

# eMech

*IMechE West Cumbria e-Newsletter*  
*Edition 6, June 2003*



**IMechE**  
West Cumbria

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## EDITORIAL

### **This Could Be...**

The last **eMech** for a bit... (All computer servers and home users sigh with relief!) With our current programme drawing another brilliant season to a close, the next need for communication will be to confirm the activities for next season, starting September 2003. We already have a number of terrific events lined up – get your diaries out and see our [preview](#) below.

### **What Are We Here For..??**

Many thanks to those of you who returned your questionnaires (even from the other institutions..). Your input has enabled us to put together a [detailed response](#) to our Regional Committee which we are confident will inform a larger and wider debate about how the IMechE can develop and improve. It's quite a lengthy article, but please have a read and see if you agree with the Committee.. If not, [PLEASE LET US KNOW!!](#)

### **ILO Seminar and Web Site Development**

A second ILO Seminar was recently held at Summergrove (mainly for the big organisations in the County – BNFL & BAe Systems) to inform us of the latest developments by IMechE HQ to develop and improve the main web site and also access to the huge library of learned knowledge. They are certainly aware of the frustrations and concerns of members with the original arrangements. If, like me, you have been put off by the unhelpful layout of the site, I would strongly encourage you to have another go - register on the web site (which will also allow you to pay your subs electronically!), and you will find it is MUCH better – give it a go!!: [www.imeche.org.uk](http://www.imeche.org.uk)

Developments are also promised by the end of the year to allow us to provide much better information as a local Area than the current IMechE Near You pages. However, your go-ahead committee, with the help of Alon Hankin, are going to set up our own website make all our information readily available before then – details soon!

Please also don't forget - feel free to forward **eMech** to anyone else (with their permission!) or get them to drop their [email address to me](#) so we can keep in touch. Also... if you find you do NOT want to be emailed with **eMech**, please email [the Editor](#) with **Unsubscribe** as the subject and we will happily remove you from the mailing list.

**CHEERS and a GREAT SUMMER to you all!!**

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*Disclaimer: Any mistakes are those of the Editor alone. Under no circumstances is the Chair responsible...*

# 1. Membership Changes *January to April 03*

***According to information supplied from IMechE HQ..***

Congratulations and welcome to the following. If only we had their email addresses, then we could keep in touch with them... Any help in tracking them down would be appreciated!

## **New Members elected**

Mr S Clarke	AMIMechE
Mr G R Couldry	CEng MIMechE
Mr C J Fairclough	AMIMechE
Mr D T Gilks	AMIMechE
Mr M J Norman	AMIMechE
Mr I D Savage	AMIMechE

## **Change of Membership Status**

Mr A J Bennett	CEng MIMechE
Mr M D Booth	AMIMechE
Mr P L Conaghan	CEng MIMechE
Mr S Cottam	CEng MIMechE
Mr S Managh	AMIMechE
Miss H R Small	AMIMechE
Mr A L Taylor	CEng MIMechE

## **Members relocated to West Cumbria Area**

Mr P T Clowes	CEng MIMechE
Eur Ing K A Hutchinson	CEng MIMechE
Mrs S H Pagel	AMIMechE

## ***Not forgetting...***

Belatedly (sometime before Christmas 02), Mr Ron Nixon (he of the West Cumbria Area Committee) attained chartered status and is now **CEng MIMechE**. This is embarrassing a number of other committee members who really ought to get on with it..

**GET CHARTERED – You know it makes sense!**

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# 2. BLUEBIRD and BEYOND..

***Recovering an icon of the past, celebrating the current world water speed record holder and learning of future plans***

Engineers are human beings too. The pain of an engineering enterprise that goes wrong can be especially acute. The grainy footage of the final voyage of Bluebird K7, together with Donald Campbell's last words is particularly painful especially to all who live in and love the Lake District - January 4<sup>th</sup> 1967, a bleak, cold, still Lake district morning....

A packed audience in the Barn at Rosehill was privileged to receive an excellent, moving presentation by Bill Smith, Team Leader of Project Bluebird, the team that 34 years later came to locate and recover the shattered wreckage of the craft, and also the body of Campbell himself.

There could be no better person than Bill to have undertaken this project - he is a raw engineer who will make what he needs, using a sound engineering mind and simple but wholly effective first principles. He is not a fan of paperwork or bureaucracy..

Bill made it clear from the outset that he was not a Campbell fan or a speed record addict before starting the recovery project. It rather grew out of his passion for diving and adventure. Earlier diving expeditions led to the development of specialist equipment for breathing, video and underwater detection systems. Bill was looking for an underwater recovery project to test his latest video and side-scan sonar systems before going off around the world to locate a suitable wreck.

Bluebird K7 has been the most successful water speed record holder of all time – breaking the record no less than 7 times from 1955 to 1964, and being modified throughout to meet the demands of increasing speed. The final successful record was set in Australia in 1964, at 276mph.

The challenge of just finding the wreck of Bluebird was how Project Bluebird started. Without an ocean swell, but with very difficult conditions of temperature, visibility and general murk, the detection of K7 seemed like a pretty good test of the equipment Bill had been developing.

The start was not promising; the equipment proved to be problematic to control and worst of all, there did not seem to be the signs of the expected debris trail on the bottom of Coniston. The presence of a BBC crew seeking footage to complement a documentary on Quicksilver, was another distraction, but useful fund provider. It was only by moving away from the supposed site that the team eventually picked up a signal that just, maybe just, could be interpreted as the body of Bluebird. The eerie pictures of the sonar scans were haunting. Bill vividly described the moment of confirmation, many metres below the surface, with visibility no more than 18 inches, when the tail fin was identified, still carrying the Union Jack on proud blue paintwork.

And then the challenges grew... The Campbell family wanted Donald's body recovered for a proper funeral, and the recovery of K7 itself was also agreed to prevent any attack by 'bounty' hunters. But what state would the structure be in, after all this time immersed in the cold and inhospitable depths of Coniston? Tests on parts recovered seemed to show remarkable preservation and strength, and through contact with the original designers, mounting points were established from which a lift could be attempted. More detailed sonar surveys produced echoes repeated out from the air tanks, which were later found to be still charged! Diving only in short bursts because of the depth and temperature, the team carefully devised and installed a lifting system that minimised risk. After struggling to relieve the suction of the mud, Bluebird finally broke free to begin a slow journey back to the surface and shore.

Discovering Campbell's body proved to be much more difficult, many of the sonar signals just picking out further pieces of scattered wreckage, which were duly recovered. It was just a mound on the bottom, it could have been anything at all. But when the mud was dispersed using the motors from the underwater detection platform, an unmistakable piece of blue fabric was seen – it had to be Campbell's scarf, the only blue fabric on board Bluebird that day.

Campbell's body was recovered and duly buried much to the relief of his family on September 12<sup>th</sup>, 2001, when the world was focussed on other matters. Many of the items that Campbell was carrying were recovered with him, including loose change and his car keys. The Campbells presented the fob to Bill, who now proudly wears it round his neck.

Bluebird was brought back to secure premises in the North East and investigated in detail. The craft has survived amazingly well, the main structure and lower half, which had been buried in the cold, anaerobic mud, is in excellent condition. Whilst the engine was wrecked, some of the pumps were found to be fully functioning. Only the upper half panelwork and cockpit area which suffered the main impact are beyond recovery, and the concept of restoration to operating condition has now been agreed with the Campbells. To give Bluebird one last outing (at modest speeds) on Coniston, and then to find a home in a new extension to the wonderful Ruskin museum in Coniston is now the plan, once funds (approx £1.8m) can be found and project managers appointed. There is no shortage of voluntary help and material donations.

So, far from just locating Bluebird, Bill is now 'Bluebird' Bill, entrusted with the restoration of an icon of British spirit and engineering endeavour. And, thanks to Bill, a further presentation was made

possible (at very short notice), to meet the current world water speed record holder, Ken Warby, a gritty Australian who achieved what Campbell died trying to achieve: to break the 300mph barrier. Ken showed a remarkable video of how his craft, Spirit of Australia, was built in his back yard with only 3 tools, some spruce and marine ply, and a \$65 ex Australian Air Force jet engine. Ken was building Jetex model boats as a child, and grew to building and racing his own craft and hydroplanes from a teenager.

Inspired by Campbell, but determined to take the record for Australia, Ken designed 'Spirit' one Saturday evening in his kitchen, using the hydroplaning principles he had learnt by years of experience on water. After building the boat, he took it, just a hull with a naked jet engine strapped on the back, and promptly broke the Australian national record of 162mph.

He sought some academic advice to confirm that his design would be stable at much higher speeds and was rewarded with the analysis that suggested that the 'flip' speed would be over 400mph! 'Spirit' was gradually developed and went faster and faster, using an alarming but intended technique of 'sponson-walking' to prevent any dangerous build of pressure underneath the craft. Warby also looked for a 5 inch swell to reduce drag and provide the best conditions for stable speed, something that contradicts the Campbell/Coniston mirror smooth water theories.

The record finally came when Ken managed to get hold of a better-built jet engine and also by rough-cutting some 70mm off the rudder to reduce the drag, estimated at a colossal 1 tonne. The sight of Ken lying on his back wielding oxy cutting gear (which had amazingly been found from somewhere) to cut down the rudder without any safety goggles was another indication of his 'just do it' grit: "I figured if I kept one eye closed, then I'd at least have one good eye to steer the boat straight", he quipped...

The largest increase in the world record was achieved, and now stands at 317.6mph and this has not been bettered in the past 25 years. "Two have tried, and two have died" as Warby laconically commented. Warby has now built a successor boat, complete with working afterburner and some 50% more thrust, just in case anyone succeeds.

In an interesting prelude to the IMechE presentation in November, Warby firmly believes that the Quicksilver basic layout is fundamentally flawed as a 'reverse 3-pointer' – a concept that so far has never proved to be stable at high speed on water.

Both Bill and Ken demonstrated a refreshing empirical approach to their chosen engineering tasks, and who can deny that they have not achieved great success, without the aid of all the computer horsepower and modelling that now seems obligatory – raw engineering at its best!

Anyone wanting more information or wishing to support the Bluebird Project should check out their great web site: [www.bluebirdproject.com](http://www.bluebirdproject.com) Ken Warby also has a highly informative and entertaining site: [www.kenwarby.com](http://www.kenwarby.com)



Left: Bill Smith, Project Leader of Project Bluebird proudly shows the Campbell key fob that laid with Donald Campbell for 34 years. Right: Ken Warby signs the auctioned posters and photos to raise money for the Bluebird restoration fund.

### 3. Next Season Takes Shape

#### **Events Already Booked:**

Please make sure your Diary is cleared for the following:

<b>September 9<sup>th</sup></b> Hundith Hill, Cockermouth	<b>Raising the Kursk</b>	The hazards of recovering the huge shattered nuclear submarine lying 110m in the icy waters of the Barents Sea
<b>November 12<sup>th</sup></b> Rheged, Penrith	<b>Quicksilver</b>	A prestige presentation about the latest UK challenger for the world water speed record – advance booking will be required through Rheged
<b>April 23rd</b> Washington, Sunderland	<b>Nissan</b>	A tour around the most efficient car assembly plant in Europe. Transport being provided at a small charge
<b>May 12<sup>th</sup></b> Silloth	<b>Carrs Mill</b>	A visit around the facilities

Other events also lined up:

- October** Vordian, Workington – a plant tour
- December** Alco Waste Management – a presentation on environmental responsibility and a tour
- January** Gateshead Millennium Bridge – a presentation
- February** Queen Mary 2, a floating power station – A presentation just after the launch, to be held in Carlisle
- March** Corus Engineering – a visit

Finalised details will be issued in the next **eMech** and we are also printing and circulating our handy, pocket-sized Season Programme card plus poster.

**DO WE HAVE YOUR POSTAL ADDRESS????** If you haven't received one of our posters or cards this year, then chances are, we don't!!! [PLEASE email it to me](#) so we can include you on our postal circulation – just twice a year (email is much quicker and cheaper!). **HURRY!!!**

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### 4. What Are We Here For??

#### **West Cumbria Response to Regional Chairman Appeal**

At the April meeting of the IMechE NW Regional Committee, the Chairman asked all areas and divisions to review what they wanted from the IMechE, the Region and the Regional Manager. So what did we want...??

Many thanks to all of you who returned, mostly on time, the questionnaire emailed out after the last **eMech**. This enabled your humble committee to put together the following response:

#### **QUESTIONNAIRE RESULTS**

##### **Service Rating Assessment**

Whilst the responses depended on the stage reached in the professional career of the respondent, and whether their company offered a full and supportive professional development scheme, the overall assessment was similar:

The highest rated services were

- **Local area committee communication**
- **Local area events programme**
- **PE Magazine**

The lowest rated services were

- **Support available from ILOs (but there only 6 in the Area at present)**
- **Access to learned knowledge**
- **Assisting the profile of Engineers in society through your industry**

Whilst the newer engineers thought the IMechE represented reasonable 'value-for-money', the career members were much less satisfied.

### **What does the IMechE mean to me?**

The six most commonly used Keywords were:

- **Professional, Status, Recognition, Information, Standards, Contacts**

However, a number of concerns were also expressed, mainly from the Career Members:

- **Remote, Unresponsive, Distant, Bureaucratic, Confusing**

### **What are the three best things that the IMechE does for me at present?**

The most common statements were:

- **Local events, meetings and networking opportunities**
- **PE Magazine, content, job adverts**
- **Provides professional status and recognition**

### **What are the three things that the IMechE could do to help me in the future?**

A large variety of responses here, but the most common themes were:

- **Improve the presence, standing and recognition of professional engineers in industry and society, including the title 'Chartered Engineer'**
- **Sort out the 'Matching Sections' criteria, stop imposing input standards on accredited degrees, get clear and simple entry requirements established**
- **Get rid of the stuffy 'Gentleman's Club' image**
- **More local events and activities**

Others included:

- **Do more, charge less**
- **Explain where the money goes**

This information was used to develop a co-ordinated response to the Region from the West Cumbria Area. It was agreed at the Committee Meeting 23/4 to forward this to the Regional Chairman as our initial submission, for further discussion and debate.

## **DISCUSSION**

Any discussion should consider the perspective of the individual within the IMechE.

There are two main categories:

- **Newly qualified, developing Engineers** (< 10 years experience, 'young')
- **Career Members** (> 10 years experience)

In addition, two other groups need to be considered:

- **Aspiring young Engineers** – at secondary schools or within higher education

- **Retired Members**

There are a number of ways in which the IMechE can influence and support the needs of each of these groups, principally through:

- **The local area committee - WCAC**
- **The Regional Manager**
- **HQ**

Note that the Region does not directly influence the experience of our individual members at present, other than through the control of funds to the Area for local activities.

Further support is available from other significant means, including

- **ILOs and Companies that employ engineers and/or use engineering training and development schemes**
- **Setpoint schemes using Engineering Ambassadors**
- **ALOs and Schools/Higher Education establishments that promote engineering**

### **The Role of the Area Committee**

To meet the generic IMechE objective to be “the natural home for all mechanical engineers”, a comprehensive network of communication, support, information and personal contact must be established and maintained for all. If we are to be effective, we need to establish, communicate and report against an appropriate range of indicators to define progress and achievement in a number of areas.

IMechE West Cumbria Area Committee (WCAC) has previously considered and set specific objectives at a workshop in June 2002:

#### **Vision Statement:**

#### **To promote and raise awareness of Mechanical Engineering in West Cumbria**

Three specific objectives were set as follows:

##### **To be the representative voice of IMechE members within the West Cumbria area**

- Encourage, obtain and utilise membership feedback
- Ensure effective 2 way communication with and support from the Region & HQ resources
- Provide excellence in marketing and communication to ensure full awareness of all pertinent issues

##### **To promote professional development of Engineers at all levels in the IMechE**

- Deliver a successful events programme
- Establish effective ILO & ALO networks
- Develop a mentoring network to assist professional progression
- Form links with other professional institutions
- Form links with local industry

##### **To encourage more people to take up Engineering as a profession**

- Establish links with local schools
- Establish effective links with SETPOINT and encourage membership support
- Encourage industry links with schools to ensure effective information and advice is available

WCAC is proud of the impact made in the two years since re-formation by Adrian Norendal. It has proved that it is possible to organise and promote an interesting, involving programme of events that have helped many engineers to meet and ‘network’, despite the large geographical spread. By promotion through schools and local press as well as email to the known membership, a number of younger students have attended and hopefully the seeds planted for a future engineering career.

Other areas remain difficult, however. Only 6 ILOs have so far been confirmed by the Regional Manager, who has begun the establishment and training of the ILO network: 2 at BNFL, 2 at React



Engineering, plus representatives from Iggesund Paperboard and Leconfield Industrial Estate, Cleator Moor. There is no plan for further development or understanding of the number of companies who could support the adoption of an ILO, but a further local training session is planned in May.

We have an ALO co-ordinator, but contact with schools and FE establishments is somewhat distant, being conducted through mail-shots, without any real measure of success or impact. There is no ALO network as such. However, through contact with Setpoint, a number of new Engineering Ambassadors have been certified and should hopefully contribute shortly to some of the schools schemes under Setpoint guidance.

### **Recommendation For Progress**

As a professional organisation, we should use appropriate data to measure our status and progress. Within each area, we should know and be able to monitor a number of factors, including:

- **Total number and status of members, new members registered, promoted members**
- **Number of members seeking promotion and sponsorship**
- **Number, identity and scale of significant engineering companies, economic impact in region, prospects**
- **Number of ILOs – actual & potential, newly recruited or left**
- **Number and identity of schools and FE establishments promoting or receptive to engineering subjects**
- **Number of ALOs – actual & potential, newly recruited or left**
- **Number of Setpoint Engineering Ambassadors**
- **Event attendance, other activity levels**

Once known, it should be possible to establish targets against those categories where influence can be brought to bear. We would suggest that Area data should be pooled on a Regional basis to provide an overall indicator of engineering presence, progress and contribution for the Region as a whole.

However, as a voluntary group, generally with full time jobs, it is important to recognise that whilst enthusiasm might be high, the resources of WCAC will always be limited by personal commitment and energy – no-one is 'paid' to represent the IMechE, and any activity within normal working hours is inevitably limited.

It is here where we think the role of the Regional Manager could fulfil a most useful local role.

### **The Role of the Regional Manager**

As the paid representative within our Region (albeit currently shared with 2 other Regions), we are fortunate to have Stephen Gasser, who provides great levels of activity and communication skills. The 'Get Chartered' presentation was a highly successful motivator to a number of our members, supported by the HQ 1/1 counselling session held at BNFL last summer.

Stephen is also highly active in visiting companies, and providing guidance to us as an Area committee. He is a great 'bridge' to HQ.

As an active Area, we would appreciate help in achieving a number of our goals, and would suggest the following specific tasks for the Regional Manager:

- **Set-up systems to compile, maintain and regularly issue relevant data to each Area – suggested headings as above.**
- **Develop, share and maintain a plan with each Area of the targets that can be reasonably established, eg – development of an ILO network.**
- **Present a structured progress report for review every 2 months at the Regional Committee meetings on the above.**
- **Make use of and involve Area resources in gaining entry into Companies for discussions on establishment of ILOs and structured career development programmes.**



In addition, advice is required on how an effective ALO network can be established within our Area.

### **The Role of the Region**

The Region is a valuable forum and central co-ordinator to IMechE activities. However, again, it is a voluntary organisation and requires the commitment of all nominated representatives to regular meetings - this involve considerable travelling for the West Cumbria representative...

The Region has a significant part to play in full two-way communication from the 'grass roots' at Area level to IMechE HQ, but we are not confident that this has been effectively established.

We would suggest the following specific objectives:

- **To share collective 'best practice' and experience amongst Areas and Divisions**
- **To provide an authoritative input to HQ through the Chairman to the CRC**
- **To disseminate and involve all areas in latest IMechE HQ thinking**
- **To be capable by scale of mounting significant events beyond the scope of any single area**
- **To share and understand the regular status report supplied by the Regional Manager**

### **Issues for HQ**

Whilst acknowledging the professional status conferred through the IMechE and the value of PE magazine, the questionnaire highlighted a number of areas where HQ needs to take action:

- **Better support for local Area activity – to many people, local activity IS the IMechE**
- **Significantly improve the presence, standing and recognition of professional engineers in industry and society, including the title 'Chartered Engineer'**
- **Sort out the 'Matching Sections' criteria, stop imposing input standards on accredited degrees, get clear, simple and consistent entry requirements established**
- **Improve access to learned knowledge**
- **Get rid of the stuffy 'Gentleman's Club' image**

Others included:

- **Explain where the money goes..**
- **Do more, charge less**

**This is what we said, but what do YOU Think??**

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# CONTACTS

## IMechE West Cumbria Committee 2003/4

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