
**ICMI Cyanide Code Transportation Re-Certification
Audit**

SUMMARY AUDIT REPORT

Sentinel Sodium Cyanide Transportation Operations

Audit Dates: October 10-11, 2012

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



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SUMMARY AUDIT REPORT

Name of Cyanide

Production Operation: Sentinel Transportation, L.L.C. – Carlin Sodium Cyanide Terminal (Carlin, NV)

Names of Facility

Owners: Sentinel Transportation, L.L.C.

Names of Facility

Operators: Sentinel Transportation, L.L.C.

Kelly Carter – Terminal Supervisor
Sentinel Transportation, L.L.C.
3 miles east of Carlin on old Highway 40

Names and Addresses of Responsible Managers:

Carlin, NV 89822 USA
Tel. (775) 754-6046
Fax. (775) 754-2275
Email: k.Carte@sentineltrans.com

Location detail and description of operation:

This audit was a Cyanide Code re-certification audit for Sentinel Transportation, L.L.C. Sentinel is a hazardous material bulk trucking company that has operated in the US and Canada for over 50 years. The Sentinel sodium cyanide operation is located in Carlin, Nevada, and is part of the overall DuPont sodium cyanide transportation supply chain. The terminal is one of 45 Sentinel truck terminals located across the US. In Carlin, Sentinel occupies approximately 7 acres of a site that adjoins a sodium cyanide packaging operation that was certified to the ICMI Cyanide Code in mid-2006 and re-certified in 2009 using the Cyanide Production Protocol. Cyanide loading and packaging takes place at the packaging operation and was audited during the aforementioned certification process.

Sentinel headquarters is located in Wilmington, Delaware. Although only the Carlin terminal was within scope of the audit, upper level Sentinel management is very involved with the operation of the terminal. In addition to the nine Carlin Terminal employees, the U.S. Safety Manager and the Regional Operations Manager were audited in order to confirm conformance to Cyanide Code requirements. The Carlin employees include a Terminal Manager, a mechanic, and drivers. The DuPont Product Stewardship representative also participated as an information resource in this audit.

Sodium Cyanide that is loaded by the adjoining DuPont packaging company is delivered by Sentinel to gold mining operations in the Rocky Mountain region and in western North America (including Canada). Sentinel has been the carrier providing this service from DuPont’s Carlin sodium cyanide packaging operation since 1989.

Sentinel 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 and semi-bulk metal bins to mine sites. The Carlin terminal is only used for the shipping of sodium cyanide.

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Auditor's Finding

This operation is

- in full compliance
- in substantial compliance *(see below)
- not in compliance

with the International Cyanide Management Code.

This operation has not experienced any cyanide incidents or compliance problems during the previous three-year audit cycle.

Audit Company:	CN Auditing Group, Inc. www.cnauditing.com
Lead & Technical Auditor:	Marie Dunkle E-mail: mdunkle@cnauditing.com
Date(s) of Audit:	October 10-11, 2012

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification 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 Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification 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.

Signature of Lead Auditor

Sentinel Sodium Cyanide Transportation Operation		December 20, 2012
www.cnauditing.com	Marie Dunkle	Date



SUMMARY AUDIT REPORT

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/Deficiencies Identified:

Sentinel continues to use a 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. Records and interviews with the drivers, Terminal and Regional management and customer were used to confirm that all necessary considerations were made during the determination of all cyanide transportation routes. Records were available to demonstrate that procedures have been consistently followed and updated since the original certification in 2006. 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 with the Terminal Supervisor demonstrated he is informed of individual community and/or specific road hazard information and this information is incorporated into the driver instructions for the routes (e.g., acceptable overnight parking location, or timing of travel through areas).

Truck routes are reviewed by multiple levels of the organization on an annual basis and records showed that this was most recently done in September 2012. Sentinel is a registered hazardous materials transporter through the U.S. DOT Pipelines and Hazardous Material Safety Administration (PHMSA). As such, fees paid by the company are partially allocated to the training of a national emergency response network. Sentinel does work together with its customers to ensure that emergency responder roles are understood. Additionally, drivers carry emergency response information with them, including route specific information and the widely accepted North American Emergency Response Guidebook (ERG). Sentinel does not subcontract any portion of their cyanide transportation operations. Cyanide Code requirements pertaining to subcontractors are, therefore, not applicable to the organization.

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

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

Summarize the basis for this Finding/Deficiencies Identified:

Sentinel does not ship cyanide by sea or by air. This section of the 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
 in substantial compliance with Transport Practice 1.6
 not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Cyanide shipments and inventories were found to be tracked appropriately. Sentinel has installed and implemented a robust satellite based communication and tracking system on all its transport vehicles. This system is called PeopleNet and 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 Dispatcher to monitor and track progress of drivers through remote areas and over long distances.

Detailed shipping documentation, signatures showing receipt of the materials, driver call-in procedures, and PeopleNet tracking system 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. Material Safety Data Sheets are shipped with every shipment. Additionally, each driver has detailed information with him at all times regarding cyanide hazards and emergency response. Records and interviews confirmed that Sentinel has appropriate control over the movement of the cyanide shipments.

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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 Transport Practice 2.1
not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Storage at the Sentinel site is limited to pre-shipment storage in trailers prior to a delivery. 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 adjacent DuPont 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.

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/Deficiencies Identified:

Sentinel Transportation, LLC has a detailed emergency response plan (ERP) for the corporation and a Carlin Terminal addendum that addresses all of the additional requirements for the transportation of cyanide. Both documents were reviewed in detail and were found to be appropriate. Records were available to show that the ERP was reviewed for adequacy, not significantly revised and reissued in May 2012. Drivers have the following information with

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

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

Summarize the basis for this Finding/Deficiencies Identified:

The notification procedures are described in detail within the Emergency Response Plan (ERP) Addendum and the Manager's checklist. During the emergency, the notification actions of the driver, local manager, regional, and national safety managers are detailed in the ERP, documented on response checklist and are practiced once per year. The notification call list is checked for accuracy once per year when the plan is reviewed and tested. The DuPont Cyanide Hotline offers much support in determining further notification needs. CURA is a service provider that is contracted by Sentinel to manage all regulatory notifications following an emergency or release. The phone numbers for the DuPont Cyanide Hotline and for CURA are both part of the ERP Addendum. The ERP and Addendum are reviewed annually and were last tested in November 2011. During these activity tests, the phone numbers are checked for accuracy.

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
 in substantial compliance with Transport Practice 3.4
 not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Remediation of a spill would be managed by an emergency response service provider named CURA. The cyanide experts at the DuPont Cyanide Hotline would coordinate with CURA to ensure appropriate clean up and remediation of contaminated solids or soils. Remediation of soils is, therefore, not addressed specifically in the Sentinel documentation. The Emergency Response Plan (ERP) Addendum, however, 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. The ERP Addendum statement reads as follows: "If any sodium cyanide briquettes or runoff reaches surface water, no chemical neutralization will be attempted during remediation that involves the introduction of sodium hypochlorite, ferrous sulfate and hydrogen peroxide into the contaminated water". Responsible personnel interviewed understand these requirements.

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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/Deficiencies Identified:

The Emergency Response Plan (ERP) including the Carlin Terminal Addendum and the notification call list are reviewed and / or tested on an annual basis. ERP refresher training is also given annually. The last drill conducted was done in 2011 in coordination with a mine site, offsite response organizations and the DuPont Carlin Transload Terminal. Evidence was available to show that the ERP is being reviewed and updated with appropriate frequency. The telephone numbers on the call list were reviewed and checked for accuracy during the audit. The Emergency Response Plan's performance is reviewed after actual emergencies and after drills. Changes are made to the plan, as needed. Pages 16 and 17 of the ERP are used to critique the drill and/or execution of the plan in the case of an actual emergency. The auditor confirmed that the ERP undergoes regular revisions and reviews.

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