The CODE

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the International Cyanide
Management Institute
www.cyanidecode.org

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What's Inside

Welcome to the Third Quarter 2008 issue of The Code, a periodic publication of the International Cyanide Management Institute (ICMI).

Signatory, Certification and Auditor Update

Six companies have become signatories to the International Cyanide Management Code (Code) since our previous edition (First Quarter 2008) of the Code Newsletter: Newcrest Mining Limited, the largest Australian gold mining company; Minera Penmont S de R.L. de C.V., a joint venture between Industrias Peñoles, S.A.B. de C.V. and Newmont Mining Corporation, that operates the La Herradura gold mine in Sonora, Mexico; Yamana Gold Incorporated, a Canadian company with operations in North America, Central America and South America; Elk City Mining LLC, an American company developing a mine in Idaho, United States; Transport Terrassement Minier, a cyanide transporter operating in Guinea; and cyanide producer Anhui Anqing Shuguang Chemical Company Limited, the first Code signatory in China.

With these additions, there are now 40 signatories to the Code, with a total of 125 operations committed to implement the Code in 29 countries on six continents.

ICMI has continued its efforts to increase the number of signatories with visits to ten gold mining companies in Australia and Canada during April, May and June to seek their participation in the Code. More than half of these companies expressed their support for the Code and subject to the outcome of their internal evaluations, we hope to announce several new signatory companies in the coming months.

Seventeen operations have been certified in compliance with the Code since the previous ICMI Newsletter was published last March, as shown below, bringing the total number of certified operations to 50.

Mines

Mponeng - AngloGold Ashanti (South Africa)

Savuka - AngloGold Ashanti (South Africa)

Veladaro - Barrick Gold (Argentina)

Tulawaka - Barrick Gold (Tanzania)

El Sauzal - Goldcorp (Mexico)

Damang - Gold Fields (Ghana)

Tarkwa - Gold Fields (Ghana)

Rio Paracatu - Kinross Gold (Brazil)

Ahafo - Newmont (Ghana)

Midas - Newmont (United States)

Yanacocha - Newmont (Peru)

Cyanide Production/ Transfer Operations

Tongsuh Petrochemicals Corp - South Korea

TaekWang Industrial Company - South Korea

Orica Australia Pty - Peru

Cyanide Transporters

Freight Forwarders Kenya

Freight Forwarders Tanzania

Vehrad Transport and Haulage - Ghana

The totals, by category, of Code signatories and certified operations are shown in the following table:

	Mines	Cyanide Producer	Cyanide Transporter	Total
Signatory Company	19	10	11	40
Operations Subject to Code	100	14	11	125
Currently Certified Operations	30	11	9	50

We continue to add auditors to our list of approved auditors, which now totals 77. The updated list of approved auditors can be found on the ICMI web site at http://www.cyanidecode.org/pdf/AuditorList.pdf.

Training

ICMI continued its training on the Code's implementation and auditing with a Workshop in Toronto, Canada on June 5. The session attracted representatives from signatory companies as well as a number of companies that are evaluating the Code and considering becoming signatories. Several mining industry consultants were also in attendance. The Workshop, conducted by ICMI Vice President Norm Greenwald, was highly successful, with participants noting that it provided a much clearer understanding of the Code's expectations than can be gained just from reading the available documentation.

ICMI is currently in the planning process for an additional workshop for Beijing, China in early December. The China Chamber of Commerce of Metals, Minerals, & Chemicals Importers and Exporters together with China Nonferrous Metals Industry Association will be assisting ICMI in organizing the Beijing Workshop. Details will be posted on the ICMI web site, www.cyanidecode.org, as soon as they become available.

Whose Code Is It?

Many Code stakeholders often mistakenly assume that its gold mining signatories are predominantly large international companies with many operations spread all around the world. However, upon a closer look, it turns out that this is not the case. While it is true the majority of mines subject to the Code are controlled by just eight companies, the majority of the Code's signatories are mid-tier and small gold mining companies.

The Code's eight large signatory gold companies (AngloGold Ashanti, Barrick, Goldcorp, Gold Fields, Harmony , Kinross, Newcrest, and Newmont) each produce in excess of 1.25 million ounces per year, and four of these companies each produce over 3.9 million ounces annually. These eight companies' operations comprise 80 of the 100 mines subject to the Code.

Yamana Gold is a mid-tier company with gold production of approximately 586,000 ounces in 2007 from six operating mines. Four of the ten other gold mining signatories may be considered as lower mid-tier: Aruntani, Penmont, Rio Tinto and Golden Star Resources. In 2007, Aruntani's two mines produced a total of about 171,000 ounces of gold, Pedmont's single mine produced about 200,000 ounces, and Golden Star's two mines produced a total of just under 250,000 ounces. Although Rio Tinto is one of the world's largest mining companies, the total production from its only two gold mines that use cyanide was also just under 250,000 ounces in 2007.

The six remaining signatory mining companies are all small producers. Allstate Exploration, Dundee Precious Metals, Kingsgate Consolidated and Pan Australian Resources each have one operating mine, with production ranging from about 31,000 to about 77,000 ounces per year. Gabriel Resources and Elk City Mining have mines still under development, as does Dundee, with no production at all.

ICMI relies on its large gold mining companies for the bulk of its financial support because signatory fees are based on each signatory company's annual gold production. But the fact that the majority of the 19 mining signatories produce less that 250,000 ounces of gold per year, and that 6 of these 10 companies produce less that 80,000 ounces of gold per year, demonstrates that the Code has been embraced by smaller gold mining companies as well as the largest ones. Moreover, the average annual production per mine for the 76 operating mines of the largest eight companies is approximately 383,530

ounces, nearly four times that of the annual average production of under 100,000 ounces for the 17 operating mines of the mid-tier and smaller producers. This suggests that on a per-mine basis, the decision to sign the Code made by the 10 companies producing less than 600,000 ounces per year represents an even greater relative commitment of resources than that of the larger gold mining companies.

Extension of Audit Deadline for Initial Code Signatories

On August 11, ICMI announced that its Board of Directors extended the audit deadline for operations that were designated for certification by the initial mining company signatory companies that adopted the Code in 2005. The Board took this action in recognition that these initial signatories may have been hampered in their efforts to obtain timely certification audits because of factors beyond their control.

The Code requires that operations of signatory companies be audited within three years of being designated for certification. Therefore, the designated operations of the initial mining company signatories that adopted the Code would have been required to have certification audits conducted by third party independent auditors by November 3, 2008 in order for the companies to retain their signatory status.

The initial group of mining companies that became Code signatories in 2005 did so well before all the necessary documentation was in place to allow the third party independent audit process to proceed. ICMI's *Auditor Guidance for Use of the Gold Mining Operations Verification Protocol* was not issued until May 1, 2006, and its *Auditor Guidance for Use of the Cyanide Transportation Verification Protocol* was not issued until September 28, 2006; both are critical documents necessary to the Code audit process.

Moreover, the Code requires a gold mine seeking certification to demonstrate that the cyanide it uses is manufactured and transported by operations that manage cyanide responsibly; this means that the mine cannot undergo its certification audit until its cyanide producer and transporter have themselves been audited. While this approach is necessary to ensure the use of best practices throughout the entire cyanide supply chain, it resulted in mines having to wait many months for their cyanide producers and transporters to be audited before they could schedule their own audits. Some mines in developing countries were particularly affected because some cyanide transporters in these locations required significant improvement to achieve Code compliance before mine audits could commence, further impeding their ability to meet the November 3, 2008 deadline.

Additionally, it took many months for the auditing community to recognize the business opportunities of Code auditing, causing the initial pool of available qualified auditors approved by ICMI to be limited. In some instances, the limited pool of auditors resulted in audit backlogs, further delaying completion of Code audits for some operations.

Given these impediments to completing Code audits by the established deadline of November 3, 2008, the Board authorized a six-month extension of the three-year audit deadline for the operations listed below. Although ICMI believes that many of these operations will complete their certification audits by the original deadline, they now have until May 3, 2009 to do so.

AngloGold Ashanti Ltd

Geita Gold Mine

Navachab Mine

Morila Mine

Sadiola Mine

Obuasi Mine

Iduapriem Mine

Siguiri Mine

Cerro Vanguardia

Barrick Gold Corp

Plutonic

Lawlers

Gold Fields Ltd

Driefontein Plants

Kloof

Beatrix

St Ives

Agnew

Kinross Gold Corp

Kettle River

Refugio

Newmont Mining Corp

Carlin

Waihi

Tanami

Jundee

Pan Australian Resources Ltd

Phu Bia

Rio Tinto

Barney's Canyon

Rawhide

Revisions to the Code and the Auditor Guidance for Gold Mines

On August 12, ICMI announced that its Board of Directors approved revisions to the Code and to the *Auditor Guidance for the Use of the Gold Mining Operations Verification Protocol.*

International Cyanide Management Code: The Code has been revised to establish a deadline for auditing mines that were not in operation when designated for certification by a signatory.

Signatories to the Code are required to designate on the Signatory Application Form those operations intended for certification. These operations must undergo certification audits within three years of being designated. Signatories may designate a mine for certification before it is in production, or even before it has been constructed, and can seek pre-operational, conditional certification based on the commitments made for the mine's design, construction and operation. While no time limit is placed on the duration of the pre-operational certification period, the Code's procedures require that such an operation have an on-the-ground audit within one year of its first receipt of cyanide to confirm that it has been constructed and is operating consistent with its pre-operational commitments. This confirmatory audit initiates the three-year audit cycle for subsequent certifications. However, if a signatory company designates a mine for certification prior to its operation, but does not elect to have it certified pre-operationally, the Code has not had an established date by which the facility must undergo its initial on-the-ground certification audit.

Consequently, the ICMI Board of Directors has taken action to amend the Code's "Code Management/Verification and Certification" section to establish a deadline of one year from such an operation's first receipt of cyanide for its certification audit, consistent with the requirement for mines that are certified pre-operationally. Additionally, these mines, as well as those that have been certified pre-operationally, must now notify ICMI within 90 days of their first receipt of cyanide to enable tracking of their audit deadline.

Auditor Guidance for the Use of the Gold Mining Operations Verification Protocol: Revisions have been made to two sections of this document to provide additional guidance on how the Code's provisions regarding spill prevention and containment are to be applied to tanks of cyanide solution that are installed on ring beams. These changes are found under Standards of Practice 3.1 and 4.7. The new guidance does the following:

1) requires competent secondary containment beneath and around all tanks containing 10,000 mg/l or greater of free cyanide;

2) requires competent secondary containment beneath and around all new tanks containing process solution, as defined in the Code's Definitions and Acronyms document;

3) requires that existing tanks of process solution that are installed on ring beams either:

   a) have monitoring to identify a release before it enters the environment (e.g., within a false tank bottom or within the ring beam itself), or

   b) have monitoring in the environment (e.g., in the unsaturated zone or in ground water) and employ a Risk Based Inspection (RBI) program as described in the *Auditor Guidance for the Use of the Gold Mining Operations Verification Protocol.*

A View From Outside

The following was prepared by Glenn Miller, a professor and environmental chemist at the University of Nevada, Reno. Glenn has had a long-term interest in improving environmental practices in the mining industry and was involved in developing state legislation and regulations on mining reclamation in Nevada. He was a member of the original steering committee that guided the development of the International Cyanide Management Code. Glenn is currently on the boards of several environmental organizations working on mining issues, including Earthworks, the Center for Science in Public Participation and Great Basin Resource Watch.

Optimism for the Future of the Cyanide Code

Acceptance of the International Cyanide Management Code as an industry standard of performance is increasing, not only by the precious metals mining industry, but in many regulatory agencies and environmental non-governmental organizations. This acceptance and implementation was indeed the intent of the original Cyanide Management Code steering committee, established after the disastrous Baia Mare spill in Romania in 2000. Although initially reluctant to support the Code, non-governmental organization (NGO) understanding of the Code has grown, and, as standards for responsible mining practices have evolved, the Code is increasingly recognized as the basis for discussions on cyanide use, which has been a major point of contention for precious metals mining.

While the Code is clearly a voluntary industry program rather than a regulatory one, the resulting increased focus on cyanide safety constitutes a very positive "public good." Just like any safety program, development and implementation of cyanide management policies and procedures decreases the risk of catastrophic accidents, but just as importantly, it can improve day-to-day safety management because people are better trained and they integrate risk reduction into their normal job responsibilities.

I have been gratified by the large number of new signers to the Code announced in the frequent emails circulated by ICMI. The new signatories are not just large international mining companies such as Barrick Newmont and AngloGold Ashanti, but also smaller mines, suppliers and transporters from many parts of the world who clearly recognize that becoming a signatory to the Code is good business practice. They also recognize that it can reduce concerns of neighbors who may act on their fears of cyanide accidents and result in permitting delays or even permit denials.

A couple of precautionary notes: The International Cyanide Management Code does not say much about mine closure, and ultimately, many of the environmental problems of mining show up during closure and post-closure. Cyanide is a very strong precious metal extractant from ore, but cyanidization also releases a variety of other contaminants, including mercury, arsenic and antimony during precious metals recovery. These are materials that are often more problematic than cyanide over the long term from a mine site. Additionally, following closure, the nitrogen atom in cyanide can be biologically converted to nitrate, a very mobile compound which can contaminate water. These issues may be outside the focus and audit function of the Code, but remain as problems that are closely associated with cyanide use.

Because the Cyanide Management Code is voluntary within the mining industry, maintaining a strong third-party auditing requirement is critical. The auditors need to be well-trained, maintain their true independence and continue to establish the Code as a workable industry practice. Oversight of the integrity of the audit process is critical for maintaining the credibility of the Code.

While improved safety practices will not entirely eliminate the risk of accidents, they can reduce the accident rate substantially and maintain a high level of focus on protecting workers, surrounding communities and the environment. Although not a substitute for effective governmental regulation, the International Cyanide Management Code's voluntary nature, its dual focus on both management systems and on-the-ground compliance, and its multi-media coverage of all aspects of cyanide management from production through disposal, can sometimes more effectively reduce cyanide risk and encourage communication and cooperation among the industry, manufacturers, transporters, and, ultimately, the interested public. The future of the Code is quite good, and the implementers of the Code deserve both commendation and encouragement to continue to expand its acceptance and use throughout the world of cyanide use.

Code Questions

ICMI periodically receives questions on Code implementation and auditing from various stakeholders. Four recently-received questions are repeated below along with ICMI's responses. These responses do not supersede previous ICMI guidance and should be considered in conjunction with the Gold Mining Auditor Guidance document.

Question 1, (Regarding Peer Review of Scientific Studies, Standards of Practice 4.4 and 4.5)

Under Standard of Practice 4.4, the Auditor's Guidance for Use of The Gold Mining Operations Verification Protocol states that an "operation should implement those recommendations included in the study for additional control measures to optimize the protective nature of the alternative measure, continue monitoring to validate the study's conclusions, or other measures deemed necessary by the study's authors to meet this Standard of Practice." Please clarify this provision with respect to the following four questions:

1. Is it up to the peer review panel to decide whether the recommendations presented in the scientific study need to be implemented by the operation?
2. Do the peer reviewers have the power to decide which of the recommendations are binding and which are not?
3. Can the peer review panel make its own additional recommendations that the operation then has to implement?
4. Once the peer review process is complete, and the findings handed over to the Code auditor, does the auditor have to accept the recommendations presented in the scientific study, or does the auditor have the power to decide which of the recommendations are binding and which are not?

Answer

1. Peer review panels evaluate the scientific merit of a study presented in support of an alternative to one of the Code's recommended numerical guidelines. They do not separately or independently evaluate whether the study's recommendations must be implemented. However, if the peer review panel elects to make a specific finding that one or more of the recommendations have no scientific merit, the operation would not need to implement that recommendation.

2. Operations are expected to implement all recommendations made in the scientific study, and a peer review panel cannot pick and choose those to be implemented and those to be ignored. As noted above, however, an operation need not implement a recommendation that the peer review panel identifies as having no scientific merit.

3. Peer review panels evaluate the work presented to them, and cannot independently impose additional requirements directly on the operation.

4. All substantive issues involving a scientific study and its peer review are beyond the scope and expertise of the operation's auditor. The auditor's responsibility is strictly procedural. The auditor confirms that the scientific study was conducted by appropriately qualified personnel and addresses the appropriate issue of Code compliance, that the peer review panel is properly constituted, and the peer review has concluded that the study supports the operation's proposed alternative means of achieving the Standard of Practice. If the auditor determines that these requirements are satisfied, he must accept the study and its recommendations and, assuming it has implemented the study's recommendations, find the operation in compliance with the applicable Standard of Practice.

Question 2, (Regarding Secondary Containment, Standard of Practice 4.7)

Standard of Practice 4.7 calls for secondary containment measures for process tanks, and has special requirements for tanks on ring beams. For a tank containing less than 10,000 mg/l free cyanide on a ring beam, would an interior spray-on coating of a material such as flake glass polyester suffice as secondary containment, and if so, does this negate the need for a Risk Based Inspection program?

Answer

Tank coating is not considered to be an adequate substitute for secondary containment. For existing tanks with under 1% cyanide without secondary containment, an operation must either a) monitor such that a release would be identified before it reached the environment (e.g., within the ring itself, or using a false bottom within the tank; or b) employ a Risk Based Inspection (RBI) program and monitor in the environment (e.g., in the unsaturated zone beneath the tank and ring beam or in ground water). However, if a coating is used inside the tank, it would likely affect the specifics of the RBI program and could lessen the frequency of subsequent inspections, wall-thickness testing, etc.

Question 3, (Regarding Quality Control/Quality Assurance, Standard of Practice 4.8)

Are quality control and quality assurance (QA/QC) records and as-built certifications required for cyanide facilities that are located within secondary containments if QA/QC documentation is available for the secondary containments themselves?

Answer

Standard of Practice 4.8 calls for use of QA/QC procedures in the construction of cyanide facilities and for certification that these facilities were built as designed. The term "cyanide facility" includes tanks and pipelines containing solutions with 0.5 mg/l or greater WAD cyanide as well as tailings impoundments, leach ponds and secondary containments. Cyanide facilities located within secondary containments are still subject to the requirements of Standard of Practice 4.8, and an auditor therefore must have evidence of their compliance with the provisions for QA/QC and as-built certifications. Note, however, that operations can use a "fit-for-service" inspection and/or testing program as an alternative when original QA/QC and as-built certifications are not available, as discussed in the *Auditor Guidance for Use of the Gold Mining Operations Verification Protocol* with respect to Standard of Practice 4.8, question 5.

Question 4, (Regarding Financial Assurance for Decommissioning, Standard of Practice 5.2)

Please clarify the requirements for financial assurance in the following situation where the local jurisdiction requires financial assurance for closure. Local authorities hold a financial guarantee for the entire operation greatly in excess of the estimated cyanide decommissioning costs. However, the applicable regulations allocate the closure funds such that they are not available for use in decommissioning some of the cyanide facilities. This leads to a situation where under question 5.2.3, the operation has established a financial mechanism acceptable to the applicable jurisdiction, but because of the legal framework and prescribed allocation of the funds, it is insufficient to cover cyanide-related decommissioning. However, it appears that the operation has no other options because the other available financial assurance mechanisms, discussed in questions 5.2.4 and 5.2.5, appear to be limited to cases where the applicable jurisdiction has no requirements for financial assurance. Are changes to the existing applicable regulations the only resolution acceptable under the Code?

Answer

It is not the intent of the Code to require regulatory changes. If the applicable financial assurance regulations do not provide adequate funds to implement the operation's decommissioning plan, then the answer to question 5.2.3 would be "no." The staged use of questions 5.2.4 and 5.2.5, however, is intended to clarify that an operation need only comply with one of these approaches to financial assurance, not to preclude an operation from using multiple approaches. As a practical matter, an operation that has complied with its jurisdictional requirements but has not provided financial assurance in an amount sufficient to cover its decommissioning costs can use any of the instruments identified in 5.2.4 or 5.2.5 to provide the necessary additional financial assurance.

In the Auditor Guidance for question 5.2.4, the phrase "[I]f not required by the applicable political jurisdiction," is interpreted to apply both to a financial assurance instrument and to a sufficient amount of coverage. Therefore, a negative answer to question 5.2.3 still allows the operation to proceed to question 5.2.4 if the jurisdiction has a financial assurance requirement which does not adequately cover the operation's estimated decommissioning cost. The statement that question 5.2.5 "applies only where the political jurisdiction has no requirement for financial assurance" is similarly interpreted to include situations where the political jurisdiction's financial assurance requirement is insufficient to cover the decommissioning cost.

Therefore, an operation in the situation decribed above could provide additional financial assurance with cash, a bond, a letter of credit, outside insurance, or self-insurance or self-guarantee, with the combined amount of jurisdictional and independent assurance being sufficient to cover the operation's estimated decommissioning cost. The auditor would then have to determine if all applicable provisions of Standard of Practice 5.2 were met.