

VASA is rapidly gathering steam as it becomes recognised as Australia's major relevant authority on the subject of vehicle air conditioning retrofitting and gas management.

This was among the summary statements made by re-elected VASA president Mark Mitchell in his Adelaide Convention wrap-up.

In a timely reminder of VASA's work, Mark Mitchell added, "It was VASA who first warned about the risks associated with hydrocarbons; worked on governments until they saw the dangers associated with allowing access to too many gasses which were not suitable for car air conditioning systems; warned about the growing problem of gas trashing, which threatens to put the whole environmental initiative of recovery of gas in jeopardy; warned its members that you can never really be sure what gas is in anyone's car and that you could contaminate your whole recycled gas supply with one little mistake.

"For the first time in our short history, VASA is no longer alone.

"This year, we welcome as major supporters and sponsors of VASA, the three major suppliers of refrigerant gasses, Orica, Elf Atochem and DuPont who are giving VASA new heart and new hope," said Mark.

"These companies, through Afcam, have also been good enough to help

We are no longer alone

President's Convention Summary

VASA launch its first one-gas education brochure which was released at the convention.

"Also for the first time, we had a major sponsorship from Environment Australia, who of course have a vested interest in the outcome of the gas debate.

RTP THE CROWNING GLORY

"VASA's year has been crammed with good things and great achievements. The Registered Technicians Program has been the crowning glory.

"Thanks Directors for persevering with this, and thanks Grant for producing such a fine package.

"Although it doesn't quite feel like a win just yet...we have made great inroads into the insurance problem. The major companies are on our side and our relationships at this level have been well fostered by the directors and the insurance committee.

"Next year, we will be working at the assessor level to try to educate them about proper procedures for fixing air conditioning systems and regassing.

"At the government level, right across the country, we are maintaining our liaison. It's been a hard road because changing

government perceptions is not something you would want to tackle every day of the week.

"We are well represented on many major government bodies concerned with standards and legislation, and in that respect, Chris Lindeman deserves a special pat on the back.

"I want members to know that we understand what they are going through and we understand the tremendous drain on family and resources which is occurring in our industry as technology rushes headlong.

PAT ON THE BACK FOR WIVES AND PARTNERS

"I want the wives and partners of our member workshops to know that we appreciate their support as we grapple with the long hours, the drain on liquid assets and the grey hairs which come from being in an industry of rapid change and development.

"The simplest of air conditioning functions and controls are now high tech electronic systems, demanding better educated and highly trained technicians in every workshop.

"Issues like refrigerant identification, disposal of contaminated refrigerant, deciphering the communi-



President Mark Mitchell (left) with Orica guest speaker from the US, Steve Colmery

cation era and surviving the millennium bug require the sort of stamina which can only be found in a truly professional air conditioning workshop.

"VASA is trying its best, through Hot Air and other forms of communication to help you cope with these issues by providing you with information and support. Don't hesitate to ask someone for help.

"The relationship of the mono refrigerant policy and the future of our environment was brought into sharp focus by the environmental and gas recovery speakers.

"We will all be employing young people who will indeed inherit the earth. These young people, our young technicians, will one day own the industry.

"It has been an inspiration for our directors to note the change in everyone here since we had that first meeting on the Gold Coast six years ago.

"VASA has given our workshops across the country a whole new measure of professional pride in what they do.

"If we keep focused in VASA, we will continue to stay at the leading edge. One day, the market will be ours, and we will have earned it."

Ironing Out The RTP Bugs

The Registered Technicians Program (RTP) is powering ahead and is still receiving accolades from members.

As training co-ordinator and national VASA training chairman Grantley Hand told the Adelaide Convention, "This program is positioning VASA members to be **untouchable**".

RTP is a continuing program. There are some perceptions that it is only a 12 month program but it is the certification that will be issued annually.

The RTP has a long future, while ever there are new technicians joining the industry, new workshops being established, increasing sophistication of the climate control systems of the modern vehicle and questions relating to lubricants and gasses.

Grantley advises that all material will be maintained on file and new enrolments will get the whole package.

As with all new training programs, clarification and reinforcement of the principles will be required from time to time.

"The RTP is a program to provide broad based low cost training and information to VASA technicians," explains Grantley.

The Questionnaire

The questionnaire which



is attached to each RTP is optional, but VASA strongly recommends that you return it for marking. The results are confidential and kept on file. Participants in the program will only be notified of results for each Bulletin if there are significant concerns regarding the answers submitted. The answers for each questionnaire are included in the following Bulletin. Participants can check their own answers and correct them as necessary.

Participants returning questionnaires by mail (instead of fax) will be supplied with a self addressed envelope plus 2 questionnaire sheets (1 for return and 1 for personal records). If participants do not have ready access to a fax please identify this on the next questionnaire returned. Those persons returning by mail already – *disregard this notice*.

Page Set Up

The RTP pages are set up with a column for key point indicators and for making your own notes.

The Certificates

Certificates will be issued to those who return questionnaires at the

completion of a 12 month period.

Businesses who have technicians returning questionnaires will also receive certification as a 'Registered Technician Service Centre'.

Future Bulletins

RTP will change context as it continues. At present it deals with principles (basic and advanced). Future Bulletins will begin addressing technological advancements within the industry. It is no use presenting complex technological concepts without all participants having a good solid grounding in the basic concepts and principles.

Shortfall should be over

Due to a high number of multiple enrolments from individual businesses VASA was 'caught short' of dedicated folders and dividers. At \$20 per set a large stock of 'spares' was not desirable. Those who enrolled late should have had their package including all Bulletins by mid to late September.

Have a say in content

As VASA keeps repeating, the RTP will attempt to respond to all issues encountered within the industry. Therefore, it depends for its success on input from members and the workshop floor.

If any member has any suggestions or requests for future content in RTP

All you need to do is send in a fax, like this:-

To the VASA RTP
We are having trouble
with
Please consider
addressing this in the
RTP.

The fax number is
08 8289 4260.

*Dear diary
Please make
sure I'm in
Melbourne on
August 27
1999*

The VASA convention for 1999 returns to Melbourne.

The dates are set – August 27 to 29 in 1999 at the Hilton On the Park in the centre of Melbourne.

John Blanchard, VASA's secretary/treasurer has taken on the task of organisation.

For the record, here's VASA's convention history.

**1993 Surfers Paradise
1994 Adelaide
1995 Melbourne
1996 Sydney
1997 Gold Coast
1998 Adelaide
1999 Melbourne
2000 Being hotly debated. Here's a clue – Sydney or Auckland.**

Wave of Support for Mono-Refrigerant Policy

The big three in supply of refrigerant gas to Australian industry came out in strong support of VASA's mono-refrigerant policy.

While this was not unexpected, the companies, DuPont, Orica and Elf Atochem were vocal about VASA's strong position in the industry and urged members to stand firm behind their own association.

Here is a summary of the main points:

TOM DRUMMOND,
Group Manager Fluoro-products DuPont (Australia) Limited

- Current issues are multiple refrigerants, flammable refrigerants, cross contamination, labelling of retrofitting systems, emissions and others.
- Emerging technologies will have some influence in the next 10 years.
- OEMs like to make money and they want to secure a larger share and or control of the service market. They have not succeeded because of the expertise of your industry. You should be able to stay one step ahead with your service practices and training.
- You should be the group that makes any decisions about changes in your industry.



The sponsor line-up at VASA in Adelaide - (from left) Paul Kesby , Environment Australia; Tom Drummond, DuPont; David Fawcett, Orica and Carl Heslop, Elf Atochem.

- R134a is not the end of the battle. You have to have a strong industry association and VASA is the only one able to represent you.
- We will provide support to you as an industry and to you as individuals.

STEVE COLMERY,
market development manager for the Synthetic Lubricants Business of ICI

- In the US, we had more than eight blends offered globally. None were approved by OEMs and some are slated for phase out.
- There are no drop-in replacements for R12.
- Hydrocarbons in the US are not an issue because of flammability questions.
- Those who don't service automotive air conditioning correctly are going to lose the business and they will come to the professionals in the industry eventually.

CARL HESLOP, National Sales Manager for Elf Atochem

- propellant.
- R134a has undergone much more critical testing than any of the gasses being replaced.
- They are probably the safest chemicals brought to the market in the last 10 years.
- R134a is the only gas approved for automotive applications world wide. There is no blend.
- The issue of blends on the market we hope will be a short term issue.
- AFCAM and the Commonwealth Government recently signed a voluntary agreement on quotas for HCFCs and also an agreement on disposables.
- Among other things, it includes an agreement not to import above a certain level prior to quotas coming into force after October 1999.
- Disposable HFC's will be banned for import from October 1 1999.
- New standards for mobile air conditioning are yet to be finalised. This will spell out your responsibilities.
- In terms of availability, cost and responsibilities to the environment, R134a is the only way to go into the future.

Convention '98 – Trade Exhibition

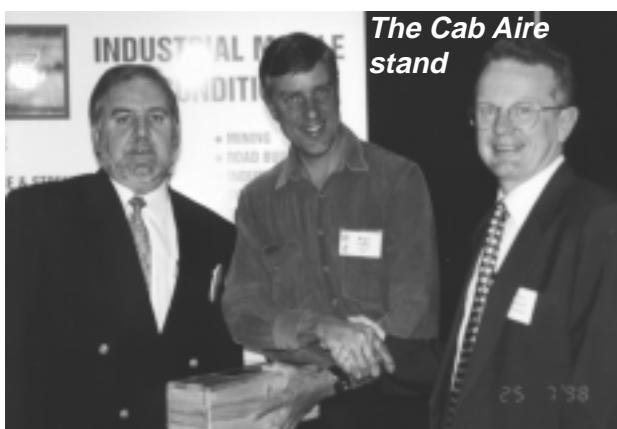
For those who could not attend the Adelaide convention, here's a line up of the Trade Exhibition. The pics were taken before the official opening, so several were not quite ready. The photographer made up for those with shots of the people associated with those stands which missed out. The photography wasn't great....sorry.



Convention '98 – Trade Exhibition



Convention '98 – Trade Exhibition



Allen Morris of Auto Aire, South Australia receives his award for best exhibit from exhibition coordinator Brett Spicer.

Thank You

A big vote of thanks are due to the respective teams at Air International, GMH and Mitsubishi in Adelaide for their first class tours and discussions at their plants for VASA delegates.

Convention '98 – Winners

From radio to air-con Les Howard is a true pioneer

Sydney car radio and air conditioning stalwart, Les Howard, is 1998 recipient of the VASA Pioneer Award.

Les began his career as an apprentice electrician in the railways, after which he joined the Air Force for two years for his national service and it was during this time he qualified as a radio technician.

Les opened his business, Howard Car Radio at Chatswood in 1954 when he was 21 years old and sold and serviced car radios, which in those days could cost up to one month's wages!



By the early seventies, Les was also trading as North Shore Car Air Conditioning and was soon one of Mark IV's largest dealers, also selling Smiths and Unicla brands. Gosford branch was added in 1974 and was managed by his son, Alan. The Chatswood facility was sold in early 1989 and Les moved to Waitara where he has now built premises to house both businesses.

Over these many years as a leading car air conditioning, car radio and stereo dealer, Les has always led by example and encouragement. The now very famous Dick Smith has remarked many times how, as a young man starting in business, he modeled his business on the principles on which Les Howard operated.

Les was a founding member in VASA's NSW division and continues to show great interest in all VASA's activities.

To say that Les Howard was taken by surprise when president Mark Mitchell announced the award at the annual dinner would be the understatement of the year. To use Les's own words "...the real highlight was your presentation to me of the much esteemed Pioneer Award. To say that shock – surprise – disbelief and the amazement of it all, completely overwhelmed me would be an understatement. I felt very proud that my partners in the industry could think so kindly of me.

"Business is more than dollars. It's customers, staff and trademarks. And more importantly, its VASA, especially at the annual conventions. Thank you Mark. Your input and presentation was very special to me."

For the record, previous recipients of the Pioneer Awards were:-

1996 Jim Russell, founder of A.K.T.F.

1997 Norman Bilton - General Manager of Sanden Australia and Mr George R Jackson, who has since died at his original home in America.

SWEET CHARITY

The big hearted members of VASA and their guests once again put smiles on the faces of a few kids at the annual convention.

The now traditional auction of goods and services donated to VASA by members and outsiders, raised an amazing \$9,400 in the space of about half an hour during the annual dinner.

The money has been



Auctioneer David Smallacombe extracting money

shared equally by the Salvation Army in Adelaide and MINDA, an Adelaide based organisation which works to develop the abilities and social skills of the intellectually disabled.

FEW CHANGES TO VASA COMMITTEES

There are few changes in the line-up of VASA executive and committees for 1998/99

The only change on the board of directors is Alan Ould from Western Australia who did not renominate due to pressure of business.

The Convention 1999 committee is headed by

John Blanchard, assisted by Mark Mitchell, reflecting the Melbourne convention venue.

In South Australia, a full committee has been assembled to assist chair Glen Watkinson. They are Wayne Holtham, David Jackson and Allen Morris.

In Western Australia, the state committee is now headed by Kevin Matthews who takes over from Alan Ould.

Convention '98 – Speakers

Mono Refrigerant Policy

A Simple and Sensible Option

Environment Australia welcomes the proactive stance taken by VASA in leading the motor vehicle industry approach to the alternative refrigerant issues.

Environment Australia is sympathetic to the desire for a mono-refrigerant approach. It is clear that the multiplicity of refrigerants causes a problem for industry, consumers and the environment.

With multiple refrigerants, servicing a system is now much more complicated - the risks of cross-contamination and venting to the atmosphere are also that much greater.

It is clear that without a strategy to deal with this issue, efforts to minimise emissions of ozone depleting and greenhouse gases could be undermined.

The adoption by VASA of a mono refrigerant policy is a simple and

Extract of address by Paul Kesby, assistant director, Ozone Protection, Environment Australia

sensible option for the industry.

The policy is already providing results – the market for certain blends appears to be declining which could assist in the evolution of a mono-refrigerant approach.

While Environment Australia is supportive of industry commitment to a single refrigerant, government agencies cannot be involved in what might be seen as favouring one commercial product over another.

It appears that VASA concerns could be addressed in part by achieving greater adherence to labelling requirements so that the refrigerant and oil used in existing systems can be readily identified. The problem of non-compliance by those I have heard called "gas-jockeys" could be addressed through greater policing of labelling requirements. However, I note that available resources in the states will be a constraint.

Another useful strategy will to

communicate the message to your customers: ultimately it is the customers who will have to agree to make the changes and pay for them.

They need to know they are getting the facts and not a sales pitch. They are looking for the lowest cost option - but if the story is the same wherever they go, the message will eventually get through.

Disposable containers

From an environmental perspective, reusable containers are to be encouraged over disposables. Reusable containers minimise the production of solid waste and the release of ozone depleting gas from the so-called 'heel' (the portion of gas not able to be extracted from the container).

(This part of the presentation by Paul Kesby is particularly relevant to the work of VASA. Another article dealing with the balance of his address, Life without CFCs –managing the alternatives, will be published in a future issue.)

Recycling Gas Pays 10 Kilos

=10 Schooners

The good news is that the reclamation of refrigerant gas is already making a big impact on the skies over Australia.



Michael Bennett, General Manager, Refrigerant Reclaim Australia (RRA) told convention that Australia is ahead of the game. "Ozone depletion is turning the corner. If the world meets its protocol commitments, complete recovery will occur between 2020 and 2030."

Here are other points made by Michael Bennett.

- RRA backs mono refrigerants. There was only one R12 and there should be only R134a.
- Blends are contaminated as new. They could comprise up to six different substances. It is more costly to manage than reclaimed materials.
- We can extract R12 and supply it back to the market. It is a higher cost to destroy than to reclaim and there is no way to recover the costs.
- The less amount of contamination in any cylinder will be a lesser overall cost to the industry.
- RRA is keen on banning disposables. Disposable containers don't make sense. About 30,000 to 40,000 disposals come on the market every year, mainly from overseas.
- Despite the best intentions, there is always a small amount of gas left in the disposable container. Where does it go? Into the atmosphere. We want to see the back of disposable containers.
- All HFC's can be sent to RRA and RRA takes back R134a. We now supply a full industry cover on all HCFC refrigerants. Nothing can be sent to the atmosphere.
- RRA pays \$2500 tonne or \$2.50 per kilo. Putting it into perspective, 10 kilos equals a 10 schooners.
- Most of our recovered product is R12 but we have received more R22 in the last 12 months than R12. We expect R11 recoveries will grow strongly in the next five years.
- From July 1993 to January 1998, we have spun straw into gold and produced 318 tonnes of recycled gas.
- RRA has destroyed 70 tonnes of refrigerant gas.



IMACA
International Mobile Air Conditioning Association

Identifiers Part 3

Identifiers

This is the third and last in the series dealing with identifiers and the latest trends in the USA.

They were adapted from an IMACA initiative, "Refrigerant Identifiers: What Can They Do For You?" An expert panel from the industry led the discussion. This last presentation was by Gary Halpern of Neutronics Inc.

Halpern began by reviewing the results of refrigerant contamination reports received over the 1997 A/C season.

"We have over 20,000 Neutronics Refrigerant Identifiers in the field — 9,000 at General Motors, and 11,000 at other OEMs and in the aftermarket and we track very closely the instances of refrigeration contamination.

"Neutronic's Refrigerant Contamination Reports are developed from personal contact and from data submitted on Neutronics' Response Form. From 457 reports received between January 1 and October 31, 1997 the contamination breakdown was as follows:

- 30% HFC-134a in CFC-12
- 20% HCFC-22 in CFC-12
- 20% Hydrocarbons in CFC-12 (and some HFC-134a)
- 15% Refrigerant "du jour" (mixed, junk)
- 10% Blends (based on "fingerprints")
- 5% Air contamination (typically not reported)

"The 5% "air" reported was very misleading, in that many in the industry do not see air as contamination, since it doesn't damage the recovery equipment. Therefore, they do not report it.

"Virgin refrigerant contamination represented nearly 10% (44 reports) of the total contamination. In addition, there was one report of a \$350 bottle of CFC-12 which actually contained water, topped off with compressed air.

"Contamination occurrences are *increasing*, not decreasing. Buyers must be extremely wary of *all* new refrigerant purchases. All it takes to justify the cost of a refrigerant identifier is *one* car with contaminated refrigerant. The contaminated refrigerant, downtime or replacement of recovery equipment and the potential safety hazards far outweighed the investment.

"Reviewing the problems simple *air* can cause in a system, it is noted that *non condensables* (NCGs) and air are one in the same. Excess air in a system can cause noisy compressors, higher system operating pressures and can lead to premature compressor clutch failure.

"Air increases compressor cycle rates, contributes to evaporator freeze-up and the resulting loss of air flow and generally reduced cooling performance. Neutronic's latest time-saving weapon against air contamination is the *Air-Radicator*.

"The automatic refrigerant air-purge tool was designed specifically for MVAC applications. *Air-Radicator* eliminates the need to recover refrigerant simply to purge air. The device saves valuable technician time and does not tie-up recover/recycle equipment, by automatically purging air (down to 2%) in just a few minutes.

"The device is self-calibrating, requires no special tools or test gases and has a digital reading of the amount of air in the refrigerant. Red and green LEDs indicate the purging status.

"The *Air-Radicator* removes air from the refrigerant, whether it's in an MVAC system or in a cylinder and will operate under all service shop conditions. The air-purging capability is based on a patented optical measurement and not on temperature/pressure measurements. Once the air-removal process is completed, the refrigerant is ready to use."

VASA is proudly affiliated with:-



IMACA
International Mobile Air Conditioning Association

Affiliate Member of



Cyberspace to help VASA

Communicate

An internet web site is being prepared for VASA by the corporate affairs office.

It will provide a ready reference for members on a range of issues, from policy to training. It will contain, in time, all major articles from back issues of Hot Air, broken into easy to find categories.

It will take several months to complete the work.

Typical of the national trend, VASA members are locking on to the internet for electronic mailing and information gathering at an ever increasing rate.

In a show of hands at convention about two thirds of the 130 or so audience said they used the internet regularly.

As a result of this encouraging trend, VASA is going all out to include email addresses on its data bases for membership, the service

directory and for Hot Air.

Not only does it make contact faster, cheaper and easier between VASA and its members and associates, but it has encouraged VASA to speed up its proposed launch of the Association's first web site.

It will ultimately change the way VASA communicates with its members. It will mean that more of VASA's initiatives at executive level can be shared by all the membership and there will be ready access to technical information as well as links to the pages operated by VASA affiliates, IMACA and MACS in the USA.

So the call is out – will all members with an established emial address, please send an email to:-

Secretary/Treasurer
<maa@teksupport.net.au>

With a CC to Corporate Affairs
<supercool@onthenet.com.au>

See you on line.

US REPORT on the Refrigerant of Choice

*By Steve Colmery,
Orica. Presented at the
VASA Convention, Adelaid*

"There is already a great deal of experience of successful R134a retrofits, in many countries, with millions of miles of documented fleet tests since 1993.

"R134a has been chosen as the retrofit refrigerant by the OEMs and many mainstream after-market organisations because it works well.

"It is estimated that 40 million vehicles will be required for retrofit in the USA alone over the next five years, the largest single country for this application.

Blends and Yet More Blends

There are at least eight blends being offered by retrofit in various parts of the world, all claiming to be a better mate to CFC-12 yet none are endorsed by the OEMs. Most are subject to phase-out under the Montreal Protocol. None have been subjected to the same level of testing and field experience as R134a.

Ford USA states "The use of non-approved refrigerants such as R22, hydro-

John Brooks, Victor Harbor SA; Wingfield Airconditioning, Winfield SA, Aris Kontoleon, Geebung Qld, R Young – Ballarat Auto Air, Delacombe Vic; Max Roach – Auto Air, Devonport Tas; Craig Wright – Cliff Wright

carbons, and other refrigerant blends could cause safety, durability and performance problems if they are installed in Ford A/C systems".

In addition, there is considerable concern in the automotive air conditioning sector that there is enough challenge in dealing with just two refrigerants, CFC-12 and R134a, without adding additional blends that must be treated slightly differently.

Some organisations have made much of the acceptance of blends by the United States Environmental Protection Agency (US EPA) "SNAP" program. It should be recognised that the "SNAP" program only measures the basic refrigerant properties.

It does not address the more extensive industry requirements for mainstream MAC retrofit. Unlike automotive OEMs, it is not a requirement for the US EPA to test system performance in any way when evaluating refrigerants as parts of its "SNAP" program. Any refrigerant blend that meets the basic requirements of "SNAP" can be "accepted" by the EPA.

In the long run, market access to a choice of blends threatens to unnecessarily over-complicate the retrofit market.

Motors, Armidale NSW; Allen Morris – Auto Aire, Kent Town SA; Capricorn Auto Air, Rockhampton Qld; Jim Kouzaba, Regency Park SA; T Farrugia, Wingfield SA; Bill Morris – WM Auto, East Botany NSW.

WINNERS ARE GRINNERS...

At Convention '98 the following were the winners of R134a cylinders donated by

elFatochem

ATO

and distributed by

ACTROL

Hot Air used to run stories of weather forecasts for the following three months after publication. The information came from the Internet site of the Bureau of Meteorology.

The original intention was to find a long range forecast so that we could expect long or short, hot or cool summers. Alas, the bureau's forecast is heavily orientated towards rainfall and doesn't really provide enough information and in winter, what's the point.

So unless there is a clamouring among members for the little information we have been able to find, we are dropping this as a regular feature.

MEMBERS

Membership as at the annual general meeting was 293.

The break up is:-

NSW	109
Northern Territory	2
Queensland	73
Victoria	45
South Australia	22
Western Australia	20
Tasmania	2
New Zealand	20

Plus 6 associate members

Membership break up by type of industry is:-

Workshops	226
Manufacturers'	32
Wholesalers and distributors	29

WHAT GAS DOES GOV DEPTS USE

At Convention, Roger Boa (NSW) asked the executive to do something about the fact that some government departments, including the defence department, are using any old refrigerant gas in vehicles which the taxpayers own.

Given that the convention

was told by a range of experts how this attitude is damaging to both the environment and to long term operation of the air conditioning systems, he suggested that pressure be put on all government departments to follow the recommended lead of the OEM's, VASA and many others to use only R134a.

HARDWARE STORES?

Jim Richards of VACC told convention about hardware chains offering sale of gas and then rental of hoses and adaptors to "do it yourself".

He sought VASA support to get uniform national controls which, among other things, would ensure that only those service outlets which were genuine are the only places to which refrigerant gas can be sold.

If organisations lowered their guard, the industry could go backwards, warned Jim.

Mark Mitchell gave VASA's undertaking to pursue national controls on sale of gas.

The information in this newsletter is supplied by the executive, members and affiliate bodies in USA and Europe. VASA maintains a high standard of editorial and technical content, but can accept no responsibility for the accuracy of the statements made nor the technical information provided. If in doubt about any issue, contact an appropriate committee chairman or a member of the National Executive.

VASA READY REFERENCE DIRECTORY

1998/99

Directors, Chairmen (**in bold**) and Committee Members

Directors	Phone	Fax
Mark Mitchell (President)	07 5532 8133	07 5532 8602
Glen Watkinson (Vice Pres)	08 8347 1155	08 8268 8048
John Blanchard (Secy/Treas)	03 9890 7082	03 9890 0061
Tony Heat	02 9949 5188	02 9949 4243
CORPORATE AFFAIRS		
Mark Mitchell	07 5532 8133	07 5532 8602
Chris Lindeman	02 9484 3949	02 9484 8608
TECHNICAL		
Mark Padwick	02 9791 0999 018 266 132	02 9791 9029
Grantley Hand	08 8251 3894	08 8289 4260
TRAINING		
Grantley Hand	08 8251 3894	08 8289 4260
Greg Thomas	02 9774 4133	02 9772 3272
John Bish	02 9482 1511	02 9477 7360
CONVENTION 1999		
John Blanchard	03 9890 7082	03 9890 0061
Mark Mitchell	07 5532 8133	07 5532 8602
QUEENSLAND COMMITTEE		
Bevan Carrick	07 3375 5566	07 3375 1404
Terry Gately – Insurance	018 722 947	07 3801 3096
David Pude – Training	07 3369 3133	07 3368 3745
NEW SOUTH WALES COMMITTEE		
Tony Heat	02 9949 5188	02 9949 4243
Mark Padwick	02 9791 0999 018 266 132	02 9791 9029
Roger Boa	018 428 898	02 9792 7069
Steve King	02 4625 8216	02 4627 0374
NEW SOUTH WALES INSURANCE COMMITTEE		
Peter Dodds	02 9720 2258	02 9720 2355
Phil Wilson	02 9601 2400	02 9601 6580
Chris Lindeman	02 9484 3949	02 9484 8608
John Wallace	0419 276 627	02 9634 7086
VICTORIA COMMITTEE		
Mark Lynch	03 9532 0785	03 9532 1010
Brian Wilkinson	03 9544 7799	03 9544 7888
Keith Murray	03 9544 7799	03 9544 7888
SOUTH AUSTRALIA COMMITTEE		
Glen Watkinson	08 8347 1155	08 8268 8048
Wayne Holtham	08 8234 2616	08 8234 2850
David Jackson	08 8376 0899	08 8376 0451
Allen Morris	08 8362 7671	08 8362 8337
WESTERN AUSTRALIA COMMITTEE		
Kevin Matthews	08 9275 3344	08 9275 5630
Paul Robinson	08 9279 3336	08 9279 3156
NEW ZEALAND COMMITTEE		
Barry Rogers	64 9 573 3392	64 9 573 3395
Richard Cooper	64 9 262 6524	64 9 262 0547
Stuart Helm	64 7 846 6668	64 7 846 6667
James Ritchie	64 9 520 2741	64 9 522 3318
EDITORIAL CONSULTANTS		
Ken Newton	07 5526 3044	07 5526 3404
Joy Davies	07 5526 3044	07 5526 3404