



FLUID TALK

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Fluid Power Society of Western Australia Inc.

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First International Conference on Computational Methods in Fluid Power Technology - Melbourne Nov 26-28, 2003.

The first International Conference on Computational Methods in Fluid Power Technology will be held in Melbourne November 26-28, 2003. The conference will discuss methods for solving practical problems in design and control and is co-sponsored by The Japan Fluid Power System Society (<http://www.jfps.jp/net/5thisfp/index.html>), which ran the JFPS fifth International Symposium on Fluid Power in Nara, Japan, in November 2002.

The objective of the conference is to provide an opportunity to exchange high quality, recent information on development, design and research in the field of software for analysis and design of fluid power technology. It is intended to provide a forum for presentation of tools, methods and 'best practices' concerned with all aspects of the application of computers to analysis, design and control of fluid power Systems.

The conference website can be found at:

http://www.fluid.power.nett/sim_2003/comp_2003.pdf
or
<http://www.fluid.power.nett/sim2003/sim2003.html>

The above information has come to us from Dr Jacek S. Stecki, Department of Mechanical Engineering, Monash University, Melbourne, Australia. Dr Stecki is internationally recognised as being at the forefront of fluid power knowledge and the opportunity to attend this important international conference should not be missed even though it may seem that the conference objective is immersed in the academics of fluid power.

Dr Stecki and his team have developed some incredible computer systems that can predict the performance of individual aspects of fluid power systems as well as total systems even before a single item is purchased or the first spanner is picked up. These fluid power systems computer analyses can predict likely problems with resultant substantial savings in commissioning troubleshooting and continuing system problems.



Presidents' Prologue

By Tim Bailey

This being the first newsletter of 2003, I'm not really sure whether to say 'welcome to 2003' or not! It seems as though the world is poised on a knife edge with a substantial Middle East war on one side and an uneasy peace on the other. Who can say who is right and who is wrong in the Iraqi situation - it seems as though nothing in this world is clearly defined anymore - but life goes on in the meantime and perhaps, if enough of us are just determined to get on with our lives, we can generate enough 'good energy' to avert another manmade disaster.

To this end, your committee is pushing forward in a number of significant areas to bring about improvements and changes in the fluid power industry. You will read, in other parts of this newsletter, about a very interesting visit that members of the Society made to Quickstep Technologies Pty. Ltd., AMTC Subiaco looking for part-time lecturers in fluid power, an international fluid power conference being held in Melbourne in November this year, the Society embarking on the accreditation of hose makers and more.

You will recall reading about our dissatisfaction with the constant and continuing change evident in the TAFE system and our frustration at wanting to stabilise the Society's curriculum matrix in a form compatible with the training being provided by the TAFE system. As mentioned in the last newsletter, your committee met with Dan Sullivan, MLA, shadow minister for small business and also the Hon. Alan Cadby, MLC, shadow minister for higher education, at parliament house in early February.

The committee felt that, whilst the two members of Parliament are not in government, we were able to have useful discussions on the problems we can see in the general trades training and the TAFE education system. We expressed our concern that, unless current policies and directions are overhauled and, in some cases, turned around, the availability of satisfactorily trained and educated personnel in the fluid power and associated engineering trades areas would continue to reduce at great detriment to Western Australian industry.

An aspect of the discussions, which will be of interest to the membership, was that of the present state government moving towards the licensing/accreditation of trades people in the automotive trades area. We formed an impression, from Dan Sullivan's comments on the matter, that the fluid power industry may also be drawn into licensing/accreditation as it is recognised that fluid power is a highly technical and specialised area of mechanical engineering.

You may recall from reading the *President's Prologue* in the Society's newsletter, in 1996, that it has been my opinion that licensing of personnel in the fluid power industry is inevitable and that the best form of licensing is one that is established and controlled by the industry rather than one that is imposed by a government controlled, bureaucratic structure.

The Society's curriculum matrix clearly sets out the knowledge requirements for people working at various levels within the fluid power industry and is, therefore, the logical benchmark to use for licensing/accreditation of fluid power personnel when the time comes. As a result, the Society already has the primary requirements in place to administer the process.

As a first step, as you will read elsewhere in this newsletter, that your committee has resolved to proceed with offering accreditation to suitably qualified personnel in the 'hose doctor' section of the fluid power industry.

In late December 2002, the Society received a letter from the State Training Board requesting that the Society make comments and/or provide a submission in reply to a State Training Board publication entitled *'Invitation to Provide Input to the Development of the State Training Sector Strategy 2004-2010'*. A substantial document was duly forwarded and is available to members of the Society on request. The concerns expressed at the meeting with Dan Sullivan and Alan Cadby were reiterated in the document.

In closing and in deference to the rather morbid opening to this *President's Prologue*, may I suggest that we adopt a simple motto: ***'press on regardless!'***

With best wishes..... Tim Bailey

Events Calendar

Wednesday 2nd April 2003
General Committee Meeting
AMTC Wembley

Committee Members meet for Monthly
General Committee Meeting.



In Step with *Quickstep*



On Wednesday February 12th, about 20 Fluid Power Society members were treated to an evening with the *Quickstep* team. The informative session on carbon fibre manufacturing kept the members intrigued for hours.

The evening began with a power point presentation showing the benefits of the new *Quickstep* process. A highlight of the evening was a demonstration resulting in the production of an 'aerospace standard' piece of carbon fibre.

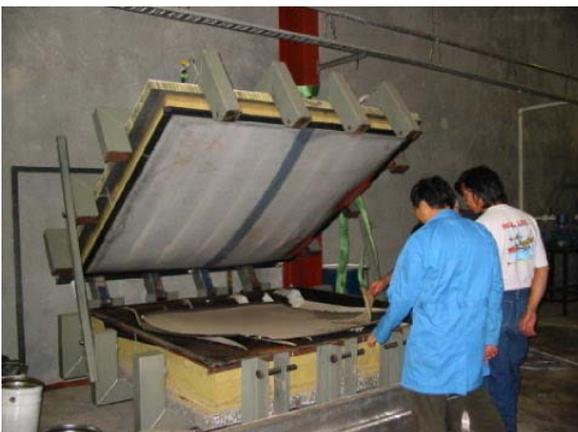
The new process is up to five times faster than the conventional autoclave methods presently used. An important benefit of the *Quickstep* process machine is that it operates at low pressures resulting in greater operating safety.

The costs and benefits of the new machine dramatically out-weigh the high costs of the conventional methods. The *Quickstep* technology comes at a cost of approximately \$US500,000 in comparison to the conventional autoclave price of around \$US2 million.

The *Quickstep* staff mentioned a recent project, of which they are justifiably proud, involving the manufacture of a carbon fibre bonnet for the Holden HRT 427 Monaro Bathurst 24 hour race winner. The original bonnet weight was approximately 21kg whereas the *Quickstep* bonnet only weighed 7kg.



A further highlight of the evening was a description of *Quickstep's* breakthrough in a new and innovative method of manufacturing the carbon fibre base material.



The Society members had many questions for the *Quickstep* team and considerable discussion took place whilst an adequate table of food - and one or two beers - were consumed.

The Fluid Power Society of WA is grateful to Nick Noble and his team at *Quickstep* for arranging a very interesting and enjoyable evening – *thankyou Nick!*

High Pressure Hose Project

By Barry Catanach

This is the final update on the project and all the outcomes have been met. The unit is currently housed at E-Central in the visualisation lab under the care of Andrew Squelch. If you are interested in seeing or have application for the unit please contact Melinda Thompson on 6211 2482 at E-Central. The final home for the unit will be in the Fluid Power laboratory at AMTC Subiaco and will be utilised in conjunction with the fluid power competences in the MEM98 training package.



I would like to use this article to thank all the companies and individuals that put in their valuable time and energy in providing the technical information and engineering expertise ensuring the project was a success. The numbers are great so to mention everyone individually may test my memory and I would be embarrassed if I accidentally omitted anyone.

Akos Bruz was the expert when it came to the film production for the project. He was instrumental when it came time to organising the voice-overs and no doubt his talents are under utilised. Please take the time to view the terrific animation that was totally produced by the IVEC centre at E-Central, Mike Annear used his talents in modelling. For further information contact Andrew Squelch on 6211 2462.

It is now time for myself and Peter Marwood to say a farewell to all the staff and importantly the students at Central TAFE that have passed through the Open Learning Centre for fluid power. I know Peter will agree with me that it was a terrific experience for both of us to have worked with the students on various projects. We wish everyone well for the future and know you will succeed in the careers that you have chosen. For further inquiries contact Central TAFE.



British Fluid Power Association Documents Held at the CCI Library

The following British Fluid Power Association Documents are now located in the Chamber of Commerce and Industry library, situated at 180 Hay Street, East Perth. Members wishing to access these documents should enquire through the CCI Librarian, Mrs Pam Di Giovanni.

BFPA/P67 - 1996

Ecologically acceptable hydraulic fluids data sheets / The British Fluid Power Association

BFPA/P28 - 1994

Guidelines for errors and accuracy of measurements in the testing of hydraulic & pneumatic fluid power components / The British Fluid Power Association

BFPA/P55 - 1996

Guidelines for the comparison of particle counters and counting systems for the assessment of solid particles in liquids / The British Fluid Power Association

BFPA/P81 - 1998

Guidelines on seal material/fluid compatibility for fluid power applications / The British Fluid Power Association

BFPA/P27 - 1993

Guidelines on understanding the electrical characteristics of solenoids for fluid power control valves & their application in potentially explosive atmospheres / The British Fluid Power Association

BFPA/P49 - 1995

Guidelines to electrohydraulic control systems / The British Fluid Power Association

BFPA/P41 - 1995

Guidelines to hydraulic fluid power control components / The British Fluid Power Association.

BFPA/P48 -1988

Guidelines to the cleanliness of hydraulic fluid power components / The British Fluid Power Association

BFPA/P4 - 1986

Guidelines to the design of quieter hydraulic fluid power systems / the British Fluid Power Association

BFPA/P7 - 1991

Guidelines to the selection and application of tube couplings for use in fluid power systems / The British Fluid Power Association

BFPA/P57 - 1993

Guidelines to the use of ecologically acceptable hydraulic fluids in hydraulic fluid power systems / The British Fluid Power Association

BFPA/P12 - 1996

Hydraulic fluids mineral oil data sheets / The British Fluid Power Association

BFPADADA/D2 - 1994

Technical guidelines for distributors of hydraulic fluid power equipment / The British Fluid Power Association

BFPA/P65 - 1995

VDMA 24 568 & 24 569 - 'Rapidly biologically degradable hydraulic fluids- minimum technical requirements & conversion from fluids based on mineral oils' / The British Fluid Power Association

BFPA/P82 - 1999

Water hydraulics - a technical guide / The British Fluid Power Association

FPS of WA to Accredit Qualifying Hose Makers

Members will recall hearing, reading and seeing, on television, about the FPS of WA being a partner in the Science and Technology Innovation Strategy administered by the State Training Board. The purpose of the strategy has been to administer grant funds provided by the Western Australian government through the Science and Technology Innovation Fund.

In 2001, the Society was involved in a partnership with Central TAFE which was granted funds to conduct a research project under the heading of '*Root Cause Analysis as applied to hydraulic components*'. The project focused on fluid power hose failures and resulted in the development and construction of test equipment, the evaluation of failure testing and the compilation of a training programme for hose makers.

The training programme was developed by Central TAFE and the Fluid Power Society of WA has passed a resolution to support the programme by offering Fluid Power Society of WA accreditation to appropriately qualified and successful applicants. The accreditation details are still in the process of being developed but it is envisaged that the Society will provide successful applicants with:

- An accreditation certificate suitable for display.
- A business sized, laminated, miniature accreditation certificate that can be carried in a wallet and reproduced on the back of a business card.
- A unique registration number.
- Registration on the Society's website.
- Ordinary membership of the Fluid Power Society of WA for one year.

Advertising of the accreditation - subject to certain conditions.

In order to obtain accreditation, it is envisaged that an applicant shall:

- Demonstrate, to the satisfaction of the Society's examiner, that the applicant has an adequate and comprehensive knowledge of the information set out in the hose makers' training programme owned by Central TAFE, or an equivalent programme.
- Demonstrate, to the satisfaction of the Society's examiner, that the applicant has an adequate and comprehensive practical ability in the manufacture/assembly of fluid power hose assemblies.
- Pay a fee to the Society.

In order to maintain continuation of the accreditation, it is envisaged that the accredited person shall:

- Pay an annual, bi-annual or tri-annual fee to the Society.
- Demonstrate the maintenance of continuing education and training in the manufacture/assembly of fluid power hose assemblies to the satisfaction of the Society's examiner each two or three years.

An important aspect of the accreditation is that it is not necessary for existing hose makers to undergo any training course. The prime requirement is that an applicant can demonstrate that the applicant has the required knowledge and practical ability to fulfill the requirements of the course as the Society acknowledges that a significant number of people currently work in this field and are suitably qualified through prior knowledge and experience.



Connect with our Sponsor Kempe Fluidair



The Society would like to thank Kempe Fluidair for sponsoring this newsletter. Kempe is a dynamic leader in the Fluid Power industry and is proud to announce the latest is compressed air safety connections.

Kempe prides itself on building long term relationships with their clients and delivering high quality products and engineering solutions, services and systems.

In the aluminium smelting and other major resource industries Kempe's aim is to improve their appeal through a flexible and mutually beneficial manner.

Can you help?

The Society has been approached by the management of AMTC Subiaco – previously known as 'Wembley TAFE' - to assist them in the introduction of a greater level of current industry knowledge so that fluid power students have better exposure to knowledgeable, fluid power industry people.

AMTC Subiaco recognises that the fluid power industry has a significant number of people, currently employed and recently retired, who have a great wealth of fluid power knowledge and experience. The college would like to make contact with interested people to discuss opportunities in part-time lecturing in fluid power.

If you can assist and feel that you have knowledge and experience, **not necessarily** covered by Engineering degrees, diplomas, certificates etc, please contact Tim Bailey on (08) 9244 4993 or e-mail: hydeng@iinet.net.au

Advertising with the FPS

Your company can sponsor **Fluid Talk!** For a minimal cost you can publicise your company with a flyer, which is inserted into the newsletter. Acknowledgment of your sponsorship will be highlighted within the same edition. Advertise your company, service or product to a **targeted audience** with an A4 flyer, single or double sided, for only \$150. Contact Lime Communications on 9459 4402 to take advantage of this unique opportunity.

Movers & Shakers

- Barry Catanach has left Central TAFE to be come the Director of Energy, Mining & Training Solutions.
- Peter Marwood has left Central TAFE to pursue other interests.
- John Binks has left Tyco Motion & Control and taken up an appointment at JMV Hydraulics.
- Berendsen have acquired the Voith Hydraulics Business in Brisbane.
- Barry Owen has left Tyco Motion & Control to take up an appointment as State Manager for Denison in W.A.
- Undisclosed overseas buyer is looking to acquire a Perth based hydraulic company.



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Accreditation:	Tim Bailey			
Newsletter:	Stuart Coleman			
Committee Members:	Lloyd Hollier, Ian Lavington, Danny Mayer, Malcolm Tucker.			

Disclaimer

Whilst the Fluid Power Society of WA Inc., does its best to ensure that any information that it may give is accurate, no liability or responsibility of any kind is accepted in this respect by the Fluid Power Society of WA Inc., its members, its servants or its agents.

The Fluid Power Society newsletter is compiled by Jenny and Margaret from Lime Communications. Suggestions, ideas and information for the newsletter are most welcome - contact us on 9459 4402 or email limecommunications@yahoo.com.au.