



Mining and Metallurgical Society of America

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President's Message
"WHERE HAVE ALL THE GREY HAIRS GONE..."

By Michael D.S. Blois

"....Gone to retirement homes every one..." With apologies to Pete Seeger who wrote the original version of the song in 1955 and to Peter, Paul & Mary who made their version of the song famous in 1962.

For the past five years or so, this may not have been a particularly significant problem. The global mining industry's recovery, from the longest and deepest trough that I have experienced in my 40+ years in the industry, has been stuttering at best. However now, in my discussions with some of the major mining houses, the belief is that the recovery is well on the way and will only improve. A case in point is Anglo American's decision, last month, to give the green light to the \$5.3 billion Quellaveco project in Peru.

Large projects need hundreds of thousands of engineering manhours to execute them. In addition to the engineering manhours, there will also be the procurement and construction management hours (EPCM). It is not the purpose of this article to discuss the various types of contracting strategies, EPCM v EPC, etc., so I have collectively called them EPCM. For massive projects such Quellaveco, the overall numbers of hours are likely to be in the



Michael D.S. Blois
MMSA President, 2017-2018

millions of manhours. From where will all these manhours come?

I am particularly concerned about the technical supervisory skills. Generally, people tend to think of the technical supervisory skills as residing with the leads of the relevant disciplines.

However, I am thinking of the people who have the necessary skills and experience to perform the checking and reviewing of the individual engineering or project management products. I have deliberately named checking and reviewing as separate stages in the development of an engineering or project management product.

Checking is so much more than upper-level managerial review. Checking involves the confirmation that the individual components of a drawing are correct; these components include, but are not limited to, individual dimensions, weights, flowrates,

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temperatures, pressures, voltages, interlock sequences, cost and schedule variances etc. This is a time consuming process but one that I regard as “The First Line of Defense” of an engineering design or project management document.

Another line of defense for a project deliverable is the concept of “The Off-Project Review.” These Off-Project Review teams need to have significantly more experience than the design originators; they should test the designs against their cumulative experience.

Perhaps the most difficult question to ask and answer is usually the shortest question: “What is missing?” By its very nature, this question should compare the current design or schedule with something that has actually succeeded previously. These tasks should be performed by people and teams who have significant experience of successfully executing projects. All too often, I hear

the excuse that the project in question cannot withstand the costs of these critical tasks or even worse, the people with these critical skills are not available.

Those of us in the industry with 40+ years of experience have lived through at least three or four significant downturns in the global mining industry. In my experience, the last two downturns have been particularly severe, resulting in the “right-sizing” of mining companies, EPCM teams and OEM teams.

Further, in the last few years, the industry has seen a significant number of mergers. These mergers have included mining companies, EPCM and OEM companies; they have usually been described as having “opportunities for synergistic savings”. These “politically correct” terms have often resulted in the release of the higher paid and usually more experienced individuals. Many of these senior folks have found em-

ployment in other industries and are unlikely to return given the cyclical nature of the mining industry or have joined the ranks of part-time consultants or have “...Gone to retirement homes every one...”

To illustrate why this has been particularly detrimental to our industry in the latest downturn, I have summarized the results of the two presentations given to the Colorado Section of The MMSA and the SME by Al Kuestermeyer. The first was called “How to Avoid Capital Cost Overruns – Lessons from the Past” and the second “The Whys and Wherefores of Project Delays.” The top reasons for each are presented in the table below (See p. 3).

I believe that a common thread running through most of the reasons in the table is the lack of suitably qualified and experienced senior staff.

We all know that history has a habit of repeating itself and I am already seeing these symptoms develop. Mining companies are starting to approve an increasing number of projects and usually these companies need experienced owners’ teams to oversee them.

However, with the “right-sizing” mentioned above, the mining companies need to strengthen their teams. Often they turn to the EPCM companies and recruit senior staff. With the increasing number of studies and / or projects being awarded, the EPCM companies need to “staff-up” and to do this they either poach from other EPCM companies, recruit from OEM firms or attempt to “fast-track” the development of more junior staff.

What can we in the industry, and in particular The MMSA, do to minimize the next generation of “failed projects”? I wanted to use the word prevent rather than minimize but sadly the phrase “history has a habit of repeating itself” is all too true.

To get the debate going, I suggest that The MMSA increases its focus on recruiting younger qualified members

Membership Applications

New Regular and QP Member Applications:

The following individual(s) have submitted membership applications and or changes to their membership status. They have either received approval of the Membership Committee as candidates or are currently under review:

If any member of MMSA has good cause to believe that any of the applicant(s) should not be granted Regular membership or QP membership, as appropriate, you are requested to make known your objections, in writing, to **Betty Gibbs**, Executive Director, within 30 days from issue of this Newsletter. In the absence of any objections and after receiving approval of the various committees, the candidate members and those members requesting a change of status will be confirmed as Regular Members or QP Members, as provided by the ByLaws.

Applicant Endorsers

Andrea J Brickey **Chris Wyatt**
Bill Wilson
Dr. Lance Roberts,
Supervisor

QP Applications

Andrea J Brickey **Chris Wyatt**
Bill Wilson
Dr. Lance Roberts,
Supervisor

Area of Special Expertise

Mining, Ore Reserves

How to Avoid Capital Cost Overruns	The Whys and Wherefores of Project Delays.
Aggressive and unrealistic schedules.	Aggressive and unrealistic schedules.
Lack of properly defined design criteria / work scope.	Inadequate construction plans
Client pressure to minimize initial capital requirements.	Permitting
Under-estimation or insufficient critical data from earlier engineering studies.	Inexperienced and / or inadequate project management.
Over-estimated accuracy or under-estimated contingency.	Late and / or inadequate data.
Owner and / or Engineer not experienced in the pragmatic delivery of projects.	

and that senior members volunteer to act as mentors to the younger and newer members. At this moment in time, I am suggesting that this be done on an unofficial basis rather than a more formal mentoring program.

We must make an effort to ensure that the knowledge and experience gained by those with grey hairs does not re-

sult in "...Gone to graveyards, every one." Our industry will be by far worse off if that happens.

Thank you for your on-going support of the MMSA.

portunity to comment.

Nominations Committee. The Committee has been recruiting new Councilors and is looking for a candidate for Secretary. Announcements of the nominees will be made later in the year. If you would like to volunteer for any of the several Councilor openings or to be Secretary, contact Mike Blois or the MMSA office.

A new slate of officers will be presented for election at the 2019 Annual Meeting. In early January you will receive the ballots for voting on the candidates.

Other MMSA News

The Council expects to have a retreat in the fall. No date has been set.

MMSA Member **Laura Skaer** has announced her retirement as Executive Director of the *American Exploration & Mining Association*. She will continue to work with AEMA in a consulting capacity and continue her valuable work with mining legislation. Laura will also continue to work with the MMSA Next Big Thing Committee and the upcoming AML conference. **Congratulations, Laura! And thanks for all you do for MMSA and the entire mining industry.**

MMSA News

Committee Updates

The **Membership Recruitment Committee** has been active. Several potential members have been invited and a couple have already completed the process. Bill Wilson is the head of the committee and welcomes input and other members.

Ad Hoc Exploratory Committee
The Committee has met a couple of times by telephone. The Committee developed a SWOT analysis with four scenarios. The Committee is ranking those scenarios with a view to eliminating unworkable possibilities to focus on the main issues.

Next Big Thing—AML Conference Committee. The committee is actively working on plans for a spring conference to be held at the University of Nevada Reno. The word is that a Good Samaritan bill is being drafted that includes some of the suggestions from the breakout sessions during the Spring conference. When the bill is released, the public will have an op-

Membership Update

The following changes in membership have taken place since the last newsletter, with the authority of the respective membership committees.

Regular Member Additions:

David E Drips
Josh Parrill

QP Members Confirmed:

David E Drips, Mining

Membership Deletions:

Marc LeVier, Resigned

MMSA presently has a total of **349** members, **2 in process**. Currently, **202** members are QP members

Additions, deletions and routine changes to the Society's data base and member biographies are accessible through the Members Only page in our web site, at www.mmsa.net This data base is the best source for information on any particular member.

AusIMM Launches Online Professional Certificate in JORC Code Reporting

AusIMM is announced the launch of a course called: Online Professional Certificate in JORC Code Reporting. Developed by leading experts with today’s mining professional in mind – it is interactive, focuses on real-world situations, and its online delivery mode allows participation from anywhere.

The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (‘the JORC Code’) is a professional code of practice that sets minimum standards for public reporting of minerals exploration results, mineral resources and ore reserves.

Alongside leading experts in the mining industry, AusIMM has developed the Online Professional Certificate in JORC CODE Reporting for resources professionals to understand how to report effectively and in accordance with the JORC Code. The interactive, online format of the course will provide

participants with an opportunity to learn in a community-based environment from wherever they are situated – in the office, on a mine site, at home or at the airport.

Find out more about the course and register your interest to join the first intake in October 2018: <http://jorconline.ausimm.com/course-information/>

Beyond Closure— Repurposing Mines Colorado School of Mines— November 7, 2018

The 2018 Summit will examine the transition between mine closure and the challenges and possibilities for continuing use of mine sites. Current mine closure regulation focuses on environmental remediation. Mine sites can be used for other purposes when mining is finished — and often are. Options for future economic mine site uses will be discussed.

If you are interested in receiving additional information contact Priscilla Nelson at pnelson@mines.edu

Obituary Stephen P Antony



Stephen P. Antony, 68 passed away on July 24, 2018 surrounded by his beloved family. A graduate of the Colorado

School of Mines and holds an MBA from the University of Denver. Mr. Antony recently retired as President and CEO of Energy Fuels, Inc. Stephen was also a military veteran, having been an active duty officer in the US Army for 3 years.

Over the last 40 years Mr. Antony held increasingly senior positions in both the technical and managerial sectors of the mining business. He is survived by Kathy, his loving wife of 44 years, his children, their spouses, adored grandchildren. Memorial donations may be made to: Colorado School of Mines Foundation, Stephen P. Antony Memorial Scholarship, PO Box 4005 Golden, CO 80542-4005 or online at

<http://www.giving.mines.edu>

USFS Mining Regulations Revision

The US Forest Service (USFS) has announced its intent to propose updates to its locatable minerals regulations under 30 CFR Part 228A (228A regs) beginning with the publication of an Advance Notice of Proposed Rulemaking (ANPR) seeking public comments. The ANPR is currently under review at the Office of Management and Budget (OMB) and will be

open for comment in the coming weeks. The proposed changes largely reflect many of the changes proposed by the Service in 2008 that were made in response to reforms recommended by the 1999 National Research Council publication, “Hardrock Mining on Federal Lands.” Download the report for free at:

<https://www.nap.edu/catalog/9682/hardrock-mining-on-federal-lands>

QP seals are available from MMSA.

The seal comes as a self-inking rubber stamp and the stamp is about 1 high by 2.6 inches wide. The stamp has the MMSA logo, member name, and member number. The cost is \$35, including shipping. To order a QP seal, contact the MMSA office or order directly from the MMSA Web site (www.mmsa.net/payments). The QP seal is in the Products category.

2008 MMSA Centennial Medallions are available for the great price of \$40. The coin has 1 oz of silver and 24 carat gold plating. Contact MMSA office to order.

