



VOLUME 3  
ISSUE 1  
FEBRUARY 99

# Revised MARCSTA Induction Trialled

Twelve CSR employees and CSR contractors from Bunbury and Albany were participants in the first of the revised inductions at the Lighthouse Resort in Bunbury on 4<sup>th</sup> December. All but one participant were doing their two-yearly reinduction. The revision has been the work of Dr. John Woods from Edith Cowan University's School of Communications and Multimedia.

The course was presented by Greg North from CSR.

Vic Roberts from CSR, Ashley Gilbert from Ausdrill and Geoff Taylor, from the *Monitor*, were the observers for the day.

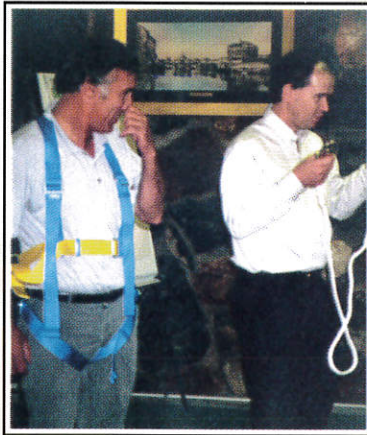
Greg kept up the pace so that all the course content could be covered, and used a series of assessments throughout the day. But there was still time for a number of group sessions by the participants.

There was a general feeling of satisfaction with the new-look course, and the participants being re-inducted felt it had been worthwhile going over the material again.

“There was a general feeling of satisfaction with the new-look course ...”



From left: Ashley Gilbert (Observer), Jeff Clemens, Lyndon St Jack, Ray Gibson, Gary Martin and Stephen Nani.



Brian Clemens and Greg North explore safety harnesses.



From left: John Nani, Keith Ogden, Brian Yearsley, Richard Locke, Brian Clemens and John Scanlan.

## In This Issue . . .

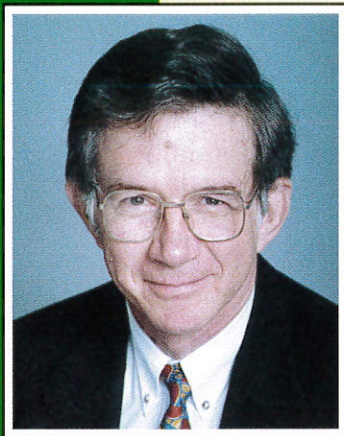
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# Editorial

They used to say this was from the editor's pen, but in fact this is from my personal computer. (The boss of IBM in 1953 by the way put the world's total expected demand for PC's at five.)

I recently presented the health and safety component of a university course for engineers. The case study I developed was based on the RAN's *Westralia* fire in April, and asked students to view the accident as if it was an accident which was covered by either the Mine Safety and Inspection Act and Regulations or the OSH Act and Regulations, particularly the regulations on plant. It was interesting then to look at the incident reports published by DME for the period June-July 1998. In a period of six weeks there were seventeen mining equipment fires which involved fuel, oil or hydraulic fluid coming into contact with a hot engine. Yet only recently I heard someone say that they couldn't see that what happened in one industry could be applied to another. Perhaps we need to look not just at maintenance but at revisiting the standards applying to fuel, oil and hydraulic lines with particular reference to the environment in which these lines are expected to work. Just as with marine applications, the mining environment puts its own particular demands on equipment. Best wishes for a safe and productive 1999. **Geoff Taylor.**



## Letter to the Editor . . .

Dear Geoff,

In response to an article in October's edition of MARCSTA Monitor on the electronic tagging system at KCGM, I'd like to point out a couple of points.

Firstly this system is not very different to the current tag board system as it still requires the miner to swipe their tag at specific locations instead of turning a tag at these locations. Thus if a miner loses their tag or forgets to swipe, the system can become dangerous. The only difference is that the information is relayed to surface so that you can know who is underground etc.

The Rimtec Underground Tracking System, currently in use at the Telfer Underground Gold Mine, uses an active tag which is constantly sending out a signal to indicate miner locations throughout the mine. The miner does not have to worry about swiping a card, thus one of the biggest factors of safety - human error - is eliminated. Additionally, as many receivers (the equipment which catches the tag signal) as needed can be placed throughout the mine to give as much information as the management needs.

I hope you would be able to include this in your next issue to let the mining community know about all options that are available in the market place.

Kind regards

**David Rogers**  
**Systems Manager**  
**Rimtec Pty Ltd**  
**Ph 9470 2066**

## Mining Products

*Mining Magazine* for January provides a review of those products advertised or written up which attracted greatest reader interest in 1997-8. They were:

Jacon shotcrete spraying equipment, Liebherr 300 s.ton capacity truck, Webster Schaeff drill loader, Honeywell improved grinding efficiency, Verder dewatering pumps, Geosoft geochemical software, Karmazin heat exchangers, Caterpillar 992G wheel loader, Atlas Copco Swellex underground roof support, Komatsu 930E Haulpak, Nordberg cone crusher, El-equip underground radio system, and Tire Resource Systems used tyre disposal.

## MARCSTA Members

**Atlas Copco**  
**Ausdrill Ltd**  
**Australian Raised Drilling**  
**AWP Contractors**  
**Barminco**  
**BGC Contracting**  
**Boral Contracting**  
**Brambles Ltd**  
**Brandrill Ltd**  
**Byrne-cut Mining Ltd**  
**Charles Hull Contracting**  
**Clough WA**  
**Cook's Construction Ltd**  
**CSR Readymix**  
**Henry Walker Contracting**

**JR Engineering Services Pty Ltd**  
**Macmahon Contractors**  
**Monadelphous Group Ltd**  
**NS Komatsu**  
**Roche Bros**  
**Skilled Engineering**  
**Thiess Contractors**  
**Total Corrosion Control**  
**Westrac**  
**This list is current at the time of going to press but for further information contact Vic Roberts at the Secretariat on Phone 08-9397 1306, Freecall 1800 678 554 or Fax 08-9397 1304.**



# Provider Seminars

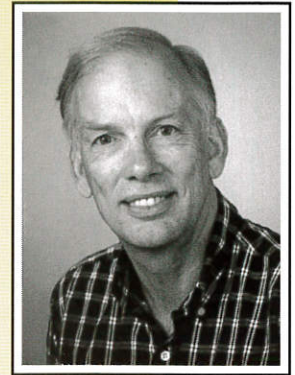
The first of these was presented by Dr. John Woods from Edith Cowan University's School of Communications and Multimedia on November 28<sup>th</sup> at Aveling and Associates' new premises in Welshpool. Those who attended included Tony Aveling, Ray Hargreaves, Vic Roberts, Reuben Barber, Carole Halse, Geoff Dodge, Greg North, Chris Annesley, Nicole McIntyre, Bob Halse, Darren Ridley, Tom Bateman, Ross Graham and *The Monitor*.

The second presentation was given on December 4<sup>th</sup>, also in Welshpool, and was attended by Joe Knight-Smith, Joe Duvestyn, Rennie Sterle, Wayne Sullivan and Vic Roberts.

The presentation then moved to Curtin University in Kalgoorlie on January 13<sup>th</sup>. The third seminar was attended

by Pat Gilroy of the Chamber of Minerals and Energy, and Gary Sharpe, Peter McDonell, Peter Dowding, Bryan Smith, Shane Salt, Bert Lundie, Jay Jessop, Barry McKinnon, Mark Rhodes, Ashley Gilbert, Reuben Barber and Peter Tynan. Greg Harris, Terry Condipodero and Vic Roberts also were there.

The course has been further refined by Dr Woods and there is another presentation at the Metro Inn on 17<sup>th</sup> February.



*Dr John Woods*

## MARCSTA Goes To South Africa



*Greg Harris and Bob Halse are shown right upper and right centre – photo courtesy of DME.*

Greg Harris and Bob Halse both attended the Minesafe International Conference in Sun City, South Africa in November. They presented a paper at the Conference on MARCSTA. It has not been possible to bring you more details of the conference in this issue.

WA delegates to the conference had the opportunity to see the good and the bad in South African mining during visits to two mines.

### MARCSTA POSTERS

*Members and providers are encouraged to obtain supplies of these safety posters from the Secretariat. Developed by Bob Halse, the three posters now available feature manual handling, job safety analysis, and MSDS. These posters are one of the ways in which MARCSTA is putting the money it earns back into the industry.*

## news and views . . . news

### CANBERRA'S FUTURE DIRECTIONS IN OHS

The Hon. Peter Reith, federal Minister for Employment and Industrial Relations had this to say in the E.W. Cox Safety Address at the NSCA/Southcorp 1998 safety awards presentation:

So what of the future? In our second term the Government will work with the jurisdictions to reinvigorate the national prevention effort. Community awareness is absolutely essential if we are going to improve our prevention efforts. We will continue to work with the states and territories to promote better awareness, to foster renewed commitment to the prevention of injury and to arrest the development of a community expectation about the inevitability of injury at work. We will continue to facilitate improved prevention performance by ensuring that workplaces have information and resources available to them that is practical and relevant to their needs. We will also work with employers and unions to ensure that employers incorporate OHS issues into the general management of their business. Central to the achievement of this aim is demonstrating to business what I think most people tonight would already accept, and that is, increasingly, a commitment to prevention is an integral part of a successful business.





## Who's Who?

### CHAIRPERSON

Greg Harris, BGC Contracting

### VICE CHAIRPERSON

#### TREASURER

Terry Condipodero, JR Engineering Services Pty Ltd

### ACTING SECRETARY

#### ADMINISTRATOR

Vic Roberts

#### INDUCTION

Ross Graham

#### TRAINING

Vic Roberts

#### PROMOTION

Warren Claydon

#### ACCREDITATION

Irene Ioannakis

#### MARCSTA MONITOR EDITOR

Geoff Taylor

## MOSHAB Inquiry Drilling Contractors' Seminar

*The Mines Occupational Safety and Health Advisory Board (MOSHAB) appointed a committee to investigate fatalities in the mining industry. A series of subcommittees was set up to review different areas, one of which was drilling. Exploration drilling was of particular concern because of the energies involved and often the remoteness from fixed minesites. The drilling safety review was headed by John McGee from DME, and held a public seminar on November 18<sup>th</sup>. The seminar covered the area very thoroughly with the chairperson of each subcommittee explaining their section of the report. A very comprehensive set of recommendations was presented. However one possible problem is that the DME, in setting priorities for action, appeared to be in danger of moving everything to number one. Also while an issue like noise is important, its inclusion threatened to blur the sharp focus the MOSHAB inquiry had on preventing fatality and acute serious injury.*

*As with other areas, the drilling industry would benefit from more taxonomic analysis of its accident record. This type of analysis highlights those contributing factors which figure most often in accidents.*

*While there are a large number of relevant recommendations, they will need to be reduced to key ones people can remember in the field.*

*With hand injuries common in drilling, there was nevertheless understandable concern at the economic impact on the industry of introducing rigs with automated drillrod handling.*

## news and views . . . news and views . . . news

### MARCSTA MEMBER ON EDITH COWAN UNIVERSITY'S MINE SAFETY AND HEALTH TEACHING AND RESEARCH CENTRE

This Centre is being set up by Edith Cowan University to undertake research and teaching in safety and health in the mining and energy sector. Vic Roberts, MARCSTA's education and training officer, attended the steering committee meeting on November 23<sup>rd</sup>.

### NEW OCCUPATIONAL HEALTH MANAGER

Mike Rowe has been appointed manager, Occupational Health in DME. Mike joined the department in the then Government Chemical Laboratories as a chemist in 1971, and later headed the Food and Industrial Hygiene

Division. He became Principal Occupational Hygienist with the DME in 1992.

### CHANGE OF SECRETARY ADMINISTRATOR

Vic Roberts is now the acting secretary/administrator. All at MARCSTA record their thanks to Carole Halse for her work as administrator over the last three years and to Bob Halse for his work as secretary.

### BACTERIAL PRE-OXIDATION

In the January *Mining Magazine* there is a piece on the Beaconsfield mine in Tasmania, where a MARCSTA course has been presented. Beaconsfield is the first commercial venture to use Mintek/BacTech bacterial pre-oxidation of refractory sulfide concentrates. The subsequent gold leach has low cyanide consumption.





# MONADELPHOUS GROUP

From its inception over twenty years ago the Monadelphous group has developed into a progressive engineering services company, showing a high level of professionalism providing extensive project management, construction, maintenance and engineering support services to the mining, mineral processing and associated industries throughout Australia.

Monadelphous' scope of services includes fixed and mobile plant maintenance for both surface and underground operations, plant shutdowns, labour hire, crane and plant hire, mill relines, project management, civil, structural and mechanical construction.

The Monadelphous Group has branches located in key mining and mineral processing centres throughout most states of Australia. Branches are



located at Kalgoorlie, Mt Magnet, Karratha, and Perth in Western Australia, Darwin in the Northern Territory, Roxby Downs in South Australia, Queenstown in Tasmania and Gladstone in Queensland. All branches are fully equipped with workshop facilities, labour, plant and equipment resources, with additional project management and engineering support available from head office.

In addition to the Group's head office in Perth a corporate office has recently been established in Brisbane.

Monadelphous has been a strong advocate and supporter of MARCSTA since its inception in 1994.

Monadelphous employs in excess of 1000 people throughout its operations and the health and safety of its people is paramount to its success.

The company is committed to the elimination of all incidents and risks to health for all personnel associated with its activities. Health and safety ranks equally with all other aspects of the Group's operations and forms an integral part of all activities undertaken.

For any additional information pertaining to Monadelphous please contact Mr Mark Jansen – Regional Manager Perth Operations on (08) 93161255.



## NEW TRAINING GUIDANCE

### National Occupational Health and Safety Commission Review

The National Occupational Health and Safety Commission (Worksafe Australia) have commenced a review of the integration of OHS competencies into vocational curriculum. Jill Gutteridge and Arline Dumazel are the Worksafe personnel appointed to the project, phone 02-9577 9440. The six components to the new National Training Packages are:

- National Competency Standards
- Assessment Guidelines
- National Qualifications
- Learning Strategy
- Assessment Materials
- Professional Development Materials.

Only the first three will have Australian National Training Authority (ANTA) endorsement, the others can simply be submitted to ANTA by an Industry Training Advisory Board.

#### New Publications

Another publication stemming from the MOSHAB Prevention of Mining Fatalities Taskforce is: *Risk Taking in Western Australian Underground Mines*, MOSHAB, published in November. For further information, refer to the write-up below.

Vale



## Catherine Stedman

*All members of MARCSTA will I am sure share in our sadness at the sudden death of Catherine Stedman.*

*Catherine has been described as having a passion for OHS in mining. At her seminars she could win over in half an hour those who were there on sufferance and get them interested in safety.*

*She was the stimulus to Greg Harris, Bob Halse and others to "get off their ... ..", as they put it, and get MARCSTA up and running in 1995, and served until 1998 as the Monitor editor.*

*She was editor of DME's Minesafe newsletter, and a mentor to many in the industry.*

*We will miss you, Catherine.*

## RISK-TAKING BEHAVIOUR IN UNDERGROUND MINES

A working party made up of Pat Gilroy of the Chamber of Minerals and Energy, Henry Rozmianiec of the AWU, Bob Leggerini, Employee's Inspector and Tracy Long, Working Party Secretary, DME, was set up to inquire into risk-taking behaviour in WA underground mines. The working party sought direct input from the workforce, using a survey questionnaire for confidential individual completion by employees and supervisors. The questionnaire was based on information from the 1997 Mining Fatalities Taskforce. The working party went to meet supervisors and employees at start of shift in mines in five regions, covering 1150 people at 25 mines.

The major issues identified by employees were (in priority order):

- provide better initial training and more ongoing training of new workers by experienced people
- reduce risk-taking behaviour caused by production pressure
- reduce shift-lengths and improve rosters – both can result in fatigue
- improve management and supervisor communication with workers
- employ more experienced and competent senior and line management
- provide better and more appropriate machinery, tools and equipment and carry out regular and proper maintenance.

From MARCSTA's viewpoint as a training organisation, it is notable that the first issue in the list above was given twice the attention of any other major issue.

The survey report itself is easily readable as it only takes up fifteen pages and focuses on eleven issues. Conclusions take only one and a half pages and there are eight recommendations taking just over a page.

Two recommendations are of particular interest to MARCSTA members and providers:

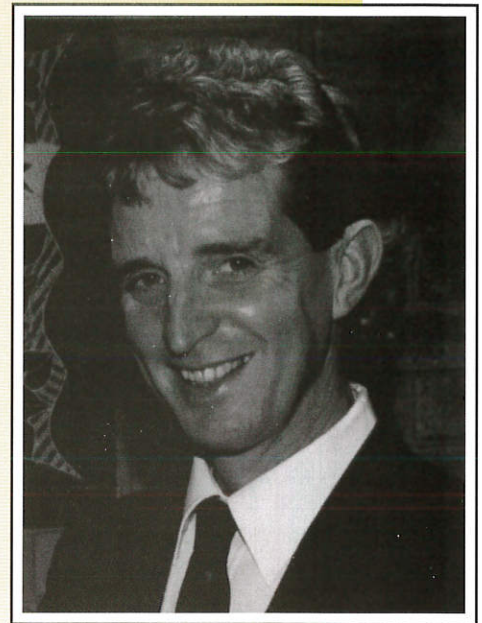
- MOSHAB to endorse the underground mining competency-based training proposal currently under development by the mining industry and ensure its adoption and implementation urgently by the underground mining sector
- MOSHAB to ensure that the proposal for applicable training based on the nationally recognised competencies of frontline management and the NOHSC's OHS generic competencies be introduced for all statutory and non-statutory, supervisory, and management positions at underground mines urgently.

While these recommendations relate to underground operations, they will in some instances have more general application. The working party noted the difference in the experience and skills base of workers in the Kalgoorlie/Kambalda region with its residential workforce, compared to other regions which are generally fly-in fly-out. The working party saw the skills shortfall of one third of the workforce as a major contributor to risk-taking.





# Ray Hargreaves



Ray has been a MARCSTA Provider since August 1996 and was responsible for Jundee Gold Mine being the first mining operation to use MARCSTA as their introductory induction course. He has a training room in Rockingham and currently is the only provider to conduct regular courses on Saturdays.

Ray is an experienced safety practitioner with experience as OSH Coordinator at Granny Smith Mine, Training and Safety Coordinator at Jundee Gold Mine and also contract Safety Superintendent for Roche Bros during the setting up of the Mt Keith Operation. Other safety management experience includes on-shore deep oil and gas drilling, asbestos removal (industrial), and industrial construction.

Ray was a fitter rigger and has in excess of 18 years experience in the mining industry and many years in construction and demolition.

Whilst employed in the Northern Territory, Ray was involved in St. John Ambulance, Northern Territory Fire Service, Emergency Services and served as a member on the Gove District Hospital Management Board.

He is currently working towards an Associate Degree in Training and Development through Edith Cowan University and is a Workplace Assessor. He has been teaching first aid (St John Ambulance) for in excess of 14 years.

Apart from MARCSTA, Ray also conducts training for safety management, emergency response, 4WD defensive driving,

isolation (tag out and confined space) and accident investigation. As a believer in continued exposure to site work, Ray also puts aside a few weeks each year to work as relief safety officer.

Ray can be contacted by phone on (08) 9592 8338, fax (08) 9592 8339, mobile 0418 917 969 or [rhsafety@southwest.com.au](mailto:rhsafety@southwest.com.au)

**LATE NEWS:**

Ray has just joined Aveling and Associates.

## MARCSTA REGISTERED PROVIDERS

Chris Annesley	TRACMIN	Jeff Mathews	Safety Paradigms (Aust) Pty Ltd
Tony Aveling	Aveling and Associates	Bob Mulligan	Safety Services WA Pty Ltd
Reuben Barber*	MacMahon Contractors	Greg North	CSR Readymix
Tom Bateman	TRACMIN	Darren Ridley	TRACMIN
Carl Berglin	TRACMIN	Victor Roberts*	CSR Readymix
Alan Chester* (U)	Beaconsfield Joint Venture (Tas)	Gary Sharpe (U)	TRACMIN
David Collins	D&S Safety and Training	Shane Salt	Safety Resolutions
John Cartwright	CJD Equipment	Peer Stareczek*	Great Central Mines
Geoff Dodge	Opalrose Nominees Pty Ltd	Rennie Sterle	CY O'Connor College of TAFE
Peter Dowding	JR Engineering Services Pty Ltd	Wayne Sullivan	Wayval Safety Consultants
Joe Duvestyn	Drillcorp	Dave Warner	IFAP
Ashley Gilbert*	Ausdrill Ltd	Dave Watkins	Safety Skill Service
Ross Graham*	NS Komatsu	Chris Wilson	Management Consulting Services Pty Ltd
Ray Hargreaves	RH Safety Training		
Joe Knight-Smith	—		
John Joyce*	Grimwood Davies Pty Ltd		
Bert Lundie	Baseline- New Era		
Malcolm McFarland	IFAP		
Nick McIntyre (U)	McIntyre Mining Services		
Gary Maher	TRACMIN		

\* denotes company trainer only. Remainder are commercial trainers. U denotes underground trainer as well. This list is current at the time of going to press but for further information contact Vic Roberts at the Secretariat on Phone 08-9397 1306, Freecall 1800 678 554 or Fax 08-9397 1304



## ENERGY SAVING FOR AC MOTORS

Most AC motors are under full load only for limited periods. Heat and vibration can use up large amounts of energy at other times. Power losses can range from 40-80% of a motor's full load rating. Motors cannot intelligently adjust the electricity they draw. Powerboss, distributed in WA by Energy Power Conservation, is a unit which can be connected to an AC induction motor. *Powerboss* goes through a learning cycle with the motor. It then continuously monitors efficiency and ensures the operating conditions of the motor match the varying load. Correct RPM are maintained. Full voltage and maximum current is available in 0.01 second, so full torque is there if needed. Damage to windings and bearings is reduced by controlled release of power, and the motor is smoother and quieter. Power factor improvement reduces running costs.

## BIGGEST HAULTRUCK TYRE

*Mining Journal* for early January reports on the world's biggest radial tyre. Bridgestone has introduced the V-steel R-lug S for haul trucks up to 327 tonnes. The tyre has a low aspect ratio, a new belt structure, a new configuration and construction for the bead, a new tyre-casing line and lower pressure reducing the effects of cuts and punctures.

## DIESEL PARTICULATE CONTROL

*Canadian Mining Journal* for August mentions Nett particulate filters for underground diesels. They are designed for LHDs and haultrucks which contribute most of the particle emissions. The filters reduce these emissions by 90%. Ceramic elements trap diesel soot, and a catalyst ensures that particulates burn out at exhaust gas temperatures. In this way the filter regenerates. The filters are virtually maintenance-free.

## NEW LATERITIC NICKEL PROJECT

With Murrin Murrin, Cawse and Bulong under way, *Australian Journal of Mining* for November reports on the Comet Resources prospect 35 km east of Ravensthorpe. The mine would be second only to Murrin Murrin in output, has a low waste ratio and is relatively close to a port.

## CONTRACTOR FINANCE

Roche Bros and Eltin took out a \$135 million Australian dollar operating lease on mining equipment for the Roche/Eltin joint venture at the Pasminco Century Mine in North Queensland. National Australia Bank and ANZ Investment Bank arranged the facility, and they were joined in debt/equity provision by ABN Amro Australia.

## BIGGER HAUL TRUCKS

*World Mining Equipment* for December describes the new Liebherr 327 tonne haul truck. The truck is the biggest diesel-electric AC-drive hauler on two axles, and the Siemens electric drive, Michelin 1.6 m tyres and Rimex 6341 TSR rims are all first time.

## SAFETY ADVICE

Nuri Vittachi in the *Far Eastern Economic Review* mentions a recent headline from the *Otago Daily Times*. It said: "Police warn about dangers of leaping from bridges." Debate is obviously continuing over how far public authorities must go to encourage safe behaviour.

## SA BOOST TO EXPLORATION

*Australian Journal of Mining* for November reports that exploration in South Australia will be boosted by the State Government's injection of \$23 million on a targeted exploration initiative (TEISA). The TEISA aims to stimulate private exploration activity, but reduce exploration risk by providing early high-quality geoscientific data. The prospects for nickel, diamonds and heavy mineral sands in addition to South Australian traditional targets of gold, gold-copper and lead-zinc are considered to be impressive.

## WE WISH!

Mathesius (1504-65), a protestant pastor in Bohemia, was a close friend of the mining author, Agricola. He believed that ore grew underground continuously, and that this growth could be influenced by surface changes. So trees were not to be cut, because this could leave bare highlands affected by sun, wind, rain and snow. (From *CIM Bulletin* Nov/Dec 1998)

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## STOP PRESS

### FOUR HOUR REFRESHER

**The refresher which holders of a MARCSTA certificate must complete at the expiration of two years in now ready to run. The refresher will test a person's current competencies in the areas covered by the current MARCSTA Handbook.**