



**ICMI International Cyanide Management Code
Summary Audit Report**

**Quality Carriers
Re-Certification Audit**

**Submitted to:
The International Cyanide Management Institute
1400 I Street, NW – Suite 550
Washington, DC 20005
USA**

2019 Audit Cycle



Quality Carriers - Carlin Terminal Operational Summary

Company Names & Contact Information

Name and address of Operation:	Quality Carriers, L.L.C. Carlin Sodium Cyanide Terminal 3 mi. E. of Carlin, Old Hwy 40 Carlin, NV 89822
Name and contact information for Quality Carriers:	Cynthia Harvey, CSP, CHMM QC Distribution, Inc. Director of Safety/Responsible Care Coordinator charvey@qualitydistribution.com

Operational Overview

Quality Carriers (QC) is a member of the Quality Distribution family of companies. Quality Distribution is made up of a network of more than 100 company-owned and affiliate terminals and facilities in locations throughout the U.S., Canada and Mexico. QC has operated in the US since 1932.

QC headquarters is located in Tampa, Florida. Headquarter operations include the central management of all documentation, records, training, driver qualification, equipment management, and emergency response planning. The corporate Director of Safety participated fully in the Carlin audit. Records from corporate operations and activities were included in the audit. The Carlin Terminal was the only operation within scope of this re-certification audit. In addition to corporate personnel, the Carlin Terminal Manager, Mechanic, Dispatcher, and Drivers were audited.

The Quality Carriers sodium cyanide terminal in Carlin, Nevada is a dedicated cyanide transporter for Chemours at this location. In Carlin, Quality Carriers occupies approximately 7 acres of a site that adjoins a sodium cyanide packaging operation that was certified to the International Cyanide Management Institute (ICMI) Cyanide Code in mid-2006 and re-certified every three years since. Cyanide loading and packaging takes place at the packaging operation and was audited during the aforementioned certification process.

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Signature of Lead Auditor

October 7, 2019
Date

Sodium Cyanide that is loaded by the adjoining packaging facility is delivered by Quality Carriers to gold mining operations in the Rocky Mountain region and in western North America (including Canada). Cyanide is transported to the mines in either solution tankers (30% solution) or ISO tanks (solid). The terminal has been providing transportation services from the Chemours's Carlin sodium cyanide packaging operation since 1989.

Quality Carriers is responsible for route determination, shipment scheduling and tracking, inventory control, truck inspections, preventive maintenance, training, safety program management, and emergency response planning. The sodium cyanide is transported in bulk cargo tanks.

Audit Implementation

This report contains information regarding the on-site International Cyanide Management Code (ICMC) re-certification audit of the Quality Carriers – Carlin Terminal operations. The Quality Carriers Carlin Terminal is a terminal that is dedicated to the transport of sodium cyanide for Chemours.

The audit was conducted on August 7-8, 2019. Interviews were conducted with Quality Carriers personnel, policies and procedures were reviewed, records were evaluated, operations were observed, and equipment and facilities were inspected. Records from the re-certification period (2017-2019) were evaluated.

The audit was conducted according to the ICMI Cyanide Transportation Protocol. The audit was performed by an independent third-party auditor who was pre-approved by the ICMI as a Lead Auditor for all types of International Cyanide Management Code (ICMC) audits and as a technical expert for ICMC audits of cyanide transportation and production operations.

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Auditor's Finding and Attestation

Cyanide management practices for the Quality Carriers – Carlin Terminal were evaluated for ICMC compliance using the *ICMI Cyanide Transportation Protocol*. Quality Carriers internal policies, standards, and procedures, regarding the management of the Cyanide Transportation were reviewed. Records from the re-certification period (2017-2019) were also evaluated and found to be acceptable during this audit.

The audit was conducted through discussions and interviews with Quality Carriers personnel. Operations, facilities, and equipment were physically evaluated. Records regarding shipment tracking, security measures, shipping documentation, community involvement, operational procedures, training, maintenance, and emergency response records were randomly sampled during the audit and were also found to be acceptable. All personnel were very well prepared for the audit. The auditor found that the overall level of preparedness and understanding of ICMC requirements was excellent.

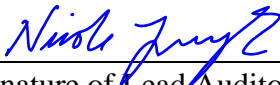
There were no spills or exposure events during the recertification period.

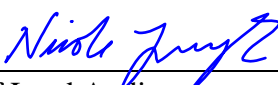
The Quality Carriers - Carlin sodium cyanide transportation operations were found to be in FULL COMPLIANCE with the ICMI International Cyanide Management Code requirements.

Audit Company:	MSS Code Certification Service www.mss-team.com
Lead / Technical Auditor:	Nicole Jurczyk E-mail: CodeAudits@mss-team.com
Date(s) of Audit:	<u>August 7-8, 2019</u>

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Certification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Certification Auditors.

I attest that the Audit Reports accurately describe the findings of the re-certification audit. I further attest that the re-certification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Cyanide Transportation Operations and using standard and accepted practices for health, safety and environmental audits.

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Audit Results - Cyanide Transportation Verification Protocol

1. TRANSPORT: ***Transport cyanide in a manner that minimizes the potential for accidents and releases.***

Transport Practice 1.1: *Select cyanide transport routes to minimize the potential for accidents and releases.*

The operation is in full compliance with
 in substantial compliance with Transport Practice 1.1
 not in compliance with

Summarize the basis for this Finding:

Quality Carriers to use a formal documented routing selection method that takes into account population density, infrastructure, pitch & grade, proximity to water bodies, and prevalence and likelihood of poor weather and resulting poor driving conditions. The Quality Carriers cyanide truck route assessment procedure was reviewed during the audit. Records and interviews with the drivers, Terminal Manager, and Corporate Safety Director were used to confirm that all necessary considerations were made during the determination of all cyanide transportation routes.

Community input regarding the transport of cyanide is gathered through the use of the U.S. Department of Transportation (DOT) web site that indicates whether communities have restricted use of specific roadways for the transportation of hazardous materials. Interviews also demonstrated that individual community and/or specific road hazard information was discussed with the Terminal Manager and was incorporated into the driver instructions for the routes (e.g., acceptable overnight parking location, or timing of travel through areas).

Specific risk and risk mitigation measures are detailed in the Route Risk Assessment documents that are maintained for each approved route. The Terminal Manager and the Corporate Director of Security re-evaluate the routes at least every three years, or as necessary. Driver feedback is incorporated into the review process. One risk mitigation measure implemented by Quality Carriers is the use of a robust satellite tracking system that has been installed on all its transport vehicles. The tracking and communication system has helped Quality Carriers to reduce risk, especially along remote, long distance routes and urban areas.

Records were available to demonstrate that procedures were consistently followed during the recertification period (2017-2019). The most recent review of all cyanide trucking routes used by Quality Carriers was in 2019. Records were found to be complete and well-organized. Quality Carriers is a registered hazardous materials transporter through the U.S. DOT Pipelines and

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Hazardous Material Safety Administration (PHMSA). As such, fees paid by the company are partially allocated to the training of a national emergency response network. Quality Carriers does work together with its customers to ensure that emergency responder roles are understood. Additionally, drivers carry emergency response information with them, including the widely accepted North American Emergency Response Guidebook (ERG). Quality Carriers does not subcontract any portion of their cyanide transportation operations. ICMC requirements pertaining to subcontractors are, therefore, not applicable to the organization.

Transport Practice 1.2: *Ensure that personnel operating cyanide handling and transport equipment can perform their jobs with minimum risk to communities and the environment.*

The operation is in full compliance with
 in substantial compliance with Transport Practice 1.2
 not in compliance with

Summarize the basis for this Finding:

All QC drivers must have a U.S. DOT Class A Commercial Driver’s License (CDL), be at least a certain age, have a hazmat and tanker endorsement, and have at least one year of Class A driving experience. Extensive hands-on training with testing is also given by the terminal for each route driven. Training records from the recertification period were sampled. Records were complete and readily available for all drivers.

Annual Mine Safety and Health Administration (MSHA) training is also given to each driver as part of the authorization process for driving unattended on mine sites. Drivers were interviewed and were found to have an excellent level of knowledge and safety awareness.

In addition to training required by law, internal training is given at defined intervals to ensure that all personnel operating and handling cyanide transportation equipment is trained in a manner that minimizes the potential for cyanide releases and exposures. The training is carried out using videos, computer-based training, and classroom sessions.

Transport Practice 1.3: *Ensure that transport equipment is suitable for the cyanide shipment.*

The operation is in full compliance with Transport Practice 1.3
 in substantial compliance with
 not in compliance with

Summarize the basis for this Finding:

All Quality Carriers tractors and trailers, as well as Chemours cargo tank trailers and ISO tanks at Carlin have been checked and all are rated for weights that exceed maximum loaded weights. Standard loads are shipped, and cargo is weighed as it is loaded at the Chemours terminal which is co-located on the same property.

Quality Carriers transports cyanide using equipment designed by U.S. manufacturer engineers to meet U.S. DOT weight rating standards. Gross Vehicle Weight Rating (GVWR) is certified by the manufacturer and documented on each vehicle with a label. Equipment labels were reviewed during the audit.

Truck inspections and preventive maintenance actions are performed regularly to ensure that the equipment is safe to operate and that it can continue to carry the loads for which is it designated. The terminal maintains a robust fleet maintenance program that incorporates standardized shop work practices. Defined checklists showing all necessary maintenance activities are used and records were available to demonstrate that equipment is appropriately maintained.

Office personnel and drivers all showed excellent awareness of weight capacities and regulatory requirements pertaining to maximum truck weight allowed in each State. A review of shipping records from the recertification period confirmed that the axle and gross weights were compliant with requirements and that the equipment is capable of transporting the loads.

Transport Practice 1.4: *Develop and implement a safety program for transport of cyanide.*

The operation is in full compliance with Transport Practice 1.4
 in substantial compliance with
 not in compliance with

Summarize the basis for this Finding:

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Tank trailers and ISO tanks are inspected after loading and before starting a trip to ensure product is properly secured and all lines, valves and caps are closed. Appropriate placards are displayed on all four sides of the transport vehicles. Pre-defined checklists showing the required maintenance tasks are used to record actions. The incoming and outgoing condition of the equipment is recorded on the checklists and associated repair orders.

The Safety Program includes limitations on drivers' hours in accordance with Federal Motor Carrier Safety Regulations (FMCSR). Through the Driver Fatigue Management Program, drivers are informed of legal requirements, encouraged to stop driving if they become too tired (empowerment), provided with fatigue training, and monitored monthly for adherence to driving hour limitations through spot checks done at the terminal and monthly audits performed by an external company.

The Safety Manual and QC procedures detail how drivers are empowered and directed to pull over whenever weather, fatigue or other conditions are unsafe to continue trip. A drug abuse prevention program is established and computer-based annual refresher training is part of the internal required training. Safety Program records for the recertification period were reviewed and were very well maintained. Compliance with Cyanide Code requirements was demonstrated.

Transport Practice 1.5: *Follow international standards for transportation of cyanide by sea and air.*

The operation is in full compliance with Transport Practice 1.5
 in substantial compliance with
 not in compliance with

Summarize the basis for this Finding:

Quality Carriers does not ship cyanide by sea or by air. This section of the ICMI Cyanide Code does not apply to the operation.

Transport Practice 1.6: *Track cyanide shipments to prevent losses during transport.*

The operation is in full compliance with Transport Practice 1.6
 in substantial compliance with
 not in compliance with

Summarize the basis for this Finding:

Quality Carriers has installed and implemented a robust satellite-based communication and tracking system on all its transport vehicles. This system provides constant real-time recording and communication of information between drivers and the Carlin Terminal. All drivers have been trained on this on-board recording, messaging and locator system. The auditor observed the system in use by the Terminal Manager to monitor drivers through remote areas and over long distances. A driver also demonstrated the communication features on his vehicle. The shipment tracking and two-way communication technology used for these shipments is state-of-the-art and Quality Carriers practices in this area demonstrated compliance with ICMC requirements.

The satellite-based communication and tracking system is in constant use and problems with equipment would be readily apparent to an on-shift driver as well as Carlin Terminal contacts. A demonstration of real-time tracking capability was observed during the audit. The system is used each day and correct operation of the system is confirmed at that time. Problems with the equipment would become readily apparent. CB radios are confirmed to be functional during the pre-trip inspections. This was found to be acceptable by the auditor.

Detailed shipping documentation, signatures showing receipt of the materials, driver call-in procedures, and GPS tracking systems are used to ensure that the amounts of cyanide in each shipment and the actual movements of the load are tracked at all times.

Drivers have multiple methods of communication and there are no significant black out areas along any of the routes traveled. Material management practices were found to be appropriate. Safety Data Sheets are shipped with every shipment. Additionally, each driver has detailed information with him or her at all times regarding cyanide hazards and emergency response. Records and interviews confirmed that Quality Carriers has appropriate control over the chain of custody and tracking of cyanide shipments.

2. INTERIM STORAGE: *Design, construct and operate cyanide trans-shipping depots and interim storage sites to prevent releases and exposures.*

Transport Practice 2.1: *Store cyanide in a manner that minimizes the potential for accidental releases.*

The operation is in full compliance with in substantial compliance with not in compliance with Transport Practice 2.1

Summarize the basis for this Finding:

Storage at the Quality Carriers site is limited to pre-shipment storage in trailers prior to a delivery. The length of time that loaded trailers are parked on the yard is typically less than a day. All vehicles are parked within a secure perimeter fence. Additionally, the site is secured through the use of multiple security measures including cameras and alarm systems.

There are signs that warn people not to come on-site. Visual contact is maintained with all visitors after they enter the gate. Once they reach the office, they are escorted at all times. Several different systems are used to secure the vehicles while they are parked and when they are in transit. The transportation equipment is designed to securely contain the contents. A checklist is used by the packaging facility to confirm that the secondary containment on the cargo tank is secure. Loading of cyanide is done within secondary containment at the adjoining packaging operation. No other materials or chemicals are stored at this location and there is no storage within any buildings.

All vehicles are placarded to indicate the contents of the vessels. Cyanide signs are not specifically posted at the site, due to security concerns. A sign that prohibits smoking, open flames, eating and drinking is posted in the interim storage area. PPE requirements for personnel are detailed in the procedures. This was accepted by the auditor.

The closest surface water body to the Carlin terminal is located approximately 200 yards. Rain in the area is minimal. The transportation equipment is designed to securely contain the contents. All openings into the tankers are at the top only. Cyanide is not stored under roof, but it is stored off the ground. Procedures and check off sheets from the packaging facility were reviewed to confirm that the proper securement and closing of vessels is confirmed prior to bringing them to the interim storage area. The interim storage yard is gravel and daily yard inspections are done to confirm that there are no leaks from the equipment. The controls in place at the interim storage location were found to be acceptable by the auditor.

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There is no storage of cyanide within a building. Therefore, there is no possibility for build-up of hydrogen cyanide gas within a structure. Cargo tanks have vent valves. This was deemed to be sufficient.

3. EMERGENCY RESPONSE: *Protect communities and the environment through the development of emergency response strategies and capabilities*

Transport Practice 3.1: *Prepare detailed emergency response plans for potential cyanide releases.*

The operation is in full compliance with
 in substantial compliance with Transport Practice 3.1
 not in compliance with

Summarize the basis for this Finding:

Quality Carriers has a detailed emergency response plan for the corporation (Emergency and Oil Spill Response Plan (RM0010, version 12) and a 23-page Carlin Cyanide-Specific Emergency Response Plan (ERP). The Carlin ERP was last revised in 2019. Both documents were reviewed and were found to be appropriate. Records were available to show that the ERP was reviewed for adequacy at defined intervals and that several updates have been processed since the previous ICMC audit in 2016. The emergency plans were found to be up-to-date and accurate.

Drivers have the following information with them at all times: the Carlin ERP, emergency response fact sheets from Chemours, Safety Data Sheet (SDS), and the North American Emergency Response Guidebook (ERG). Quality Carriers only transports cyanide via truck. Different chemical and physical forms of cyanide, roadway infrastructure differences, and the roles of the different emergency responders are discussed in the plans.

As part of its response plans, Quality Carriers maintains a contract with a professional emergency response company. This company, together with technical guidance from Chemours, would be responsible for addressing issues involving the way in which the structure of the vessel should be managed after an emergency. The auditor considered this a reasonable response.

The roles of internal personnel and external responders are clearly defined in the Quality Carriers emergency response documentation. The Carlin ERP and Chemours emergency response fact sheet were both found to be appropriate for the operation.

Records were available to show that the ERP was reviewed for adequacy at defined intervals and that several updates have been processed since the previous ICMC audit in 2016. The emergency plans were found to current with 2019 revisions dates. The information was found to be accurate.

Transport Practice 3.2: Designate appropriate response personnel and commit necessary resources for emergency response.

The operation is in full compliance with
 in substantial compliance with Transport Practice 3.2
 not in compliance with

Summarize the basis for this Finding:

Training on the emergency response plan was given to all employees. Training is refreshed annually, and testing is done to confirm understanding. Records from the re-certification period were found to be complete, well-organized, and compliant with ICMC and internal requirements.

Drivers were interviewed and awareness of emergency procedures and documentation was excellent. The roles and responsibilities of the driver, Carlin Terminal personnel, local terminal supervisor, emergency response contractor, and the corporate office personnel are described clearly in the Carlin ERP.

Quality Carriers maintains a list of the emergency equipment that is to be maintained on the trucks at all times. Drivers confirm that emergency equipment is available for use and is in good working order during their pre-trip inspections. Records, as well as auditor inspection of emergency equipment, and the results of driver interviews confirmed that emergency equipment is appropriately maintained on each of the cyanide transport vehicles and that drivers clearly understand their responsibilities in this area.

Transport Practice 3.3: *Develop procedures for internal and external emergency notification and reporting.*

The operation is in full compliance with Transport Practice 3.3
 in substantial compliance with
 not in compliance with

Summarize the basis for this Finding:

Notification procedures are described in detail within the Carlin Emergency Response Plan (ERP). The notification requirements of the driver, local terminal manager, and corporate safety personnel are defined. Drills are run annually to practice the notification procedures. The notification call numbers are checked for accuracy at least once per year when the plan is reviewed and tested. The Chemours Cyanide Hotline offers support in determining further notification needs. The corporate group for Quality Carriers manages all regulatory notifications following an emergency or release. The phone numbers for the Chemours Cyanide Hotline, for the corporate group, and for ERTS (emergency response contractor) are in the Carlin ERP.

Transport Practice 3.4: *Develop procedures for remediation of releases that recognize the additional hazards of cyanide treatment chemicals.*

The operation is in full compliance with Transport Practice 3.4
 in substantial compliance with
 not in compliance with

Summarize the basis for this Finding:

In the event of a spill, Quality Carriers would coordinate with ERTS to ensure appropriate clean up and remediation of contaminated solids or soils. Chemours personnel are available for additional technical expertise, as necessary. Chemours maintains detailed remediation procedures for solid and liquid spills. This was confirmed during the 2019 audit of Chemours. Remediation of soils is not addressed specifically in the Quality Carriers documentation, but this was found to be acceptable by the auditor.

The Quality Carriers Carlin Emergency Response Plan (ERP) does address the requirement that none of the chemicals such as sodium hypochlorite, ferrous sulfate, or hydrogen peroxide be used to treat a release to surface water.

Transport Practice 3.5: *Periodically evaluate response procedures and capabilities and revise them as needed.*

The operation is in full compliance with
 in substantial compliance with Transport Practice 3.5
 not in compliance with

Summarize the basis for this Finding:

The Carlin Emergency Response Plan (ERP), including emergency call numbers, is reviewed and tested on at least an annual basis. An ERP refresher training is also given annually. A combination of hands-on emergency response practice drills, security drills, drills with mine sites, and table top drills are used to train personnel and confirm that emergency plans are appropriate and up-to-date.

Drills with mine sites practice emergency response to a potential human exposure scenario. QC also tests scenarios involving a possible spill. The Emergency Response Plan's performance is reviewed after actual emergencies and after the annual drill. Changes are made to the plan, as needed. Emergency drill critiques were available for the annual drills held during the recertification period (2017-2019). Evidence was available that the emergency plans were evaluated after drills and that changes deemed necessary were appropriately processed.