

3 February 2016

Mr John Flint
Executive Officer
Mining Competence Board

Email: mcb.secretariat@industry.nsw.gov.au

Dear John

Re: Maintenance of Competency for Practising Certificates

This submission is made in a personal capacity, noting however that for the last 11 years I have held an honorary position as Chairman of the Continuing Professional Development Committee of the Mine Managers Association of Australia (MMAA).

My credentials for making this submission include:

- NSW Certificates of Competency as a deputy (1984), an undermanager (1984), a mine manager (1986) and a mines rescue brigades man (1986).
- Undermanager and mine manager appointments.
- Appointments as Professor of Mining Engineering and Emeritus Professor of Mining Engineering at the University of New South Wales.
- Statutory Member - NSW Coal Mines Qualifications Board. 1996 to 2006.
- Statutory Member - Above Ground and Below Ground Mining Qualifications Board. 1996 to 2000.
- Fellow of the Australian Academy of Technological Sciences and Engineering
- Fellow and Chartered Professional of the Australasian Institute of Mining and Metallurgy
- Fellow and Chartered Professional Engineer of Engineers Australia
- Membership of three continuing professional development/maintenance of competency schemes, namely:
 - Engineers Australia - Chartered Professional Engineer (CPEng)
 - AusIMM - Chartered Professional Mining Engineer (CPMin)
 - MMAA – Coal Mine Manager
- Author and presenter of a section of the syllabus for the South African Chamber of Mines Certificate of Competency in Rock Mechanics.
- Co-author and presenter of the University of New South Wales' Ventilation Officers Course, the first such program accredited in NSW and in Queensland and subsequently developed into a Diploma program and a Masters Degree.
- Co-developer of the University of New South Wales' Diploma in Coal Strata Control, subsequently developed into the Masters in Mine Geotechnical Engineering.

- Input into the development of the MMAA CPD scheme and involvement in its administration as Chairman of the CPD Committee (2005 – present).
- Independent advisor to the Health, Safety and Environment Committees of the Boards of BHP Billiton (2005-2009) and Solid Energy New Zealand (2009 – present).
- Chairman of the Victorian Government Technical Review Board, charged with advising government on risk presented by mining in that state (2009 – present, chairman since 2011).
- Presenter of a range of mining industry training courses for deputies, undermanagers, mine managers and executive management.
- Author of a peer reviewed textbook published in 2016 entitled *Ground Engineering; Principles and Practices in Underground Coal Mining*. Springer.

I strongly support the concept of requiring continuing professional development in order to maintain the currency of practising certificates in mining in NSW.

Based on my experience, there are a number of aspects of the proposed maintenance of competency (MOC) scheme that require much more careful consideration if the scheme is to be successful and achieve its desired outcomes. Matters of particular importance include:

- Areas of competence in which CPD is required to be undertaken need to be weighted. Some areas make a greater contribution to achieving a healthy and safe workplace than others. Furthermore, the knowledge base in some areas of competence changes at a greater rate than others and so the scheme needs to be weighted towards persons maintaining their competency in areas liable to change.
- Unlike other CPD/MOC schemes, the NSW Government scheme proposes that persons who do not satisfy the requirements of the MOC scheme must undertake and pass the written and oral examinations for the relevant certificate of competency again before their practicing certificate is renewed. This is not consistent with a core intent of a CPD/MOC scheme, being to foster a culture of life-long refresher training and learning in areas relevant to work being undertaken at the time. It is not the intent of such schemes to ensure that persons retain all the knowledge that they acquired to pass their exams and demonstrate their competency in the first instance.

I suggest that the proposal fails on the basis of the corollary test, being that if one satisfies MOC requirements then one would be capable of passing oral and written exams again at any point in time.

Requiring persons to re-sit their examinations is likely to have serious negative implications for attracting persons to statutory roles in the first instance, to retaining knowledge, experience and corporate memory within the industry and to fostering career development, especially at mine management level where periods of experience in non-statutory roles can enhance subsequent performance in a statutory role.

The proposal fails to properly recognise and account for periodic transfer of persons between roles within an organisation. It also fails to properly account for the interstate and overseas mobility of many persons in statutory roles and for the implications of CPD/MOC not being compulsory in these other regions. These

persons can be disadvantaged if their interstate or overseas employer does not support CPD/MOC or does not support it in a manner compatible with the NSW scheme. In many instances, focussed exposure to a specific area of competency (e.g. incident investigation) or exposure to a broader experience base and different cultures can significantly enhance competency in subsequent statutory roles.

Other CPD/MOC schemes provide a model for how to deal with these types of circumstances. That is, a person's certificate to practice, as opposed to their qualification, is suspended until such times as a defined amount of CPD has been undertaken to bring them back into compliance or until their alternative CPD experiences have been assessed on their merit.

- The proposed MOC scheme encompasses many categories of certificate to practice, each of a specialist nature and with a small number of members, many of who are on shift work. As experience with the MMAA scheme has revealed, there are limited opportunities available for these persons to be able to satisfy their CPD requirements, especially when they have to gain CPD credits in a number of topics. Obtaining multiple releases from work and funding to attend multiple venues has proven to be a problem.

The MMAA has successfully addressed this impediment for mine managers, albeit that CPD is yet to be mandatory, by organising seminars that are structured to address each required competency.

- Appendix B requires that for formal training courses of greater than 4 hours duration, *the instructor(s) must hold recognised qualifications or credentials in adult education*. The 'recognised qualifications or credentials' are not identified. Suffice to state that very few presenters of training to mine managers, including myself, hold qualifications or credentials in adult education. This training is provided predominantly by personnel associated with research establishments and bodies, such as ACARP, CSIRO, and universities; consultants with expert and leading edge knowledge and experience; members of the legal profession; and others professionals. Enforcement of this requirement would have serious implications for providing timely and relevant continuing professional development, especially to mine managers, engineers, superintendents, undermanagers, and ventilation officers.

The MOC scheme appears to be modelled on a New Zealand proposal for a similar scheme. This is surprising and perplexing. The size and breadth of the New Zealand mining sector is extremely small and its approach to risk management and statutory competencies is well behind that of NSW and still evolving, prompted by the Pike River disaster some five years ago. The New Zealand scheme is unproven. In contrast, there is an established experience base of CPD schemes in Australia that are relevant to the mining sector. These include those of AusIMM, MMAA and the Registered Professional Engineers of Queensland (RPEQ). For more than a decade, mine managers have been eligible to apply for Chartered Professional (Mining) status through the AusIMM and many already undertake CPD under the requirements of this scheme. Similarly, the MMAA CPD scheme has also operated for more than a decade, having been based on customising the CPD schemes of Engineers Australia and the AusIMM to the needs of mine managers.

Risk management is a core element of competency in providing a healthy and safe work place. The proposed MOC scheme would benefit from being subjected to a risk assessment by an appropriately constituted team with the requisite knowledge, skills and experience to

identify strengths, weaknesses and unintended consequences associated with the proposal and to give direction as to how to address these in the best interests of health and safety in the workplace.

Additional comments are included in the following responses to the template questions. These generally have a focus on mine managers.

1. Is the proposed model for the MOC scheme suitable for application for practising certificate holders in NSW?

No. The basic logic is in place but the content needs further development. For example, 'design' is an important competency at mine manager level that is missing from the list of core competencies. On the other hand, 'Operating and safety systems' includes a vast range of topics, such that one cannot be sure CPD will be undertaken in the more critical areas. I suggest that these topics need to be categorised in some manner and that the various competencies need to be weighted.

Leadership is a highly desirable but not essential competency for providing a healthy and safe workplace. Not all persons are leaders and not all poor leaders are incompetent in what they do. Consideration should be given to including it as a topic under a heading such as 'management'.

2. Are the areas of competence and their topics suitable and cover the areas adequately?

No. The list of topics under "Operating and safety system" provides for a weak scheme since it allows too much scope for CPD to be undertaken in areas that may present a minor risk, at the expense of not undertaking adequate CPD in areas that can present a major risk. The list needs to be broken down into sub-sets or into at least two core competencies. This could be achieved by listing legislation and leadership as components of 'management'. Risk management could be included in this new core competency. Alternatively, the core competency could be renamed along the lines of 'Management and leadership'.

3. Are the types of formal and informal learning with their maximum claimable hours suitable? Is the percentage split between the minimum number of formal hours (66%) against a maximum of 33% for informal hours appropriate?

The restriction of 6 hours for a seminar should be revised and expressed in terms of 'x' hours per area of competency. This is to cater for purposed designed CPD seminars such as those offered by the MMAA where seminar content is deliberately structured to address each of the core competencies for mine managers.

The various categories of paper preparation and presentation is confusing and the claimable hours is not commensurate with the effort involved. The reality is that most industry presentations are now based on a PowerPoint presentation, with an emerging trend towards Webinar presentations. Most persons in statutory roles at mine sites simply no longer have the time to write full papers anymore. Furthermore, some operators have a poor aptitude for writing papers but can deliver very informative presentations by means of PowerPoint and Webinar. The flexibility offered by internet based delivery significantly increases opportunity for undertaking CPD.

Hence, presentation mode needs to be clarified in the proposed MOC scheme and should have regard to internet based, flexible learning presentation modes.

Presentations need to be rewarded not only because they are an element of CPD for the presenter but also because they are to everyone's benefit as it is becoming harder to source presentations on operational topics from industry. Some organisations discourage their staff from making presentations on site operational matters.

A peer reviewed paper can require a much greater amount of effort than a non-peer reviewed paper and carries more weight because of the added reliance that can be placed on it. The claimable hours do not adequately reflect this.

The breakdown between formal and informal hours appears reasonable at this stage.

4. Are the numbers of learning hours for each practising certificate and areas of competence appropriate to maintain competence a) per year b) over five years?

Overall

Total hours – yes, appropriate.

Allocation of hours - No. Topics falling under the current heading of 'Operating and safety systems' need to account for a much greater percentage of the total hours – perhaps as much as 70%.

a) per year

No – experience attests to CPD activities being interrupted by a range of factors (redundancy, change of employment, sickness, long service leave, serious site incident etc). However, it also attests to some persons not undertaking CPD on a regular basis and accumulating hours at the last moment. I suggest something along the lines of a minimum requirement each year (say 25% of annual target hours), with accumulated hours never to be more than a certain number of hours (say 16 hours) behind the schedule in each 5 year interval.

b) over 5 years

Yes – appropriate but with a mechanism that provides, upon application, for a period of grace in which to top up a limited number of hours (say 16 hours).

5. Are the requirements for certificate holders in the MOC scheme reasonable and practical?

No

1. Re-sitting of exams is not reasonable (see introductory comments).
2. The time limit on seminars covering multiple topics is not reasonable (see introductory comments).

3. The scheme is complex. It needs simplification, supported by a template for time recording purposes. MMAA experience with its CPD scheme has revealed that the generalist nature of mining results in some CPD presentations being relevant to a number of competency elements (e.g. ventilation, legislation, mining system, emergency response), making it challenging to allocate CPD hours and to audit such.

4. Face supervisors are likely to find it difficult to attend programs offsite. The scheme needs to give more credit to training and learning conducted on-site in the case of face supervisors. Those occupying more senior staff positions are likely to benefit more from attending industry forums off-site.

5. The requirement for presenters of training courses to have qualifications in adult education is likely to result in a reduction in the number, scope and relevance of CPD courses and to be counter-productive, especially for those occupying staff positions (engineers, undermanagers, superintendents, mine managers).

6. The scheme makes no provision for ensuring CPD in those topics that present the highest risk at the site of employment.

6. Are the record keeping requirements for certificate holders to satisfy the MOC scheme reasonable and practical?

Experience suggests that the proposed scheme will be onerous and very time consuming to administer and audit.

7. Are the governance processes proposed by the department adequate to ensure compliance with the MOC scheme by practising certificate holders?

The requirement to re-sit examinations appears punitive and unnecessary and may result in a loss of competency and corporate memory to the detriment of the industry. The concept needs to be benchmarked with other CPD schemes and to be risk assessed.

Please do not hesitate to contact me to discuss any of these points.

Yours sincerely



Emeritus Professor JM Galvin

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