



COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS

CRIRSCO ANNUAL MEETING 2014

The Committee for Mineral Reserves International Reporting Standards (CRIRSCO) held its 2014 Annual Meeting in Ulaanbaatar, Mongolia, on Tuesday 14, Thursday 16 and Friday 17 October followed by a visit to Beijing and Tianjin in China.

The opening session of the Meeting took place on Tuesday, October 14, with fourteen representatives of CRIRSCO members present. Also there were approximately 50 interested people, mainly from Mongolia but also from Turkey.

The CRIRSCO Representatives were:

Australasia (JORC) - Mr Peter Stoker, Mr Ian Goddard

Canada (CIM) – Ms Deborah McCombe, Mr Paul Bankes

Chile (Comision Minera) – Mr Juan Pablo Gonzales, Mr Edmundo Tulcanaza

Europe (PERC) - Mr Eddie Bailey, Mr Neil Wells

Russia (NAEN) – Mr Grigoriy Malukhin, Mr Oleg Ilyin

South Africa (SAMREC) – Mr Roger Dixon, Mr Ken Lomberg

USA (SME) – Dr Harry Parker, Mr Ian Douglas

Following an opening address by Mr Edmundo Tulcanaza, Chairperson of CRIRSCO and a representative of Comision Minera of Chile, the delegates were welcomed by the State Secretary of the Ministry of Mining, Mr R Jigjid. He related a short history of Mongolia's efforts to develop a standard for the reporting of Exploration Results, Mineral Resources and Mineral Reserves, which would be compatible with the CRIRSCO Template, as well as a National Reporting Organisation (NRO) which would be responsible for the standard.

Mr Roger Dixon, a representative of SAMREC of South Africa, then delivered a tribute to Dr Danie Krige, a pioneer and leading international expert in Geostatistics, who died in 2014. During his career, he received many honours for his ground-breaking work and was internationally recognised for his techniques in orebody modelling, which increase the confidence in the estimation of resources.

The meeting then resumed with a number of presentations from CRIRSCO representatives: Mr Tulcanaza spoke on the Role of CRIRSCO, Dr Harry Parker, the Deputy Chairperson and representative of the SME of the United States, on the CRIRSCO Template and Ms Deborah McCombe, the Past Chairperson and representative of CIM of Canada, on Membership of CRIRSCO.

The next speaker was Dr Bat-Erdene Dash, who gave a history of mining in Mongolia and its substantial contribution to economic activity. The Oyu Tolgoi mine is expected to have a long life, perhaps 100 years. Government policy changes have been made to have market influence activities such as exploration. Following the signing of a memorandum of Understanding with CRIRSCO in 2011 and the involvement of the World Bank and Snowden, a mining consultancy, steps were taken to develop a Mongolian reporting code. In 2013, the Mongolian Professional Institute of



COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS Geosciences and Mining (MPIGM) was established with a view to its becoming a NRO which had responsibility for the development of a reporting Code and also for the professional society whose members reported in compliance with the Code.



Speakers at initial session.

(Ms Deborah McCombe, Dr Harry Parker, Mr Edmundo Tulcanaza, Mr Roger Dixon and Mr Jigjid)

The next phase was a session from the seven existing NRO members on changes to their Codes and Standards and matters of importance in their jurisdictions.

Mr Peter Stoker from JORC (Australasia) stated that the emphasis has been on education activities now that the JORC 2012 Code is now fully implemented. The ASX (securities exchange) and ASIC (corporate regulator) have both stepped up their monitoring activity and prosecution of breaches. The JORC 2012 Code has been translated into Chinese and a number of senior executives of Chinese organisations have been admitted to the Australasian Institute of Mining and Metallurgy as Fellows. This is part of an initiative to assist China to develop a compliant Code and seek membership of CRIRSCO.

The next speakers were Ms Deborah McCombe and Mr Paul Bankes of CIM (Canada). The CIM Standing Committee on Mineral Reserve and Mineral Resource Definitions has accepted 10 of the CRIRSCO Standard Definitions and the CIM Council subsequently approved them in May 2014. These are the definitions within the control of the CIM. The rest are the responsibility of the CSA under the NI 43 101 and discussions with them have commenced. The CIM are developing a draft Best Practices document for Feasibility Studies and Pre-Feasibility Studies by the end of the year, with public consultation in the first half of 2015. An average of 95 Technical Reports has been lodged per month on SEDAR since 2007. These are not reviewed by the Regulator, unless they are part of a prospectus. A company's Continuous Disclosures are reviewed every 3 to 5 years. Updates from the Regulators are published as Staff Notices.

Mr Juan Pablo of Comision Minera then spoke of an awards ceremony where the Minister of Mining presented certificates to Competent Qualified Professionals. Relations with the Ministry have been improved over the year. A meeting was held with the Security Regulator regarding the setting up of a ventures exchange. There are now 267 permanent Competent Persons, with a certificate being required for each Report. The requirement for Technical Reports on Mine Closure has become a new area for Competent Persons, who have to sign off on financial aspects as well. There has been again a focus on education of Competent Persons about their rights and responsibilities, as well as three major seminars. A review of the Chilean Code is being undertaken.



COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS

Mr Eddie Bailey (PERC) spoke of the updated PERC Code 2013, which has been published. New clauses covered mineral waste and dimension stone and one which covered Non-Public Reporting, especially for Governmental reporting. Closer contact is being achieved with financial regulators. The Committee will endorse training courses if they include 5 core slides about PERC and they will then qualify for CPD. Even if PERC does not run the course, a branded PERC course will require a fee be paid to PERC. PERC is involved with EU sponsored projects, such as Minventory, which aims to gather statistics on non-energy raw materials.

The update on the NAEN Code (Russia) was delivered by Mr Grigoriy Malukhin. The professional society, OERN, was originally part of NAEN, but is now a separate self-reporting organisation. OERN now has 1200 members and there are 10 branches throughout Russia. OERN has now been approved as a Recognised Professional Organisation for reporting purposes by Chile, Europe, South Africa, SME and Australia. The approval in Canada is in process. 13 Competent Persons have been certificated and they are working on recognition of the NAEN Code by Securities Exchanges elsewhere. ESMA (Europe) and CSA (Canada) have done so and negotiations with the LSE (UK) continue. The NAEN Code was revised in 2013 with the Standard Definitions included. There have been a number of Education seminars and Conferences. Translations of JORC 2012 Code and the listing rules of LSE and TSX have been completed. The harmonisation of the Russian and international reporting systems is being worked on.

Mr Ken Lomberg presented the developments in South Africa (SAMREC). They are aiming to have an updated Code in 2015, released in May 2016, in conjunction with Good Practices Manual. Seven issues papers are being written, covering topics such as Inferred resources, Competency, Independence and an "If not- why not" approach. They will have a Table 2, similar to the SME Guide. Training for Compliance is being conducted. It is now necessary to have Competency judged by a Peer review and a certificate issued prior to issuing each Report.

The SME (USA) situation was presented by Mr Ian Douglas. The SME Guide 2014 was issued, which brought the Guide in line with the CRIRSCO template. There is a table 2, as mentioned above, which gives guidance on the estimation of capital and operating costs, particularly with regarding to the confidence in the estimation for the different levels of study. Significant progress has been made with relations with the Securities exchange Commission (SEC), whose Industry Guide 7 has not been changed since 1981. The SEC intends to appoint an Academic Fellow to assist with the update of the Guide. Dr Harry Parker has been very involved in the activities of MPIGM and also the International seabed Authority.

The next speaker was Mr Jeremy Peters, from Snowden MIC, who has been retained by the World Bank to assist MPIGM to develop the Code. He spoke of the process in going from a Government reporting system, based on the Russian method, to a system based on the CRIRSCO Template.

He was followed by Ms Gerlee Bayanjargal, Executive Director of MPIGM, which is a non-governmental self-regulating professional organisation with 15 Board members. There are 7 standing Committees (including Ethics, Compliance and Ethics and Membership) and a Monitoring Council. It has an administration team of 3, who played a significant role in the organisation of the Annual Meeting. Some of its aims are to achieve international recognition of its professionals, to maintain a high level of ethical behaviour and to support members in their Continuing Professional development. There are 5 classes of membership, with Fellows and Members being able to seek to qualify for Registered Professional status and be Competent Persons. The first assembly took place in April 2014 and in September a Memorandum of Understanding was signed with the Ministry. A



COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS Mongolian Reporting Code has been developed and approved by the Minister. The overall aim has to been to be accepted as Member of CRIRSCO.



Some of the speakers in this session

(Mr Grigoriy Malukhin, Mr Ken Lomborg, Mr Ian Douglas, Ms Gerlee Bayanjargal, Mr Jeremy Peters and Dr Harry Parker)

CRIRSCO's relationship with the United Nations Economic Council for Europe was outlined by Mr Roger Dixon, one of CRIRSCO's representatives on the Expert Group on Reserves committee (EGRC). He and Mr Paul Bankes, CIM representative on CRIRSCO, attend an Annual meeting in Geneva to discuss aspects of the United Nations Framework Classification 2009, which is another way of classifying estimates of resources and reserves, although not for Public Reporting for investors. A Technical Advisory Group has been established which is involved with issues such as Recipient Reservoirs for carbon dioxide storage; a technical Forum for Nuclear Resources; and a technical forum dealing with the application to renewable energy. There is a need to update the existing bridging Document, which maps the link between the CRIRSCO Template and the UNFC. The CRIRSCO Template and the PRMS classification for petroleum and recognised by the UNFC document

as being appropriate for solid minerals and petroleum respectively. CRIRSCO could consider some aspects of exploration projects which are dealt with differently with PRMS.

The final presentation was made by Dr Harry Parker on Marine Mining and the International Seabed Authority (ISA). There are huge deposits of nodules containing high grades of manganese, nickel, copper and cobalt in the Clarion-Clipperton zone in the Pacific Ocean. CRIRSCO now has observer status with ISA, which was established by the United Nations Convention on the Law of the Sea in 1994. Contracts for 150,000 sq. km. are granted, with there being 12 contractors, who usually have a joint Venture with the government of the host country. There are studies under way as to the best way to mine the deposits, with a lot of focus on the environmental aspects. ISA is prepared to use the CRIRSCO family of Codes for the estimation of resources and reserves.

The major event of this Open Session was then the admission of Mongolia as the eighth Member of CRIRSCO and the first from Asia. The Code was judged to be compliant with the CRIRSCO Template and the MPIGM had an enforceable code of Ethics and suitable standards for certain members to be regarded as Competent Persons as per the Template. A document approving Mongolia's admission was signed by Mr Edmundo Tulcanaza, Chairperson of CRIRSCO and Mr Damba Damjin, President of MPIGM. Both made short speeches addressing the admission to membership.



COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS



Mr Edmundo Tulcanaza and Mr Damba Damjin signing the admission document.



Representatives of MPIGM



Representatives of CRIRSCO members and official guests