibbons - Ph: 9390 4390

Qualification Examiners: Steam Locomotives – Keith Watson, Roger Matthews
Diesel Locomotives - Roger Matthews, Craig Belcher, John Watson, Vic Jones, Eno Gruszecki
Guards & Safe working – Keith Watson, Trish Stuart, John Watson, Vic Jones, Eno Gruszecki
Signals – Mike Crean, Ric Edwards

Track Master: Craig Belcher

Editor of Cinders and Soot:

Trish Stuart – Ph: 9295 2866 (after hours) Email: richard.stuart@bigpond.com
No personal letters will be printed without committee approval

First Aid Officers: Keith Watson, Tania Watson

The Castledare Miniature Railway is sponsored by:

Coal Supplies: The steam locomotives at the Castledare Miniature Railway operate with coal supplied by Premier Coal.

Cover page: No. 9 "Winston Churchill" at Romney, Hythe & Dymchurch Railway – Kent, UK.

Photographer: R. Stuart

The President's Bit

Welcome to the beginning of another year. I trust we've all had a safe and happy holiday season? Last year's good work has been continuing already this year. Work has started on the Arrival end of Niana from a signaling perspective, with a new relay cabinet being installed into the side of B box. Once the transplant has been completed, all control elements of the signaling system will be in this relay box, and remains of the cabin itself will be demolished, making way for track realignments.

In other areas, the carriage shed has had the next stage of it's extension work carried out, next up will be laying the track in the new annex. And after a couple of false starts, the wagon bunker for the ballast cars is hopefully going to be lifted into place in the coming weeks.

My thanks go out to those who have volunteered to do a bit of track work by way of joint lifting and some spot ballasting etc. This group has also come up with a potential improvement for the expansion joints around the railway (a sample is on the workshop bench for those keen to have a look) intended to help share the load between rail sections. A few are to be installed around the railway for evaluation.

The new set of wagons has been collected and stored in the workshop; I appreciate everyone's patience here as we are now a bit hampered for room. A work list is being put together with required tasks in order to see this set operational in the most suitable manner. If any members are interested in assisting with this project, please speak to myself, or Les Smith.

Looking ahead, we have a few things on the boil for which we will be putting the call out for help. It is intended during February and March to carry out the work required on Bayou Bridge. Notification will be sent out as soon as details are finalized, but there is likely to be a couple of special project weekends organized in order to carry out this work. Assistance will be greatly appreciated.

The Annual General Meeting is on its way again and is planned to take place in March. I will take this opportunity now to say a big thank-you to Tania Watson for her efforts as Treasurer. Tania has indicated she does not plan on renominating. Her efforts over the last few years have been much appreciated. Time now to put your thinking caps on, are you willing to stand up and help manage the club's affairs? Serving on the Management Committee can be both rewarding and testing, but I think most would agree the results over the last few years are starting to show through. The AGM this year will likely be followed immediately by a General Meeting.

Betsy, City of Canning and Comet Vale have all been on the receiving end of some TLC of late. Thanks to Roger for his efforts here. The mechanical gear in all three of these locos is ageing so this is an ongoing requirement.

On the subject of locos, Betsy is to celebrate 50 years of service this year after being built in less than 12 weeks way back in 1964.... Any suggestions on how we should mark the occasion?

Till next month,
Craig

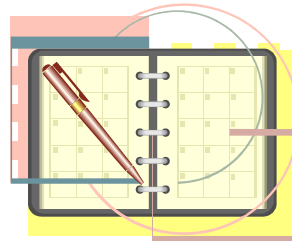
President Castledare Miniature Railway



FROM THE SECRETARY'S DESK

Notes from the last Committee Meeting – these are only a brief summary of some of the items discussed.

- Work progressing on foreshore management document required by the SRT – Richard Stuart & Les Smith working on this project.
- Paint is on hand for the bridges around the railway
- Retinitis Pigmentosa has requested a run day for April 2014
- Work is progressing on a replacement boiler for Denis P Moore – currently some parts are with the welder. Richard Stuart & Roger Matthews working on this.
- Committee has agreed to the **CANCELLATION of the 3rd Sunday** run from Wilson in **April 2014** as a result of this falling on Easter Sunday and quite a few members who are usually involved in this run day have indicated they will be attending the AALS Convention in Melbourne. Appropriate notices would need to be placed on both ticket boxes as of January 2014 so that patrons are advised well in advance.
- Approval given for Secretary to take 6 weeks leave from Committee duties commencing late March 2014.
- 2014 Annual General Meeting will be held on March 14th at the EECO centre 6.00 pm followed by a short general meeting and light supper – more information elsewhere in the newsletter



DATES FOR THE DIARY:

Please mark these dates in your diary, with a note on the fridge or even in your mobile phone – whatever works to remind you of what is happening !!

Month	Day	Date	Event	Times	Canteen	Duty Officer
JANUARY	Saturday	25 th	Work Day	From 9am		
	Sunday	26 th	Australia Day			
	Monday	27 th	Public Holiday			
	Wednesday	29 th	Work Day	From 9am		
FEBRUARY	Saturday	1 st	Prepare the Railway & General	From 9am		

			Meeting			
	Sunday	2 nd	Public Run from Niana Station		Judy Bowyer & Eddie Smith	Chris Doody
	Wednesday	5 th	Work Day	From 9am		
	Friday	7 th	Committee Meeting	From 5.30pm		
	Saturday	8 th	Work Day	From 9am		
	Wednesday	12 th	Work Day	From 9am		
	Friday	14 th	Work night	From 4pm		Evening meal provided
	Saturday	15 th	Work Day	From 9am		
	Sunday	16 th	Public Run Day from Wilson Station	From 9am		Trish Stuart
	Wednesday	19 th	Work Day	From 9am		
	Saturday	22 nd	Work Day	From 9am		
	Wednesday	26 th	Work Day	From 9am		
MARCH	Saturday	1 st	Prepare the Railway & General Meeting Closing date for AGM Nominations	From 9am		
	Sunday	2 nd	Public Run from Niana Station		Kathy Watson	
	Wednesday	5 th	Work Day	From 9am		
	Friday	7 th	Committee Meeting	From 5.30pm		
	Saturday	8 th	Work Day	From 9am		
	Wednesday	12 th	Work Day	From 9am		
	Friday	14th	Annual General Meeting	6pm		
	Saturday	15 th	Work Day	From 9am		
	Sunday	16 th	Public Run Day from Wilson Station	From 9am		Trish Stuart

	Wednesday	19 th	Work Day	From 9am		
	Saturday	22 nd	Work Day	From 9am		
	Wednesday	26 th	Work Day	From 9am		

- If any member has a key to the clubroom building and intends to be at the club for any reason after 6pm any evening please contact the security control room **94275560** advising them of your intent. The general rule for security is that the premises will be secured by 6pm each evening – if you are here after that time, PLEASE notify security of your estimated departure time.
- The auditor has requested an asset register be put in place - if any member feels that they would be able to assist in setting one up, please contact either Ken or Craig for more information
- Prior to Christmas, you should have received by 'snail' mail, your membership renewal form for 2014 - Please complete as required and return as soon as possible. Don't forget – if you utilise the electronic banking option for your fees you **MUST** still return the completed form. My thanks to those who have already completed and returned the form – your new membership card and receipt [where applicable] will be available at the February 2nd run day.

ONGOING PROJECTS:

Carriage shed extension: Brickwork has now been completed, next step is to prepare the trackwork to be put in place prior to the roof being installed. Work on the metal frame etc. for the roof has been commenced in readiness for installation.

Box culverts: The groundwork for this project has been completed, and we are now waiting on the services of a crane to lift the bases and covers into place. This will be a two stage project, hopefully all achieved on the same day. Once the bases are installed, the track will be secured in place and then the covers can be lifted into place. Currently awaiting the services of a crane [which is booked for Wednesday 29th January] and when this work has been completed, heavy duty plastic will be placed over the top and sand which is stored on site will be used as fill over the top of the culverts, particularly between the culverts and the oval and this will, eventually, encourage grass from the oval to spread across the top. Longterm, a metal gate will be attached to the entrance of the culverts thus creating a storage road.

Full size footbridge: A lot of time and effort has been put into sourcing a purchaser for these bridge sections on an as is/where basis, however there has been little or no response. To be disposed of as scrap means that the members of CMR will need to remove the bitumen and timber from the sections and this will take some time [and maybe a few more members offering to assist] A couple of members have been assisting in the project and some progress has been made. The timber from these bridge sections has been donated to Conductive Education for on selling as fire wood as a fund raiser for their cause.

Painting of the bridges of the railway: Paint is on hand for this project – any member/s wishing to assist would be appreciated.

Painting of diesel shed: Clive Woodward has commenced this project and continues as time permits.

CONVENTION 2014:

This convention will be hosted by the Tullamarine Live Steam Society, Melbourne, Victoria. Details on all aspects of the convention, including registration forms, are available at this club's website:

<http://www.bullahillrailway.org.au/>

WORK DAYS:

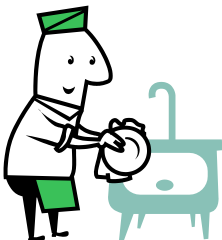
As usual, there are always many and varied tasks of routine maintenance to be performed around the club. Quite a lot is achieved by the Wednesday work crew but there is always room in the crew for more to join in. The Saturday major workdays generally have a good turn up of members and a lot of progress can be made on these days with various projects.

If you are unable to join in on a Wednesday, there is also a small band of members who are regularly at the club on a Saturday morning – don't wait for a personal invitation – it is your club, feel free to come down, participate in some routine maintenance type tasks and enjoy some social interaction with fellow members.

If any members are on holidays from work, or simply want to contribute and help their club progress, – simply turn up on a Wednesday or a Saturday morning or come down on the Friday night prior to the mid month run day and join the crew. All help appreciated and will benefit your club.

HOUSEKEEPING:

Just a note to **ALL** members – when utilising the facilities in the clubrooms – tea, coffee etc. – **PLEASE clean up after yourself** – other members are not there to clean up after you. If we all look after and clean up after ourselves, the clubrooms will be a much more pleasant place to visit.



Do your own dishes + Put your rubbish in the bin = Everybody Happy

Now that the clubrooms and breezeway areas have been repainted and tidied up, it would be appreciated if members would remember that these are 'common' areas for all members to utilize and in particular, the breezeway area is quite often a busy thoroughfare. **It is not simply an extension of the workshop or the containers, it is not the dumping ground for tools that you 'haven't quite finished with yet'** – please have the courtesy to put things away where they belong, clean up after yourself thus making our facilities able to be enjoyed by all.

ANNUAL GENERAL MEETING:

As previously outlined, the Castledare Miniature Railway's Annual General Meeting for 2014 will be held at the Eco Centre, Kent Street, Wilson Park on Friday 14th March 2014 commencing at 6.00pm.

Those positions that are due for election are as follows:

President	Currently	Craig Belcher	2 year term
Minute Secretary	Currently	John Watson	2 year term
Treasurer	Currently	Tania Watson	2 year term
Committee Member	Currently	Les Smith	2 year term
Committee Member	Currently	Eno Gruszecki	2 year term

At the end of this newsletter, you will find a nomination form. If you wish to nominate yourself or someone else, then please complete the form and return it to the Secretary on or before 4pm on Sunday, 2nd March 2014 ensuring it is accurately signed. All incumbant members are eligible for re-election should they so choose.

The Annual General Meeting will be followed by a General Meeting.

The local news station was interviewing an 80-year-old lady because she had just gotten married for the fourth time. The interviewer asked her questions about her life, about what it felt like to be marrying again at 80, and then about her new husband's occupation.

"He's a funeral director," she answered.

"Interesting," the newsman thought... He then asked her if she wouldn't mind telling him a little about her first three husbands and what they did for a living.



She paused for a few moments, needing time to reflect on all those years. After a short time, a smile came to her face and she answered proudly, explaining that she had first married a banker when she was in her 20's, then a circus ringmaster when in her 40's, and a preacher when in her 60's, and now – in her 80's – a funeral director.

The interviewer looked at her, quite astonished, and asked why she had married four men with such diverse careers.

"I married one for the money, two for the show, three to get ready, and four to go."

TRAIN DYNAMICS – SOME SHORT LESSONS

PART 8 – Axles and Bearing Retention

CMR rolling stock has a variety of axles from the ones with massive mid sections to with under sized and poorly designed “ends”, often made from mild steel. Events over time have prompted this article and it is written to improve the general understanding of axles and to mitigate safety risks.

Railway axles have a highly technical background and have the DNA/genes of a highly researched product. They are manufactured with extreme care to very high standards and are usually treated to a lifetime of loving care, except when under a railway vehicle where they have hell belted out of them.

Railway axles are elegant creatures, lithe, sleek, yet work in the most brutal of circumstances and are expected to have a very long life. Despite their eloquence they are not expected to fail in service, as the results can be catastrophic. Sometimes they are hollow to reduce unsprung mass.

One never refuses to have a walk through an axle manufacturing plant to observe the sequences from the hot brutal forging to the finest of machining processes, the maintaining of the wheels and finally the fitting of the bearings. A strict recording regime is in place that follows the evolving creature from birth to death.

Axles are made from high quality steel that has a very high tensile strength. The forging of the blank into its rough shape ensures that the grain is longitudinally aligned and there are no built-in defects such as lateral cracks or inclusions. Along the way, they are heat treated – normalised quenched and tempered. Most axles today are double normalised.

In recent times (at least in our lifetimes) we have seen some significant changes to railway axles. The first change was the use of roller bearings and North America came forward with a cartridge style “All Purpose” (AP) double taper roller unit that could be retrofitted to the old “black collar” axles that were never really a part of the Australian railway scene. The black collar was basically there to stop loosened wheels moving inwards.

North America introduced raised wheel seat axles without collars for all new axles back in the 70s and finally banned the use of black collar axles in the 1990s due to significant serious fatigue failures related to stress raisers in the area. The AP roller bearing also fitted into the old plain bearing axle boxes via an adapter sitting on top of the bearing case. With the departure of cast integral bogie axle boxes due to age, another problem was solved, the difficulty of detecting warm bearings, unable to see displaced adapters, detect grease leakage seal failure etc was eliminated.

You may well ask “What does the above have to do with CMR?” Now, CMR has a variety of axle shapes. Some are massively “thick” between the wheel back faces, like a continuous black collar. Wheels are often tack-welded in place to this thick continuous collar. The transition from the wheels seat into this continuous collar is unknown and what hidden stresses raisers built in are thus questionable. Some axles are too short.

Also, CMR has a small step on the journal to take the lateral thrust whereas a real life sized axle has a large radius (polished) that blends into the wheel seat. To take thrust a “thrust” collar is pressed onto the journal that finally is “stopped” by the radius just mentioned. This collar is pushed into position (after application of the wheels which is another subject on its own!) with a very high tonnage and checked with a fine feeler gauge to ensure that is in place. The roller bearing is then pushed onto the axle also with around 40 tonne of force to contact the collar then an end cap is set-secured to the axle end with three high tensile bolts to a very high torque which is recorded. Second hand bolts are not allowed. Then finally, the lateral movement of the bearing is checked and the limits are 0 to 0.020 thousandths of an inch. Experienced fitters and engineers can judge this by hand but a dial indicator must be used. Naturally the bearing must be capable of being rotated freely by hand evenly. The following drawing* illustrates the assembly.

The key statistic here is that these bearing assemblies must travel in excess of 1.25million km in snow, dust, heat and jointed rail at speeds of up to 160 km per hour and not fail. Please note that the outer race of the bearing is allowed to “creep” rotate which occurs over severe bumps. This rotation changes the impact area and thus increases the fatigue life. Many railroads fit “reconditioned” second hand bearings to new rolling stock, as these are “work-hardened”. As paint could hinder the outer race from rotation it is strictly forbidden to spray around bearings.

At CMR we have experienced quite severe wear of the axle journals as the GREEN SET from inner race rotation on the axle journal. To save the club from the high expenditure of replacing every axle and as an interim measure, all journals have had steel sleeves inserted (yes, inserted), thrust collars added and the axle ends tapped to receive a set screw that, with a thrust washer, holds the bearing in place just like our full sized brothers.

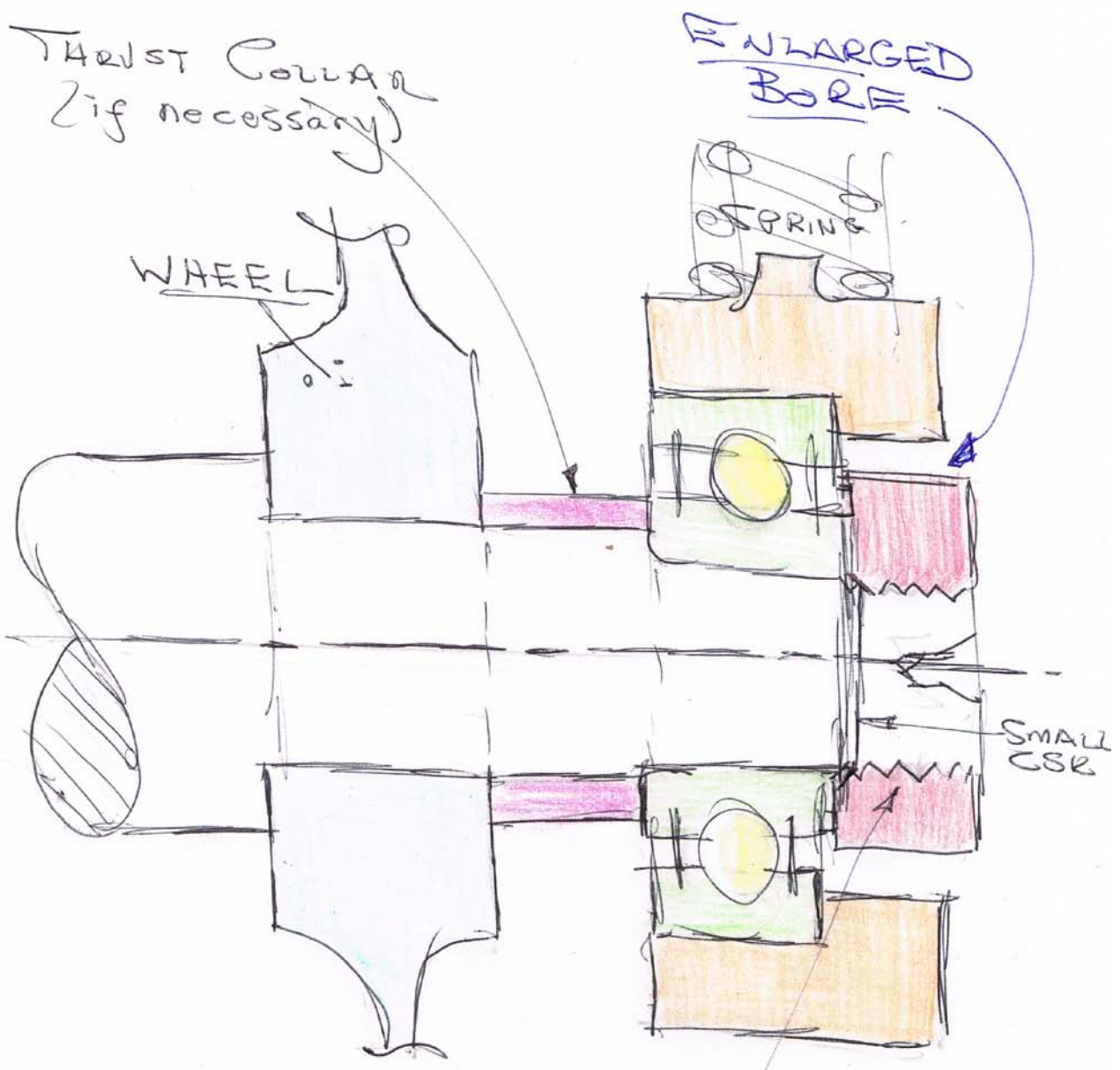
Do not think that the above is an isolated case as the RED WAGR SET also has free inner races with **many journals worn down to 50% or less** of their cross-sectional area! With the present method of fitting most bearings to journals, this looseness that has been encountered cannot be avoided!

The process has begun with some serious help from David Lyons in that all journal roller bearings shall be “locked” in place and the following drawing* illustrates the method that is being taken. The present practices must be changed. There is no way of avoiding loose inner races with narrow bearings that get “pounded” on their journals. The cost of replacing axles is expensive although the exposure to a failed journal could be more catastrophic. The owners of “private” rolling stock are encouraged to check their bearings that have no locking to axle features.

The message here is to treat all axles (and their bearings) lovingly. They are elegant creatures that need care. If there is any doubt about design and application then one should seek engineering advice. Remember that CMR relies on public patronage and safety.

Les Smith

* drawing shown on the next page.....



14mm x 1.25mm pitch
 NOT "Loctited"

RECLAIMED WHEEL-SET
 Ex W.A.G.R 'Set'

Castledare Christmas Party 2013

The President (Craig) giving his speech



Members enjoying the meal, courtesy of 'Watson catering' (Kathy and Tania), plus contributions from others.



Notice Board

Loco for Sale

Heidi engine called "Zambezi"

New in-line water filters and new injectors; 4 year boiler certificate

Included in price – 6 sets of unfinished bogies, total price - \$18,000.00

Contact Brian Dawes on 95744623. Email: dawescola@westnet.com.au



MESSAGE FROM THE EDITOR

Changed your email address, or home address? If so please do not forget to notify the editor. This will ensure that you always receive your Cinders and Soot email notification, or 'snail mail' copy.

If you wish to submit an article for inclusion in Cinders and Soot, please note that the closing date is the 15th of each month. The format should be; Word, Arial font size 10.

Please send your contributions to Trish Stuart at the email address on the page 2.

Happy New Year to all members and friends of CMR

Sponsors of CMR

Di Candilo (08) 9279 7244



Applied Fire Technology (08) 9478 3362



Rheem Australia (08) 9351 4293



Dingo Australia (08) 9311 9811



Fireless Fire Services (08)9371 6913



**NOMINATION FORM FOR ELECTION TO MANAGEMENT COMMITTEE OF
CASTLEDARE MINIATURE RAILWAYS OF W.A. INC.**

ANNUAL GENERAL MEETING 2014

I _____ hereby nominate _____

for the position of _____ for a period of 2 years.

I accept this nomination and if duly elected, agree to serve on the Management Committee of
Castledare Miniature Railway.

[signed] _____

Nomination seconded by _____

To be received by the Secretary no later than 4pm Sunday 2nd March 2014