



# **INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE**

## **DEFINITIONS AND ACRONYMS FOR THE INTERNATIONAL CYANIDE MANAGEMENT CODE**

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# DEFINITIONS AND ACRONYMS

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# DEFINITIONS AND ACRONYMS

The International Cyanide Management Code (hereinafter “the Code”, “Code” or “the Cyanide Code”), this document, and other documents or information sources referenced at [www.cyanidecode.org](http://www.cyanidecode.org) are believed to be reliable and were prepared in good faith from information reasonably available to the drafters. However, no guarantee is made as to the accuracy or completeness of any of these other documents or information sources. No guarantee is made in connection with the application of the Code, the additional documents available or the referenced materials to prevent hazards, accidents, incidents, or injury to employees and/or members of the public at any specific site where gold or silver is extracted from ore by the cyanidation process. Compliance with this Code is not intended to and does not replace, contravene or otherwise alter the requirements of any specific national, state or local governmental statutes, laws, regulations, ordinances, or other requirements regarding the matters included herein. Compliance with this Code is entirely voluntary and is neither intended nor does it create, establish, or recognize any legally enforceable obligations or rights on the part of its signatories, supporters or any other parties.



# DEFINITIONS AND ACRONYMS

## INTRODUCTION

These definitions and acronyms apply to terminology used in the International Cyanide Management Code (“Code”, “the Code” or “the Cyanide Code”) and its implementing documents.

## DEFINITIONS

**Appropriately Qualified Person:** An individual with the training, expertise and experience to carry out the technical functions discussed in the *Code* and the Guidance documents. The term also includes personnel that may not meet these criteria but who work under the supervision of those who do. For example, the required qualifications for individuals engaged in quality assurance and quality control (QA/QC) for construction of cyanide facilities or review of as-built drawings would typically consist of an engineering degree with a professional registration and previous experience with QA/QC and construction practices. For individuals preparing environmental monitoring and analysis plans, a degree in an appropriate scientific discipline and experience with sampling and analytical techniques typically would be required. Training personnel should be familiar with the practices and procedures for which the training is given and experienced in effective communication techniques.

**Backfill:** Placement of material into a surface or underground mine excavation.

**Beneficial Use:** Use of ground water such as potable water, agricultural application or industrial use that either currently exists, is reasonably foreseeable in the future, or which has been designated by the applicable jurisdiction.

**Biotoxicity Testing:** The exposure of living organisms to an effluent or environmental media to determine its toxicity.

**Broker:** An entity that offers cyanide for sale, but which does not produce cyanide.

**Carbon-In-Column (CIC):** The technique of recovering dissolved gold and silver from heap leach solutions by adsorbing the gold and silver onto activated carbon via the solution flowing through a series of fluidized bed columns (tanks) in an up-flow configuration.

**Carbon-In-Leach (CIL):** The technique of recovering dissolved gold from ore that has undergone milling and agitated leaching by introducing activated carbon directly into the leach tanks.

**Carbon-In-Pulp (CIP):** The technique of recovering dissolved gold from ore that has undergone milling and agitated leaching by adsorbing the gold onto activated carbon in separate tanks after leaching.

**Ceiling Limit Value:** A concentration of a contaminant in air that is not to be exceeded for any period of time.



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**Chain of Custody:** Documentation that identifies all changes in the control, handling, possession, ownership and/or custody of a shipment during transport (i.e., cyanide being transported to a gold mine or environmental samples being sent for analysis) from the point of origination to the final destination and the documentation that demonstrates that the shipment has reached its destination intact.

**Code, The Code, The Cyanide Code:** The International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold.

**Code Certification:** The result of a finding by the lead auditor of a *Code Certification Audit* that a signatory operation that has paid the required fees established by the International Cyanide Management Institute (ICMI) is in full compliance with the Code.

**Code Certification Audit:** An audit of the cyanide management activities of an operation conducted by a third party using the appropriate verification protocol to determine certification and compliance with the Code.

**Co-located:** A facility or activity that is conducted on the same site as another facility or activity.

**Completeness Review:** The process used by ICMI to review submitted certification audit reports to ensure that all necessary information has been provided by the independent third-party auditor. Completeness Reviews advise the auditor and audited operation of any additional information, clarification and/or evaluation necessary for the audit report to be accepted as complete.

**Conditional Certification:** A temporary Code Certification of an operation in substantial compliance or one that has been certified pre-operationally. Conditional Certification of an operation in substantial compliance continues until the Corrective Action Plan has been implemented and the operation is found to be in full compliance, or until the time established for completion of the Corrective Action Plan expires. Conditional certification of an operation that has been pre-operationally certified continues for up to one year after it becomes operational.

**Consignor:** An entity which arranges for and oversees the transport of cyanide along a route or portion thereof from its point of production to a certified gold or silver mine. Consignors may include but are not limited to cyanide producers, mining companies, transporters, brokers, distributors and sales agents. A consignor is considered to be a cyanide transporter for purposes of becoming a Code signatory.

**Co-producer:** A Code-certified cyanide producer that has a contractual arrangement with another Code-certified cyanide producer whereby one producer supplies cyanide to a customer of the other producer to minimize shipping distances and/or otherwise reduce costs.

**Corrective Action Plan (CAP):** A plan to correct deficiencies identified during a Code Certification Audit that have resulted in the auditor making a finding of substantial compliance or non-compliance. See ICMI's *Corrective Action Plan Requirements* for additional information.



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**Corrective Action Plan (CAP) Completion Report:** An auditor's report concluding that an operation has provided evidence demonstrating that it has implemented its Corrective Action Plan as specified and in the agreed-upon time frame, and has achieved full compliance with the Cyanide Code. See ICMI's *Corrective Action Plan Requirements* for additional information.

**Corrective Action Plan (CAP) Implementation Status Report:** An auditor's report on the status of the implementation of a Corrective Action Plan to bring non-compliant Standards of Practice, Production Practices or Transportation Practices into full compliance. For additional information, see *Signatory and Certification Procedure* Section IV.F.1.

**Cyanate:** A chemical species,  $\text{OCN}^-$ , derived from the chemical or natural oxidation of cyanide.

**Cyanidation:** The process of extracting gold and silver from ore using cyanide.

**Cyanide:** Technically, a singularly charged anion consisting of one carbon atom and one nitrogen atom joined with a triple bond,  $\text{CN}^-$ . However, the term cyanide is used generically throughout the Code and Code documents to refer to the cyanide ion, hydrogen cyanide, as well as salts and complexes of  $\text{CN}^-$  with a variety of metals in solids and solutions.

**Cyanide Facility:** (1) A storage, production, waste management or regeneration unit for managing cyanide or Process Solution. (2) A pollution control device, equipment or installation used to prevent, control or minimize the risk of a cyanide release.

**Decommissioning:** The activities conducted to treat, neutralize or otherwise manage cyanide and Process Solution remaining in storage and production facilities in preparation for closure so that they do not present a risk to people, wildlife or the environment due to their cyanide content. Decommissioning includes decontamination of equipment, removal of residual cyanide reagents, rinsing of heap leach pads and installation of measures necessary for control or management of surface or ground water, such as pumping and treatment systems that would operate during the facility's closure period. Decommissioning does not include activities such as physical stabilization of tailings storage facilities or heaps, revegetation of disturbed land or long-term management of seepage from leaching facilities or tailings storage facilities or environmental monitoring.

**Decant:** The removal of solution from a tailings storage facility after solids have been allowed to settle.

**Detailed Audit Findings Report:** The certification audit report document submitted to ICMI by the auditor that provides responses to each of the questions in the applicable Verification Protocol and describes the evidence on which the auditor's findings regarding the operation's compliance with the Cyanide Code are based.

**Distributor:** An entity that offers cyanide for sale, but which does not produce cyanide.

**Exposure Incident:** A situation where an individual has inhaled, ingested or come into contact with a potentially harmful concentration of gaseous, solid, or liquid cyanide or cyanide solution.



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**Financial Assurance:** A means of demonstrating that sufficient funds will be available upon cessation of operations to implement the proposed decommissioning measures.

**Freeboard:** The distance between the crest of a pond embankment or impoundment and the level of contained solution.

**Free Cyanide:** The uncomplexed cyanide ion (CN<sup>-</sup>) and gaseous or aqueous hydrogen cyanide (HCN).

**Full Compliance:** Compliance with all Standards of Practice, Production Practices or Transport Practices of the Code.

**Gold Mine, Gold Mining, Gold Mining Operation:** A facility or activity using cyanide to leach gold from ore, including a facility or activity where cyanide is used as a flotation reagent to separate gold-bearing material from other metal-bearing material, providing that flotation is co-located with a facility where cyanide is used to leach gold from ore.

**Hazing Technique:** A method used to discourage wildlife from coming into contact and ingesting open cyanide solutions, such as using load noises to frighten birds.

**Heap Leaching:** A process used for the recovery of gold from ore (usually low-grade ore) whereby crushed or uncrushed (run-of-mine) ore is laid on a slightly sloping, impervious pad and uniformly leached by the percolation of a cyanide solution trickling through the ore by gravity to a pond or other collection system.

**High-Density Polyethylene (HDPE):** A type of plastic used for lining leach facilities, ponds and other cyanide facilities to minimize seepage and protect soil and ground water.

**The Institute:** The International Cyanide Management Institute.

**Interim Storage:** Temporary storage of cyanide that occurs when changing carriers or transport modes. Interim storage facilities typically are integral to the transport of cyanide and involve holding individual shipments during the transport process. Under the Code, interim storage facilities are considered to be part of cyanide transport and are evaluated for certification using the Cyanide Transportation Verification Protocol. Facilities such as areas where trucks are parked overnight when in transit are typical interim storage sites. Storage in a warehouse for subsequent distribution is not considered to be interim storage.

**Intermediate Bulk Container (IBC):** A pallet mounted, industrial grade container, typically having a waterproof lining within an external crate when used for transporting solid sodium cyanide briquettes.

**Internal Compliance Audit Report:** A report submitted to ICMI by an operation found in non-compliance during a Code Certification Audit demonstrating that it has maintained full compliance with those Standards of Practice, Production Practices or Transport Practices that had been found in full compliance, and that, as applicable, measures are being implemented to



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bring substantially compliant and non-compliant Practices into full compliance with the Cyanide Code. For additional information, see *Signatory and Certification Procedure* IV.F.2.

**The International Cyanide Management Institute (ICMI):** A non-profit organization established to administer the Code.

**Isotainer:** A container constructed to specific ISO standards for the transportation of hazardous liquids or solids, including cyanide.

**Low-Density Polyethylene (LDPE):** A type of plastic used for lining leach facilities, ponds and other cyanide facilities to minimize seepage and protect soil and ground water.

**mg/L:** Milligrams per liter. A concentration term describing the milligrams of a constituent per liter of solution containing the constituent.

**Mixing Zone:** A predefined area within a surface water body beyond an outfall or discharge point in which the applicable jurisdiction or regulatory agency permits water quality criteria to be exceeded. Beyond the mixing zone boundary, applicable water quality criteria for the protection of aquatic life must be achieved.

**Non-certified Cyanide:** Cyanide that was not produced and/or transported by a Code-certified producer or transporter.

**Non-Compliance:** The certification status of an operation that does not meet one or more of the Code's Standards of Practice, Production Practices or Transport Practices and a) has not made a good-faith effort to comply; or b) the deficiencies identified by the auditor cannot be readily corrected (i.e., within one year); or c) the deficiencies present an immediate or substantial risk to employee or community safety, health or the environment.

**Operation(s):** (1) Gold or silver mine(s). (2) Manufacturing sites where cyanide is produced for use in gold or silver mining. (3) A company involved in transporting cyanide for use in gold or silver mining.

**Overspray:** Heap leach Process Solution that is sprayed or blown by wind off the leach pad to unprotected soil rather than being applied to the heap as intended.

**pH:** A measure of the acidity or alkalinity of a solution, with a value of 1.0 standard units being extremely acidic, 14.0 standard units being extremely alkaline and 7.0 standard units representing a neutral solution. The inverse  $\text{Log}_{10}$  of the concentration of the hydronium ion,  $\text{H}^+$ .

**Phreatic Surface:** The interface between the saturated and unsaturated zones, commonly referred to as the ground water table.

**Ponding:** The accumulation of Process Solution on the surface of heap leach material.

**Pre-Operational Certification:** A conditional certification based on an auditor's review of plans and procedures prepared prior to an operation employing cyanidation to extract gold or silver,



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producing cyanide or transporting cyanide, and which must be confirmed with a Code Certification Audit within one year of the operation conducting such activities.

**Probabilistic Water Balance:** A calculation of the inflows and outflows to a heap facility or tailings storage facility and determination of the system's storage capacity that accounts for the natural variability and uncertainty of precipitation and evaporation rather than on average precipitation and evaporation rates.

**Process Solution:** Solution at a gold or silver mine with a concentration of 0.5 mg/L Weak Acid Dissociable (WAD) cyanide or greater.

**Qualified Person:** See Appropriately Qualified Person.

**Reclamation/Rehabilitation:** Return of mined land to original contour, use, or condition or to an alternate but environmentally stable and productive contour, use, or condition.

**Repackaging Facility:** A facility where cyanide is removed from one form of packaging and transferred into a different form of packaging or containment. For example, a facility where cyanide briquettes are transferred from Intermediate Bulk Containers to Isotainers, or where liquid cyanide is transferred from rail cars to bulk tankers.

**Sales Agent:** An entity that offers cyanide for sale, but which does not produce cyanide.

**Self Insurance or Self Guarantee:** A method of financial assurance where an operation demonstrates that it or its parent signatory company has sufficient financial strength to implement and complete activities for decommissioning of cyanide facilities included in its decommissioning or closure plan.

**Signatory:** A mining company or operation using cyanide for gold and/or silver recovery, a manufacturer of cyanide destined for use in gold or silver recovery, or a transporter of cyanide used in gold or silver recovery, or the parent corporation of such companies, that has committed to follow the Code and has paid the required fees established by the International Cyanide Management Institute.

**Significant Cyanide Incident:** Significant cyanide events are considered to include the following confirmed events:

- a) Human exposure that requires an action by an emergency response team, such as decontamination or treatment. ;
- b) An unpermitted release which enters natural surface waters, on or off-site;
- c) An unpermitted release that occurs off-site or migrates off-site;
- d) An onsite release requiring action by an emergency response team;
- e) A transport incident requiring emergency response for cyanide release;
- f) Events of multiple wildlife fatalities where cyanide is known or believed to be the cause of death; and
- g) Theft of cyanide.



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**Silver Mine, Silver Mining, Silver Mining Operation:** A facility or activity using cyanide to leach silver from ore, including a facility or activity where cyanide is used as a flotation reagent to separate silver-bearing material from other metal-bearing material, providing that flotation is co-located with a facility where cyanide is used to leach silver from ore.

**Stakeholder:** An individual or group with interest in the cyanide-related activities of a mine (or cyanide manufacturer or cyanide transporter) or who are or may reasonably be affected by such activities. The term is applied differently depending on the specific nature of the issue to be addressed, and its application may require considerable flexibility and judgment. For purposes of implementing the Code and complying with its Principles and Practices, it is not necessary for an operation to identify and involve every possible individual who may be interested in its activities.

**Substantial Compliance:** The certification status of an operation that is not in full compliance with the Code but (1) has made a good-faith effort to comply with the Code and (2) has deficiencies identified by the auditor that (a) can be readily corrected (i.e., within one year) and (b) do not present an immediate or substantial risk to employee or community safety, health or the environment.

**Summary Audit Report:** An audit report submitted to ICMI providing the auditor's findings regarding the operation's compliance with the Cyanide Code and with each Standard of Practice, Production Practice or Transport Practice and including summaries of the evidence supporting the findings.

**Supply Chain:** Transportation, warehousing and distribution operations and activities involved in transporting cyanide from its point of manufacture to a destination point such as a mining operation, port, or warehouse.

**Surface Water(s):** Any natural water body occurring on the earth's surface, including but not limited to rivers, creeks, streams, lakes, marshes, and marine waters.

**Tailing Storage Facility:** An impoundment used to place mill effluent containing the leached ore in a water slurry that may contain cyanide. The solids remain in the tailings storage facility for disposal and the water may be recycled back to the mill for reuse or may be treated and discharged.

**Thiocyanate:** A chemical species,  $\text{SCN}^-$ , derived from a reaction of cyanide with sulfur species.

**Third Party:** An individual or company not under the ownership or control of an Operation or its parent corporation.

**Total Cyanide:** A measurement of cyanide concentration that includes all free cyanide, all WAD cyanide complexes and all strong metal cyanides including ferro-cyanide  $\text{Fe}(\text{CN})_6^{-4}$ , ferri-cyanide  $\text{Fe}(\text{CN})_6^{-3}$ , and portions of hexacyano cobaltate  $\text{Co}(\text{CN})_6^{-3}$  and those of gold and platinum. Only the related or derived compounds cyanate ( $\text{CNO}^-$ ) and thiocyanate ( $\text{SCN}^-$ ) are excluded from the definition of total cyanide.



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**Transporter:** An entity that carries cyanide along a route or portion thereof from its point of production to a certified gold or silver mine or processing facility or which arranges for and oversees such transport.

**Verification Protocol:** A set of questions to be used by a third-party auditor during a Code Certification Audit to determine compliance with the Code.

**Weak Acid Dissociable (WAD) Cyanide:** Those cyanide species liberated at moderate pH (pH 4.5) such as aqueous HCN and  $\text{CN}^-$ , the majority of Cu, Cd, Ni, Zn, Ag complexes and other metal cyanide complexes having similar low dissociation constants.

**Warehouse:** A facility where unopened containers of solid cyanide, such as in Intermediate Bulk Containers or drums, are stored pending distribution to gold or silver mines. Under the Code, a warehouse storing cyanide for use at a certified gold or silver mine is a production facility, and must be audited for certification either as an individual Code signatory or as part of a consignor/transporter's supply chain using the [Cyanide Production Verification Protocol](#). For purposes of the Code, a facility for storage of cyanide at a mine is not considered to be a warehouse and is audited for certification using the [Mining Operations Verification Protocol](#).



# DEFINITIONS AND ACRONYMS

## ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
APELL	Awareness and Preparedness for Emergencies at Local Level
BS	British Standards
CAP	Corrective Action Plan
CEFIC	European Chemical Industry Council
CFR	United States Code of Federal Regulations
CIC	Carbon-in-Column
CIL	Carbon-in-Leach
CIP	Carbon-in-Pulp
DMAP	4-dimethylaminophenol (a cyanide antidote)
ECOSOC	United Nations Economic and Social Council
EMAS	Eco-Management & Audit Scheme
HAZOP	Hazard and Operability Study
HDPE	High-Density Polyethylene
IBC	Intermediate Bulk Container
ICMC	International Cyanide Management Code
ICMI	International Cyanide Management Institute
ICOLD	International Commission on Large Dams
ISO	International Standards Organization
LDPE	Low-Density Polyethylene
LQL	Lower Quantification Limit
NGO	Non-Governmental Organization
OECD	Organization for Economic Cooperation and Development
PPM	Parts per Million
QA/QC	Quality Assurance / Quality Control



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SDS	Safety Data Sheet
TSF	Tailings Storage Facility
UNEP	United Nations Environment Programme
WAD	Weak Acid Dissociable

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