

2019



Cyanide Code Compliance –

A higher level of leadership.

Managing cyanide safely requires a solid foundation of thorough training, operational excellence and emergency readiness. Companies must collaborate with governments and have genuine concern for workers, communities and the environment. The International Cyanide Management Code provides the framework for leaders throughout the gold and silver mining sector to act on a vision of excellence and invest in the future.

Companies that participate in the Cyanide Code's *verified* compliance program include companies operating mines that use cyanide, as well as cyanide producers and transporters. They meet rigorous standards and undergo thorough, independent, third-party audits. The audit reports—and any required corrective action—are fully transparent and publicly available on the Cyanide Code website.

Participation in the Cyanide Code speaks to a higher level of leadership. These companies demonstrate their commitment to best practice in managing cyanide while integrating new innovations and opportunities to promote safety, protect health, and safeguard the environment.

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AngloGold Ashanti Limited Australian Gold Reagents Pty Ltd
Barrick Gold Corporation Cyanco CyPlus Corporation
The Chemours Company* Gold Fields Limited
Kingsgate Consolidated Limited Kinross Gold Corporation
Newmont Mining Corporation Orica Australia Pty Ltd
PanAustralianResourcesLimited PlacerDomeInc. RioTinto



We recognize these companies – the *first* Cyanide Code signatories in 2005.

* Spun-off from E.I. DuPont de Nemours and Company

Get these on the
Cyanide Code website:

- The Cyanide Code
- Implementation Guidance
- Auditor Requirements
- Auditor Guidance

9 Broad Principles

Covering the Cyanide Use Cycle

31 Auditable Standards of Practice

for Mining Operations

Corrective Action Process

3-Year Audit Cycle

Dispute Resolution Process

The Cyanide Code calls for Leadership throughout a mining operation.

These 9 Principles help Cyanide Code-certified operations earn the social license to operate.

- 1 Production**
Use cyanide only from certified producers that have met the Cyanide Code's high standards for safety and environmental protection.
- 2 Transportation**
Receive cyanide transported in compliance with rigorous safety and emergency response standards.
- 3 Handling & Storage**
Handle and store cyanide in a manner that best protects workers, communities and the environment.
- 4 Operational Use**
Safely manage cyanide process solutions and waste streams.
- 5 Decommissioning**
Develop thorough plans for decommissioning cyanide facilities.
- 6 Worker Safety**
Protect workers from exposure to cyanide.
- 7 Emergency Response**
Prepare to act with well-tested and coordinated emergency response strategies and capabilities.
- 8 Training**
Equip workers and first-responders with tools and knowledge for managing cyanide safely.
- 9 Dialogue**
Engage in public consultation and disclosure on cyanide management at operations.

2019 Highlights

50

Countries where the Cyanide Code is now at work

75%

of all currently certified operations have been certified more than once



82%

of all participating operations are certified

71

Certified Supply Chains



Audits performed by

26

lead auditors from

21

firms, assisted by

17

technical experts

197

Cyanide Code Signatories with

348

Operations participating in the program globally and

285

certified

Certified Mines

104

78%

of participating Mining Operations are certified

78

Audit Reports submitted to ICMI for Completeness Review

845

Cumulative Certifications since program inception



Dead fish in Tisza River, Baia Mare cyanide spill, 2000.

AS I WRITE, IT HAS BEEN 20 YEARS SINCE THE DISASTER AT BAI A MARE, ROMANIA. The fact that this cyanide incident was both catastrophic and *preventable* became the catalyst for development of the Cyanide Code.

Under the leadership of the United Nations Environment Programme (UNEP) and the then-International Council on Metals and Environment (ICME), key players came together to define standards and practices for mitigating—and preventing—cyanide incidents. This initiative marked the first time such an inclusive, multi-stakeholder group worked cooperatively to generate an international, voluntary program for improving an industry activity. It was also funded exclusively through contributions of gold mining companies and cyanide producers.

Since the inception of the Cyanide Code program, there have been zero catastrophic incidents among our certified operations. I would like to recognize those who have played a pivotal role in achieving this milestone.

- The vision and leadership of Fritz Balkau, then Head of the Cleaner Production Programme at UNEP, and Gary Nash, then Chief Executive of ICME, resulted in the launch of the international process to develop the Cyanide Code.
- Every member of the multi-stakeholder committee and the secretariat that supported them played an essential role. We would like particularly to note the role of Harold Barnes who chaired the committee, and Norm Greenwald who as the Code Manager functioned as the committee's scribe in drafting the documents it produced.

- Many in the industry played leadership roles in garnering peer support for this effort, notably John Carrington, then Vice Chairman of Barrick Gold Corporation, Jack Thompson, then President and CEO of Homestake Mining Corp, and John Wilson, then President and CEO of Placer Dome Mining and the then Chairman of the World Gold Council.
- We also wish to recognize the commitment and leadership of the initial 14 companies that became signatories in 2005 (*see page 2*).

Over the years, many other companies have come onboard. Like the first signatories, their own commitment and leadership continue to demonstrate that best practices for cyanide management can be applied successfully so that everyone benefits.

Continuing support by organizations such as UNEP, the International Finance Corporation, and the European Bank for Reconstruction and Development, and government agencies in various countries have also contributed to and enabled the Cyanide Code program's leadership.

I would also like to thank all ICMI board members, past and present, and my colleagues at ICMI for their deep commitment in supporting the best interests of all our stakeholders through the years. This year, Tom Hynes retired from the board. His leadership has strengthened our resolve to continue to improve and adapt the Cyanide Code as challenges and opportunities evolve.

Clearly, the leadership of so many has shaped the Cyanide Code's success. In the coming years, we will continue to see new leaders emerge and put the Cyanide Code to work across their operations to protect workers, communities, and our world.

Paul Bateman
President

To Our Stakeholders

Effects of Coronavirus Pandemic on 2020 audit dates

ICMI is closely tracking the global Coronavirus pandemic and its effects on the global gold and silver mining industry. Many signatory operations have temporarily closed or reduced operations to protect the health of their workers. Travel restrictions in many countries have also affected the ability of workers and consultants, such as Cyanide Code auditors, to travel to operations.

So that operations can fully focus on the health of their workers, when requested by signatory companies, ICMI has begun extending certification audit dates for operations with audits coming due during the current crisis.

How the International Cyanide Management Code was Developed

2000

INITIATIVE LAUNCHED

United Nations Environment Programme (UNEP) and the then-International Council on Metals & the Environment (ICME) sponsor an international workshop.



STAKEHOLDER COMMITTEE

Participants are from the gold mining industry, governments, NGOs, labor, cyanide producers, environmental advocacy organizations and financial institutions.

2005

CYANIDE CODE IMPLEMENTED

Voluntary gold/silver mining industry program focused exclusively on safe management of cyanide and cyanidation mill tailings and leach solutions.

International Cyanide Management Institute begins overseeing Code's implementation.

MULTI-STAKEHOLDER COMMITTEE

Harold Barnes (Chairman), Homestake Mining Company, United States

Stephen Bailey, International Finance Corporation, United States

Julio Bonelli, Government of Peru

Gordon Drake, Ph.D., WMC Resources, Ltd., Australia

John den Dryver, Normandy Mining Limited, Australia

Bill Faust, Eldorado Gold Company, Canada

Fred Fox, Kennecott Minerals Company, United States

John Gammon, Ph.D., Government of Ontario, Canada

Steven Hunt, United Steelworkers of America, Canada

Juergen Loroesch, Ph.D., Degussa, Germany

Basie Maree, AngloGold Company, South Africa

Glenn Miller, Ph.D., University of Nevada, Reno, United States

Anthony O'Neill, WMC Resources, Ltd., Australia

Michael Rae, World Wide Fund for Nature, Australia

Stan Szymanski, International Council of Chemical Associations, United States

Stephan Theben, European Commission, Spain

Federico Villasenor, Minas Luismin, Mexico

Juergen Wettig, European Commission, Belgium

CYANIDE CODE MANAGER

Norman Greenwald, United States

SECRETARIAT

Wanda Hoskin, United Nations Environment Programme, France

Tom Hynes, Ph.D., International Council on Metals and the Environment, Canada

Kathryn Tayles, United Nations Environment Programme, France



CERTIFIED OPERATIONS



82% of participating operations are now certified — 104 mines, 30 production facilities, 151 transport operations (including 71 certified supply chains).

62 operations achieved certification — 46 recertified, 8 mines and 8 transporters certified for the first time.

285 operations are currently certified as compliant with the Cyanide Code, of 348 participating operations.

845 certifications have been announced by the Institute since the start of the program.

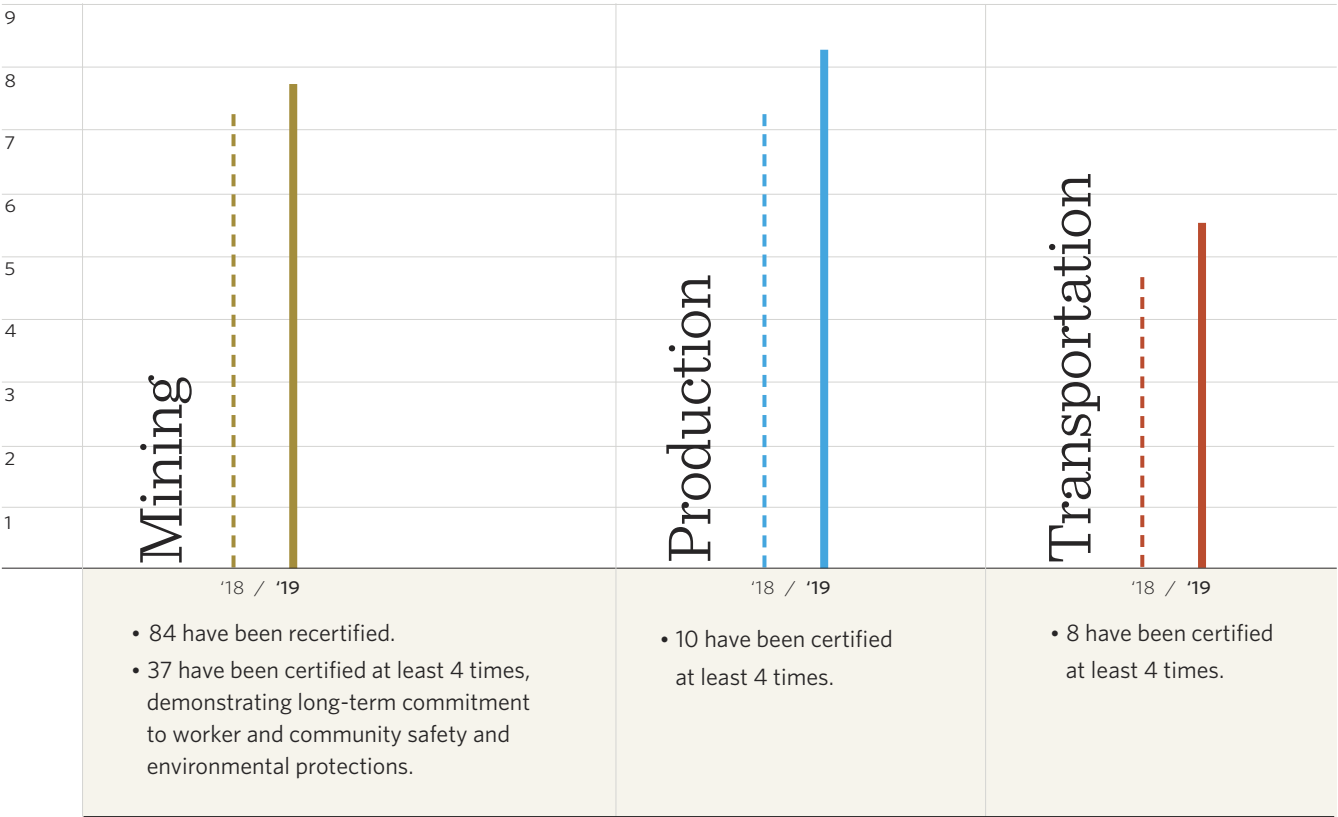
Cyanide Code certification strengthens management practices

Leading the way throughout the industry and the world

Deeply Committed Operations –

More than 75% of *all* operations have been *recertified*

Average Duration of Certified Operations' Certification (in years)



Leaders in doing the right thing for workers, communities, the environment and shareholders:

Cowal Mine
certified

7x

Marigold Mine and
Ahafo Mine
certified

5x



Deeply committed Signatory Companies –
What does leadership *look like*?

Since the start of the program in 2005, signatories to the Cyanide Code have been characterized by their vision in making a long-term commitment to safe, professional handling of cyanide. In 2019, Cyanide Code signatories continued to lead the way for every company in the gold and silver sector by adhering to the Cyanide Code as a primary mechanism for respecting worker safety, protecting the environment, earning the social license to operate and managing costs, risks and innovation in an evolving industry.

In 2019 industry support for the Cyanide Code grew.

The number of participating companies rose by 3.7%.

There was normal turnover in transport signatories, reflecting the contractual turnover of vendors servicing mines. Consolidation in the mining sector continued, with two mining companies acquiring two other signatories.

Signatory Companies	197	48	25	124
NEW Signatory Companies	18	5	4	9
Withdrawals	11	3	1	7
	Total	Mining	Production	Transportation

[View complete list of current signatory companies here.](#)



Sustained value *keeps* companies in the program

Of the mining operations in the program since 2006:

143 have undergone initial audits and been Cyanide Code-certified.

105 (73%) of these remain in the program.

38 (27%) have left the program due to closure, consolidation with other operations, or divestment to non-signatory mining companies.

42 of the *first 50* operations certified remain in the program today.

All 10 of the first production facilities.

21 of the first 25 mines certified remain in the program and are still certified.

7+
years

Average certification duration

Mining operations: 7.8 years
(up from 7.4 years in 2018)

Production operations: 8.4 years

Long-term Commitments

Mining Operation and Signatory Owner When Certified	First Certification Date
COWAL (Barrick Gold Corporation)	2006, April 17 ¹
AHAFO (Newmont Mining Corporation)	2006, October 4 ¹
MARIGOLD (Glamis Marigold Mining/ Barrick Gold Joint Venture)	2007, January 2
LONE TREE (Newmont Mining Corporation)	2007, February 1
SUNRISE DAM (AngloGold Ashanti)	2007, March 7
TWIN CREEKS (Newmont Mining Corporation)	2007, April 2
ROUND MOUNTAIN (Kinross Gold Corporation/ Barrick Gold Corporation Joint Venture)	2007, May 3
GOLDSTRIKE (Barrick Gold Corporation)	2007, May 17
WEST (AngloGold Ashanti)	2007, June 5
KOPANANG (AngloGold Ashanti)	2007, June 28
NOLIGWA (AngloGold Ashanti)	2007, July 31
EAST GOLD ACID FLOAT (AngloGold Ashanti)	2007, July 31 ²
SAVUKA (AngloGold Ashanti)	2007, September 5
MPONENG (AngloGold Ashanti)	2007, September 5
CRIPPLE CREEK & VICTOR (AngloGold Ashanti)	2007, September 11
PIERINA (Barrick Gold Corporation)	2007, October 2
RUBY HILL (Barrick Gold Corporation)	2007, November 21 ³
LAGUNAS NORTE (Barrick Gold Corporation)	2007, December 11
CORTEZ (Barrick Gold Corporation)	2008, January 4
BALD MOUNTAIN (Barrick Gold Corporation)	2008, January 10
CHATREE (Kingsgate Consolidated Ltd)	2008, January 24 ⁴
FORT KNOX (Kinross Gold Corporation)	2008, February 2
VELADERO (Barrick Gold Corporation)	2008, March 3
EL SAUZAL (Goldcorp)	2008, March 27 ²
YANACOCOA (Newmont Mining Corporation)	2008, April 1

¹ Pre-operational / ² Decommissioned / ³ Divested / ⁴ Inactive

Names of mines may have changed. The 4 no longer in the program are shown in red: one was sold to a non-signatory owner, and three have ceased operating.

Leadership *isn't* just a role for the largest signatories

- Participants include the largest mining companies to companies producing <50,000 ounces of gold/year.
- More than 50% of signatories are now mid-tier or smaller producers.
- The Cyanide Code is being used to train an increasing number of smaller miners.
- The program serves in all environments, on six continents.

Leadership that *reaches across* the portfolio of mines

It takes commitment to apply the Cyanide Code at a single mine, yet *many signatories go a step further.*

These **Signatory Mining Companies** have extended Code compliance across their portfolios of mines to hold **multiple certifications**.

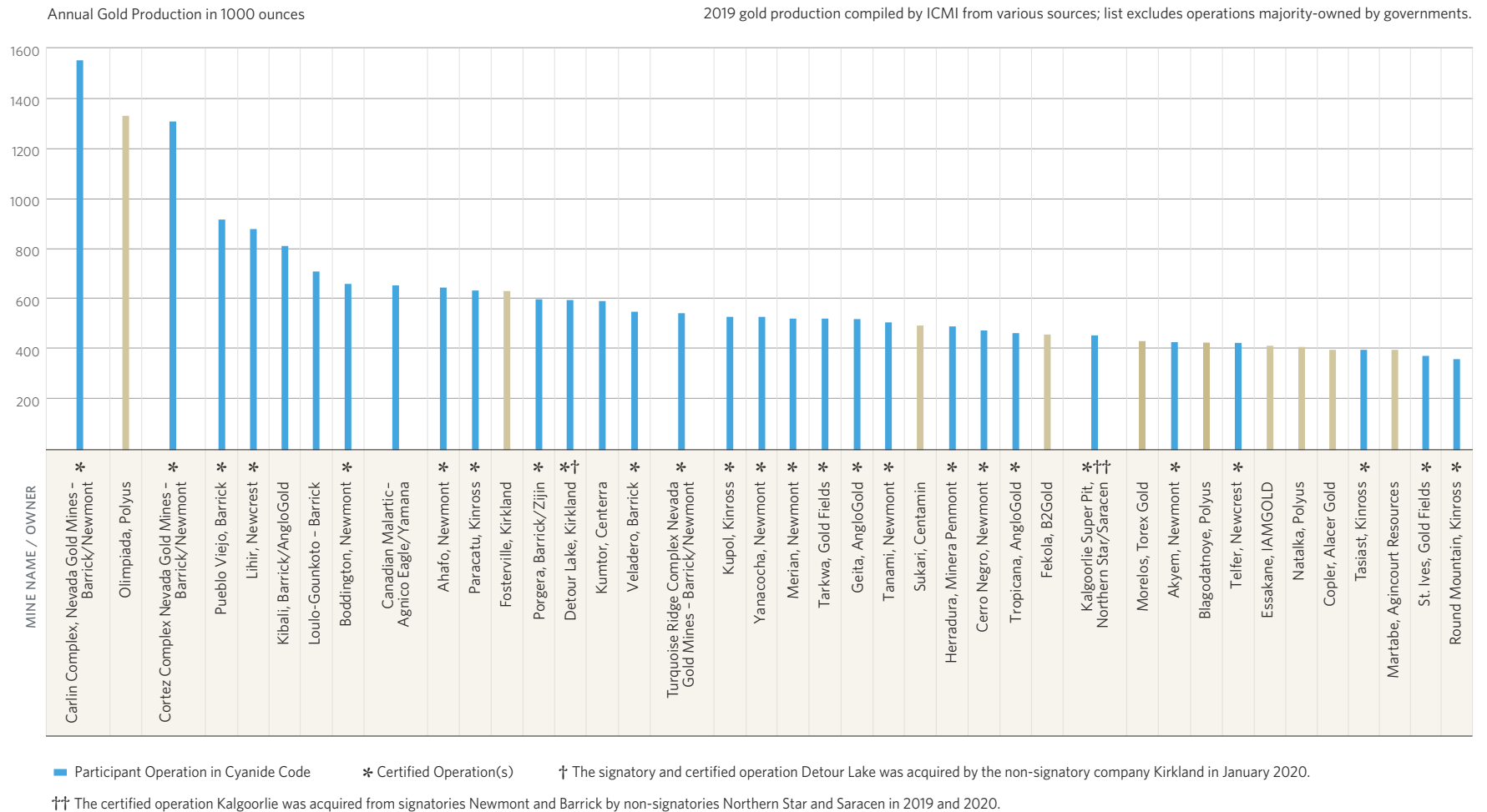
16 operations are certified for both
AngloGold Ashanti Limited *and* **Newmont Mining Corporation**
the most of any signatory companies

Certifications	Signatory Mining Companies with multiple certified mining operations
16	ANGLOGOLD ASHANTI, <i>South Africa</i>
16	NEWMONT MINING CORPORATION, <i>United States</i>
10	BARRICK GOLD CORPORATION, <i>Canada</i>
7	KINROSS GOLD CORPORATION, <i>Canada</i>
7	GOLD FIELDS LTD., <i>South Africa</i>
6	HARMONY GOLD MINING COMPANY LTD., <i>South Africa</i>
4	AGNICO-EAGLE MINES LTD., <i>Canada</i>
3	YAMANA GOLD, <i>Canada</i>
3	MINERA PENMONT S DE R.L. DE C.V., <i>Mexico</i>
3	NEWCREST MINING LTD., <i>Australia</i>
2	POLYMETAL INTERNATIONAL PLC, <i>Cyprus</i>
2	MA'ADEN GOLD & BASE METALS COMPANY, <i>Saudi Arabia</i>
2	PT J RESOURCES NUSANTARA, <i>Indonesia</i>

Cyanide Code participants lead in productivity *and* protections

Top Primary Commercial Gold Mining Operations Using Cyanide in 2019

30 of the top 40 gold operations are in the program.



Fewer cyanide safety risks across 1,000s of kilometers

Supply chains certified *end to end* lead the way

The Cyanide Code requires certified mining operations to purchase cyanide only from certified producers and have it transported using certified trucking operations and certified supply chains. Certified producers and transporters take both ownership and *leadership* in mitigating risks across supply routes that can stretch thousands of miles.

Cyanide Code-compliance helps ensure safety through all jurisdictions along certified supply routes, even those without mining operations.

Transporters

26% of certified operations receive cyanide in Isotainers

The industry is increasingly choosing to use large, stainless-steel Isotainers containing solid briquettes rather than Intermediate Bulk Containers (IBCs or “bag-in-box” systems) for transportation of cyanide. Isotainers typically require less cyanide handling, and no disposal of empty packaging while providing greater safety during transportation.

Producers

Leadership in safety practices and training

The International Cyanide Management Institute recognizes the leadership and support producers provide, not only at their own operations, but also in cyanide safety training for both mining operations and transporters, organizing mock drills, supporting transporters efforts in achieving certification, and working with mining operations and transporters on addition of dye to cyanide as a safety practice.



151 Cyanide Code-certified transport operations

Routes stretching through **50 countries** and including:

60 Trucking operations

46 Ports

31 Marine carriers

7 Intercoastal river transporters

15 Railroads

11 Warehouses

Strengthening the Cyanide Code for today's changing industry

Incorporating new practices *and* 14 years of experience

The International Cyanide Management Institute regularly updates the Code's *supporting* documents, such as Auditor Guidances and Verification Protocols to reflect changes in program requirements, or to strengthen protections, such as requiring dye to identify high-strength cyanide solutions. In 2019, however, ICMI embarked on a *comprehensive* review of the program documents for the purpose of updating to account for changes in practices within the industry and provide greater clarity in documents such as the Auditor Guidances.





An evolving Code, informed by best practices and real-world experience of industry leaders

Direct feedback and insights from top Cyanide Code auditors

In February 2019, ICMI hosted a two-day Roundtable meeting in Los Angeles, California, that brought together 7 auditors whose firms (multinationals as well as small consultancies) have led the majority of the 900-plus audits submitted to ICMI since 2006. These auditors are also experienced in conducting the different types of Cyanide Code audits (mining operations, transporter, and producer) in different jurisdictions worldwide. Discussion at the Roundtable focused on ICMI's program for Cyanide Code certification audits, including:

- **AUDIT DOCUMENTS** that might be unclear and thus open to inconsistent interpretation.
- **POTENTIAL PROGRAM CHANGES** that might improve the safe management of cyanide.
- **AUDITORS' EXPERIENCES AND OBSERVATIONS** regarding challenges in auditing the Code and operational challenges in implementing and complying with the Code.

No major deficiencies were identified with the Cyanide Code, how it is applied, or how it is audited. Opportunities were cited for improvement, such as further clarification of some of the Code's expressed expectations, and implementing interim compliance reviews to evaluate ongoing compliance during the three-year audit cycle. The participating auditors noted that companies that already use interim reviews have fewer compliance challenges related to training, inspection, mock drills, and record-keeping during certification audits, particularly at operations with high turnover of management and staff between audits.

A continuing partnership with industry

During 2019, ICMI maintained its support for a working group of the Industry Advisory Group examining the use of engineered controls to prevent cyanide releases.

The working group has concluded that no major deficiencies exist in the Code's current documents related to engineered controls, discussion continues regarding including additional guidance on engineered controls in guidance documents.

Developing new guidance

This year, ICMI began developing new documents to support the program, including an Auditor Guidance for cyanide production operations and an Auditor Guidance for supply chains. Also underway is a review of the current Auditor Guidance for Transportation Operations and Auditor Guidance for Mining Operations. ICMI plans to continue this process of reviewing and updating Code documents for completion in 2020.

Rigorous audits and publicly available results

Certified compliance **PLUS** industry-leading insights

In 2019, more than 8,000 people accessed Cyanide Code Audit Reports for operations published on our website. Stakeholders, competitors, communities, financial institutions, sustainability indexes and investors and even other auditors mine these reports for information on how the industry's most responsible—and successful—operations are addressing both challenges and opportunities.

As mergers, acquisitions, and asset sales continue to reshape the gold industry, audit reports can play a role in discovery. Because the Cyanide Code's rigor requires companies to exert leadership in many aspect of operations, Cyanide Code certification often joins the criteria for keeping—or acquiring—good mines.

Each Cyanide Code audit examines and reports on a company's:

- Environmental & Safety Practices
- Physical Plant Operation & Maintenance
- Inspections & Record Keeping
- Training
- Emergency Response
- Risk Communication
- Financial Assurance & Corporate Management

OVER **800** Audit Reports published

since the Cyanide Code program took effect



High standards, independence and transparency

Start to finish rigor *defines* the audit process

During each three-year audit, the expectations are high. Companies, governments, workers, and communities depend on Cyanide Code certification as a key tool for protecting health, safety, and the environment. ICMI is committed to a rigorous audit and certification process to match the high expectations of stakeholders and of the Cyanide Code itself, a process strengthened by assurance mechanisms and transparency that sets Cyanide Code audits and certification apart from other industry programs.

For quality assurance, ICMI reviews and comments on every audit report posted to its website

ICMI reviews audit reports to confirm that sufficient details are provided to support the auditor's findings. This "Completeness Review" is the Cyanide Code's quality control mechanism. It not only assures that an auditor's certification decision with respect to a particular mine is consistent with the Cyanide Code and supported by appropriate information; it also provides for a reasonable degree of consistency between the certification decisions made by different auditors at different mines operating in different countries and in different environments. In addition to providing an extra set of eyes to each report, the process helps to identify potential soft spots, ICMI then uses this data to inform how the Cyanide Code should evolve.

Dispute resolution

The Cyanide Code has a three-tier dispute resolution process. This detailed process first seeks to resolve disputes through informal dialogue and direct negotiations. The next stage is non-binding mediation, and third tier is binding arbitration. The dispute resolution process has only been needed twice in our program's history; both times auditors objected to ICMI rejection of audit reports that failed to provide the quality our standards require.

Cyanide Code Audit Process

Auditors

- Onsite Inspections
- Personnel Interviews
- Records/Documentation Review
- Mandatory Rotation after 2 consecutive audits of a operation
- Detailed and Summary audit reports required

ICMI

- Verifies Auditor Credentials
- Reviews Audit Reports for completeness and clarity
- Comments to auditors regarding deficiencies in reports
- Reviews revised reports addressing any comments on deficiencies

Cyanide Code Website

- Credentials of the Auditor
- Summary Audit Report
- Corrective Action Plan if necessary

ONLY 2 Disputes
14 YEARS / 900+ AUDITS

Auditors themselves must meet ICMI standards

Highly experienced, rigorous standards

When it's time to certify or recertify an operation, signatories want independent, third-party auditors with professional credentials and extensive experience. To provide qualified, experienced auditors, ICMI requires auditors to undergo an approval process to validate their qualifications, independence and adherence to the highest ethical standards for conducting audits. Auditors who are approved are placed on a list from which signatories can choose the professional that is the best match for their operation.

ICMI ensures auditors *remain* independent

ICMI does not allow any auditor to conduct more than two consecutive audits for the same operation. This ensures operations are examined by auditors with different perspectives, experience and a fresh pair of eyes.

Even more rigorous than qualifications for auditors, Lead Auditors' credentials must include:

- Certification as an environmental, health or safety auditor or environmental, health or safety management systems auditor with expertise above the entry or provisional level.
- Adherence to the Code of Ethics of the organization certifying the auditor.
- Certification by an organization having a system to revoke auditor certification if the auditor is found to have conducted an audit in an unethical or unprofessional manner.
- Up-to-date compliance with requirements necessary for maintaining certification.



108 Auditors
are currently approved
to conduct Cyanide Code audits

The most experience, the highest standards

Lead Auditors earn signatories' respect— *and add value*

72 lead auditors

have collectively produced
all of the **900+ reports**
submitted to ICMI since 2006.

In 2019 –

78

audit reports were submitted to ICMI for review

26

lead auditors representing 21 firms

17

additional auditors serving as technical experts

Cyanide Code Champions

Leadership at the operational level

Though not required by the Cyanide Code, many companies and operations appoint a Cyanide Code “Champion.” These Champions provide leadership across the operation and guide teams in preparing for certification audits, achieving certification, and ensuring continuous compliance between audits.

Being a successful Champion requires skills in communication, team management, operating systems, and a thorough understanding of the Cyanide Code, its requirements, and its objectives. Successful Champions have come from all areas of mining operations, such as Engineering, Operations, Purchasing, Health & Safety, Environment, and Stakeholder Relations. The leadership demonstrated by these Champions has been significant in contributing to the Cyanide Code’s success in protecting workers and the environment.

Next...

**Meet three Code Champions
whose skills and efforts have helped further
the success of the Cyanide Code.**

Alper Gürsoy



Afrifa Oppong



Eric Ted Coffie



Putting people and the environment first

Alper Gürsoy joined Kışladağ in 2005 as an exploration geologist, later moving into occupational health and safety. In 2013, Alper served as a Cyanide Code Steering Committee member during Kışladağ's inaugural certification, making it the first gold mine in Turkey to hold that status. In recognition of his leadership, Alper was promoted to his current position in 2014, continuing to guide the mine's Cyanide Code compliance, including 2016 and 2019 recertifications.

“Complying with Cyanide Code requirements is a core value. It complements our principle of ‘People and Environment First, Then Mining.’ To achieve certification, we collaborate and implement our values: Courage, Agility, Drive, Collaboration and Integrity. Engagement with line managers and the site steering committee (including departmental representatives) strengthens ongoing compliance. Certification demonstrates Kışladağ’s competence, leadership and transparency in managing cyanide. Certification enhances our credibility with government agencies, and helps address negative perceptions about cyanide use. We take certification audits as an opportunity to further improve our practices.”

– Alper Gürsoy

Occupational Health Safety and Security Manager
Eldorado Gold Corporation's Tüprag Kışladağ Gold Mine

Alper Gürsoy



Making safety and commitment a team effort

A graduate of the University of Mines and Technology in Ghana, Afrifa came to Chirano in 2009, where he quickly advanced to lead Chirano's Cyanide Code compliance. His efforts as Chirano's Cyanide Code champion enabled the mine to achieve its first certification in 2013. Afrifa led recertifications in 2016 and in 2020 and has continued to provide the leadership for operations to stay compliant between audits.

“Cyanide Code compliance isn't achieved by just a few people. It takes a team effort and leadership from throughout the entire operation, not just a few people. The key to making this team successful is cooperation amongst team members, from all departments, and with safety and commitment always at the forefront. Cyanide Code compliance and certification demonstrates Chirano's leadership in workforce safety and environmental protection. In turn, our leadership shows employees, governments and nearby communities our commitment to them in choosing to surpass regulatory requirements.”

– Afrifa Oppong

Senior Metallurgist
Kinross Gold Corporation's Chirano Gold Mine



Afrifa Oppong

Living our values

Eric Ted Coffie joined the Chirano gold mine in 2011 and emerged as strong leader in helping the mine maintain Cyanide Code compliance and certification. Eric participated in all of Chirano's certification audits, including the first that enabled the mine to achieve Cyanide Code certification in 2013. For the most recent audit in 2019, Eric's departmental role was expanded to help drive the operation's sitewide certification efforts.

“For Kinross, ‘Live Our Values’ isn’t just words. It’s how we manage cyanide and maintain Cyanide Code certification every day. We expect leadership from every person throughout the operation. To achieve this, we are continually raising the awareness and expertise of our general workforce. It is equally important that management makes certification a priority and supplies the resources to ensure ongoing compliance. Certification provides all of us the opportunity to ‘Live Our Values’ and make the difference to safety, the environment and our future.”

– Eric Ted Coffie

Environmental Laboratory and Chemical Control Supervisor
Kinross Gold Corporation's Chirano Gold Mine

Eric Ted Coffie



The Cyanide Code website shows each company's current status

Substantial Compliance

Audits may result in a finding of substantial compliance, as well as full compliance or non-compliance. To provide full transparency to stakeholders, audit reports with findings of substantial compliance are also posted on the Cyanide Code website, along with a Corrective Action Plan to return the operation to full compliance.

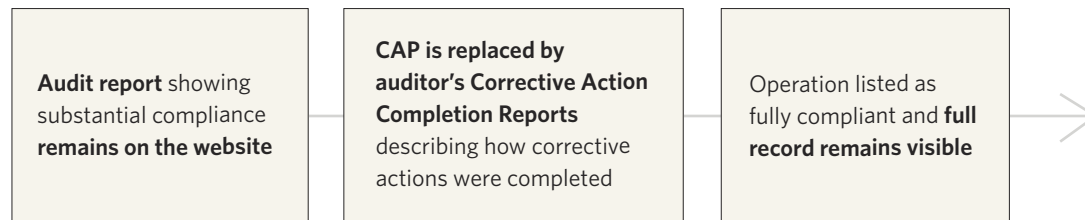
To be substantially compliant vs. noncompliant, an operation:

- Has a deficiency that does not present an immediate risk to health, safety or the environment
- Has made a good faith effort to comply with the Cyanide Code prior to the audit
- Must be able to correct the deficiency within one year

When an operation completes all necessary actions to correct deficiencies it may return to full compliance.

Start to Finish Transparency

To make clear where operations stand, Corrective Action Plans (CAPs) and Corrective Action Completion Reports are posted on the Cyanide Code website. Progress is reported by:



Inactive Operations

Operations participating in the Cyanide Code program that have suspended their activity for at least six months can enter "temporarily inactive" status. They can later re-enter the program under certain conditions. Reasons for inactivity might include economic and operational changes such as mine expansion or operational improvements.

SINCE 2014

7

Mining Operations

listed as temporarily inactive

12

Mining Operations

+

3

Transport Operations

have been found in Substantial Compliance.

By the end of 2019, all but 2 mining operations had returned to full compliance.

The Cyanide Code's leadership doesn't end with the audit

View the status of Corrective Action Plans

Noncompliance with the Cyanide Code can be triggered by issues such as deficiencies in operational practices or in documentation, or failing to complete regular certification audits by the deadline. The audit report showing the noncompliance finding(s) is posted on the Cyanide Code website, along with the corrective actions necessary to address any noncompliance findings.

What happens when an operation is found to be noncompliant?

- The operator can remain a signatory but is identified as noncompliant
- The audit report states the reasons for the noncompliance finding(s)
- The Correction Action Plan (CAP) is posted on the ICMI website
- Progress on corrective actions and return to compliance are tracked

1

Operation found noncompliant in 2019

(A TRANSPORTER)

Cyanide Code Noncompliance since 2014



Data is for operations found to be in noncompliance since 2014. Statistics on non-compliances began in 2014, with submission of the first operational audit report with a finding of non-compliance and an associated Corrective Action Plan. Prior to 2014, operations in non-compliance withdrew from the program, rather than continuing in the program while completing the Corrective Action Plan.

Continued leadership in minimizing cyanide incidents

Catastrophic events in program history = ZERO

Cyanide Code implementation helps strengthen the effectiveness of participants’ risk mitigation efforts and their emergency response. In the 14 years since the program’s inception, there have been no catastrophic incidents among Cyanide Code-certified mines. During 2019, there were just three cyanide-related incidents reported to ICMI.

Incident-reporting process:

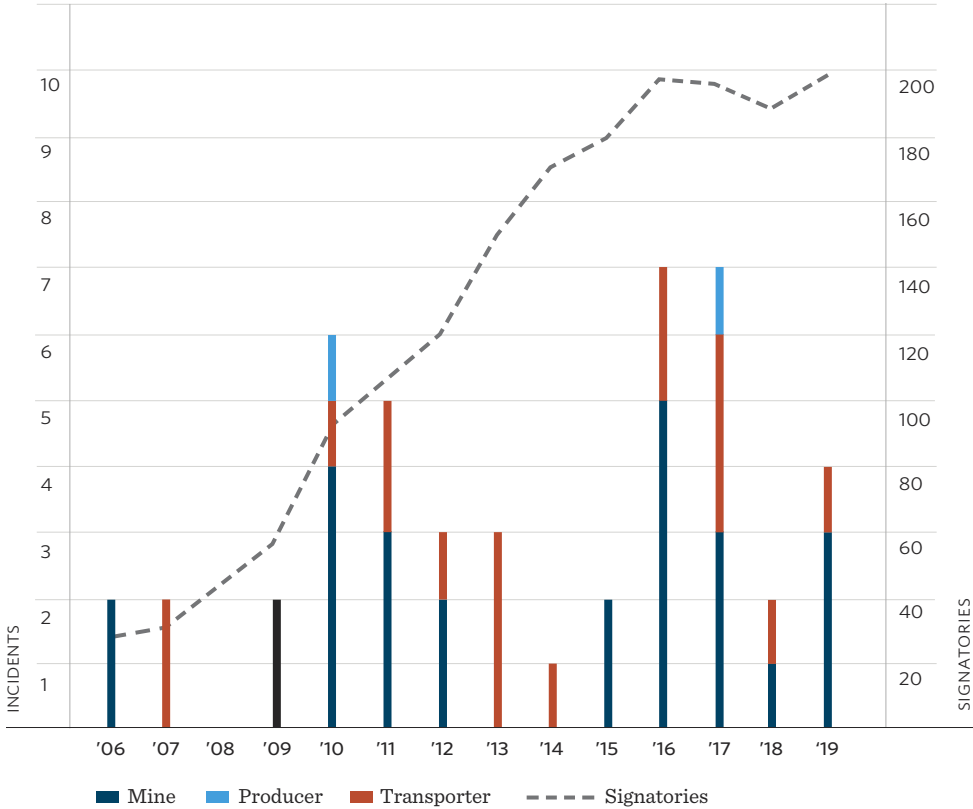
Cyanide Code signatories must report any significant cyanide environmental or safety incidents to the Institute. This information becomes part of the materials reviewed during the operation’s next audit.

Within 24 hours of an incident, signatories should provide ICMI with:

- Initial notification
- The data and nature of the incident
- How the operation responded

Through 2019, 8 incidents involved worker exposures and 36 incidents involved environmental releases. Twenty of the 36 environmental incidents were completely contained onsite at the mine and were attributable to engineering or mechanical failure (11) or operator error (9).

Reported Cyanide Incidents, 2006 – 2019



Four incidents reported to ICMI by signatory operations in 2019.

Mining

1. Bird mortality contributed by elevated cyanide dosage

A mining operation reported **two** events nearly a month apart, with each involving migratory birds that settled onto the shallow fringe zones of a tailing storage facility. This species had not been observed in prior studies and observations at the mining operation, and the birds' traditional habitat and feeding areas are 300 kilometers away. Attempts to scare the birds off were partially successful but many became stuck in the tailings where they were not safely accessible to rescuers. Approximately 200 birds died. Although the primary cause of death is believed to be dehydration and severe injury, both landings coincided with periods in which the process plant ran elevated cyanide dosage rates to counter recovery challenges of 51mg/L and 77 mg/L WAD CN, respectively. This may have contributed to the number of bird deaths. This operation is not yet certified.

2. Loss of containment during cyanide mixing

A mine reported that cyanide solution from the mine's cyanide mixing area escaped the tank's secondary containment and overflowed into two containment ponds situated outside the fenced area of the mine's gold plant. The reported levels of cyanide released were low, with free cyanide concentrations ranging from 2.78 mg/l and 2.93 mg/l. Under controlled conditions, hydrogen peroxide was used to detoxify the spillage, and the incident was brought under control within 30 minutes of the cyanide release. The government was informed of the incident; there was no risk to employees or nearby communities from the release.

Transport

3. Theft of truck transporting cyanide

A truck carrying an Isotainer filled with cyanide briquettes and in route to a mine stopped at a company-approved truck stop. While there, the driver was confronted by two individuals with weapons who took the truck and Isotainer. The driver was not injured, authorities were alerted and public media notices were issued seeking assistance to locate the Isotainer. The Isotainer and chassis were found still secure in a nearby community but without the truck, which was the thieves' apparent objective.

The leading-edge for safety *and* performance

Global recognition, global reach

Reaching across countries, continents and climates, the Cyanide Code is recognized as a leading global standards and certification program in this sector. Certification strengthens the entire industry with a proven roadmap for minimizing cyanide-management costs and risks. Even in the world's most remote areas, these standards and *verification mechanisms* lead the way to world-class protections for workers, communities and wildlife.

The Cyanide Code assures VERIFIED Compliance by providing

- A recognized assurance mechanism
- Rigorous standards
- Independent third-party audits
- Publicly available audit results

**Many nonparticipating companies
follow the Cyanide Code's standards because they recognize
the operational, safety and community benefits.**

**The Cyanide Code's leadership meshes with
other standards to benefit all stakeholders.**

Mines

Performance standards help minimize incidents and their consequences. Program rigor facilitates ISO compliance, regulatory compliance and solid operations.

Producers & Transporters

Compliance raises companies' ability to manage cyanide safely throughout the supply chain.

Governments

Cyanide Code standards complement governments' safety, health and environmental regulations and laws.

Workers

Workers benefit from training, risk mitigation practices, safe conditions and effective emergency response—no matter where their operations are located.

Insurers, Lenders, & Investors

Access to posted audit reports helps assess operational leadership and risk management.

Communities

The Cyanide Code helps protect people, wildlife and the environment. It ensures a rapid, effective response to any incident.

Financial Statements

	2019	2018
Receipts		
Signatory Fees	1,412,338	1,458,742
Signatory Fees for Future Year	175,376	135,306
Training Workshop Fees	5,500	6,843
Miscellaneous Income	139	244
Investment Income	20,305	5,808
Total Receipts	1,613,658	1,606,943
Expenditures		
Communications	486	43,352
General Office Expenses	100,801	94,679
Legal Services and Audit Fees	36,290	52,782
Outreach & Training	135,049	112,327
Staffing and Overhead	1,069,077	973,276
Travel Expense	45,222	58,689
Total Expenditures	1,386,926	1,336,195
Change in Net Assets	226,732	270,749
Net Assets at Beginning of Year	1,550,173	1,279,424
Net Assets at End of Year	1,776,905	1,550,173

Notes

i. The above summary is based on audited financial statements issued by Kosciw & Associates, LLC. Their financial statements were prepared on a modified cash basis of accounting, which is a comprehensive basis of accounting other than U.S. generally accepted accounting principles.

ii. ICMI is not a membership organization, and the corporation has no members. Companies choosing to participate in the program become signatories to the Cyanide Code and are assessed an annual fee. For 2019, the annual fees for signatories were: US\$1,100 for transporters, \$6,300 for cyanide producers, and for gold producers \$0.042 per ounce of gold produced by cyanidation in the prior year.

iii. ICMI files annual information returns with the State of California, where it is incorporated, and with the U.S. Internal Revenue Service.

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To become a Cyanide Code signatory and be able to display this symbol,
 visit the [Cyanide Code website](http://www.cyanidecode.org) or contact the Institute at info@cyanidecode.org.

International Cyanide Management Institute

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