

Excellence Freights

Cyanide Code Transportation Verification Audit

September 2017 Project 0385364



Excellence Freights

Cyanide Code Transportation Verification Audit

Summary Audit Report

PROJECT No. 0385364

SEPTEMBER 2017

Juan Carlos Rangel Lopez Lead Auditor



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1. GENERAL SUMMARY

1.1. INFORMATION ON THE AUDITED OPERATION

Name of Cyanide Transportation Facility: Excellence Freights S.A.

Name of Facility Owner: <u>Excellence Freights S.A.</u> Name of Facility Operator: <u>Excellence Freights S.A.</u>

Name of Responsible Manager: Noel Reyes Baldomero Address: Claveles #14, Col. Bello Horizonte, Tultitlan 54948 State/Province: <u>State of Mexico</u> Country: <u>Mexico</u>

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Location detail and description of operation:

Excellence Freights S.A. (Excellence Freights) is a company specialized in the transport and storage of hazardous materials. Excellence Freights also provides sodium cyanide transportation services in Mexico.

Excellence Freights currently operates one ground transport route in Mexico; however, it has the procedures in place to integrate new routes as their business grows. Cyanide is handled in solid state in sea containers. There are no interim storage facilities in the routes operated by Excellence Freights.

This audit comprises the ground transportation operations from the moment the production facility or the port places the container on the trailer to its delivery at the destination.

Cyanide is received from the manufacturer or consigner in either of the following packaging presentations.

• Sea container: transporting 20 IBC of 1000 kg each one, the exact number of boxes placed in each container serves to prevent lateral movement of the boxes within the container.

Excellence Freight units also have capacity to handle iso-tanks. The containers are received locked and tagged. These tags are removed only at the destination site. Excellence Freights does not subcontract any transport operation. Excellence Freights has designated a group of drivers for the cyanide transport operations and has established a procedure to hire/designate personnel for these activities.

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1.2. OVERALL AUDITOR'S FINDINGS

This operation is

Date(s) of Audit: 15 February 2017

√ □ □	in full compliance in substantial compliance *(see below) not in compliance
* with th	e International Cyanide Management Code.
Audit Co	ompany: ERM Mexico, S. A. de C. V.
	eam Leader: <u>Juan Carlos Rangel Lopez</u> E-mail:
iuancarlo	os.rangel@erm.com

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.

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- 2. SUMMARY REPORT
- 2.1. TRANSPORT PRACTICE 1. TRANSPORT CYANIDE IN A MANNER THAT MINIMIZES THE POTENTIAL FOR ACCIDENTS AND RELEASES.
- 2.1.1. Transport Practice 1.1: Select cyanide transport routes to minimize the potential for accidents and releases.

This operation is

- $\sqrt{}$ in full compliance
- □ in substantial compliance with Transport Practice 1.1
- □ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

Excellence Freights has developed the procedure PAC-916 "Routes Identification, Assessment and Selection" (herein after the Route Assessment Procedure) Rev. 2 Dated 9 June 2016.

The route selection is coordinated with the client and, when possible, an alternative route is identified. The route is assessed by identifying risk related to:

- Robbery
- Population density
- Physical conditions of the road
- Slopes, curves, bridges, tunnels, intersections
- Urban areas
- Water bodies (rivers, lakes, lagoons, wetlands) and fog zones.
- Available communication means (mobile phone, GPS, etc.)

The procedure requires an inspection of the route (which is video-recorded), then an assessment of the risk identified based on consequence and probability. The risks are classified as low, moderate, and high. All potential routes are assessed (when there is more than one available) and then the route with the lower risks is selected.

The route assessment is valid for one year, with a maximum additional period of three month to complete the new assessment. The initial route assessment was completed in December 2015, and it was reassessed at the end of February 2017.

The results of the assessment for the selected route are recorded in the Risk Assessment Form and communicated to the drivers through an instruction sheet, which includes the risks levels for road conditions, natural hazards, security, water bodies, phone signal, and urban areas for specific road segments. It also includes the maximum driving hours and authorized stops. Additionally, all the

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risk (e.g. potholes, curves, water bodies, etc.) have been uploaded to the GPS tracking system, which has a voice system that alerts the driver. Other records of the route assessment include the inspection project and videos.

2.1.2. 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.

This operation is

√ in full compliand

- □ in substantial compliance with Transport Practice 1.2
- □ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

Excellence Freights does not subcontract any transport operation. Excellence Freights has designated a group of drivers for the cyanide transport operations and has established a procedure to hire/designate personnel for these activities. The procedure states that drivers must be qualified and includes the following requirements:

- Federal Driver License E (drivers for hazardous material transport units);
- Certificate of psycho and physical abilities (issued by the SCT);
- Two years of experience in hazardous materials transport;
- One year of experience in sodium cyanide handling (desirable).

According to the drivers' files reviewed during the audit, these requirements have been complied.

Additionally, Excellence Freights has established a training program for the workers involved in sodium cyanide transport operations. This program includes the following topics:

- Risk prevention in transport;
- Fatigue management in transport;
- Consequences of drug use in drivers;
- Fuel economy in trucks;
- Emergency response in events related to sodium cyanide;
- Defensive driving;
- Speed control;
- Use of personal protective equipment
- Hazardous materials handling and transport; and
- Safety and contingencies in route.

Last trainings were provided in September 2016, prior the first cyanide operation. Reinforcement training was provided on emergency response in November 2016.

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The 2017 training program included these topics but dates were yet to be confirmed. Excellence Freights keeps training records in electronic form.

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

This operation is

 in ful	l compi	liance

- □ in substantial compliance with Transport Practice 1.3
- □ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

Excellence Freights transports cyanide via truck within sea containers. At the time of the audit, Excellence Freights was equipped with three trucks and eight trailer platforms. Specifications were reviewed on-site. The load was verified to be within the bearing limits of the trailer and the hauling limits of the truck (80 ton). The maximum assembly weight is approximately 61.4 ton.

Excellence Freights complies with the Official Mexican Standard NOM-012-SCT-2014, which establishes that the maximum bearing limit is 75 ton.

Additionally, Excellence Freights has the procedure PAC-925 which establishes the maintenance program for the transport units. The procedure states that preventive maintenance is conducted on trucks every 30,000 km (+/11,000 k).

Preventive maintenance includes oil and engine filter changes. Additionally, the procedure establishes a verification list which includes the following items, among others:

- Lights
- Internal lights
- Battery
- Ignition system
- Banners
- Signaling diamonds
- Main chassis components
- Superior structure
- Inferior structure
- Bumpers
- Fuel tank

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Additionally, Excellence Freights has a maintenance program for trailers. This program is conducted every year. This program includes a verification list, which includes:

- Banners
- Signaling diamonds
- Rollerblades
- Superior structures
- Hits or dents
- Bumpers
- 7 way cable connection
- Valve box
- Kingpin and trailer platform conditions
- Hook conditions

Excellence Freights has the procedure PAC-933 which establishes that tires inspection must be conducted on a monthly basis. This includes visual inspection and grooving/tread depth measurement. The procedure states that the minimum grooving depth is 5 mm. The procedure also states that all tires are replaced with new ones.

Each truck is equipped with a trip log. The log includes a visual inspection of the unit (including truck and trailers) according to the NOM-006-SCT2-2011. Operators are required to conduct this inspection daily and to register it in the logbook.

The procedure PAC-931 establishes the requirements for approving maintenance suppliers. This procedure states that the supplier must be direct dealer of the equipment brands to be repaired. A company has been selected according to this procedure. The supplier provides access to confirm that all the operations required by the preventive maintenance program are completed.

Excellence Freights operations do not include the use of forklifts or cranes as their responsibility starts once the container is on their platform.

Records of the truck millage are kept in electronic form by the maintenance team who programs the preventive maintenance for a unit. The maintenance provider issues a work order and Excellence Freight can verify, through a web site, that the established inspections and maintenance is provided to the units.

Excellence Freights has trucks with the capacity to haul two trailers together; the its trailers can only carry one container.

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

This operation is

\checkmark	in full compliance	
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□ in substantial compliance with Transport Practice 1.4

□ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

According to the interviewed personnel, cyanide is handled within containers; these are received locked, tagged and include a safety placard. Excellence Freights personnel are not authorized to open the containers. The ocean containers are filled to their maximum capacity to prevent lateral movement.

For vehicles an inspection checklist is used as part of the driver's daily logbook for all their transport operations. The checklist includes over 50 safety inspection points for the truck and the trailer. This also includes the use of the safety placards, which were observed in compliance with local regulations for hazardous materials transport.

The procedure PAC-925 is the preventive maintenance program used by Excellence Freights.

As a safety matter, the instructions sheet establishes that there must be at least 1 hour of rest per every 2.5-3 hours of driving. These limitations are based on the characteristics of the route and the product. The driving hours are recorded in the driver's daily logbook; no deviations from this policy were identified.

Other risks such as weather conditions are monitored by the GPS monitoring system which reviews weather conditions in the area where this risk has been identified and instruct the driver prior to this area to stop at the designated area or to continue. Information on road blockages is consulted with the highway operators, the police and through social media. When road blockage is reported once the operation has started, the truck wait for clearance (or return when possible) at pre-selected stop points.

There is also an alcohol and drugs prevention policy that prohibits the use or consumption of drugs and alcohol within their facilities, those of their clients, and during the performance of any activity related to the company. Additionally, every year 100% of their operative personnel are tested for drugs consumption. Furthermore, random drugs test are performed to any person accessing to their facilities. Results (drug test) are kept in the clinical files and are also reported to

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the Transport Authority. A form is used for every shipment to record the results of the alcohol test performed prior to each operation.

All of the above mentioned activities are documented by means of the procedure PAC-155 for record control; this establishes that each area establishes the minimum time for the retention of records in file and then in archive. The records related to cyanide code are kept one year on file and 3.5 years in archive.

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

This operation is

√ in	full	compliance	•
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□ in substantial compliance with Transport Practice 1.6

□ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

As previously noted, Excellence Freights only performs ground transportation operations; therefore this practice is not applicable.

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

This operation is

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in substantial compliance with Transport Practice 1.6

□ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

As part of Excellence Freights operations, all trucks are equipped with pagers which enable drivers to communicate with Excellent Freights and their clients. The trucks are also equipped with an internal mobile phone and a hybrid satellite system. Additionally, drivers are provided with mobile phones.

Excellence Freights has developed the procedure PAC-915 to track cyanide shipments. The procedure states the use of the GPS tracking system that enables Excellence Freights to track the location, speed, and stops of the trucks.

Two personnel are designated to track the location of the cyanide shipments. The procedure states that if a stop or route deviation is detected, the monitoring personnel are required to contact the driver through the internal phone or the driver's phone.

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The procedure includes a data base of risky areas, blackout areas, interest sites (i.e. client sites, plants, gas stations, authorized stops). Furthermore, all the information regarding the shipment tracking is saved on a daily basis. Furthermore Excellence Freights has developed the IOT-004T procedure for the inspection/testing of the communication equipment to ensure it functions properly. Inspections are conducted prior to every shipment. The inspection is based on checklist, which includes the following items:

- Panic button
- Engine stop system
- Acceleration stop system
- Pager (keyboard)

The inspection includes detailed steps to verify the proper function of the equipment and systems. In case that malfunctioning is detected, Excellence Freights requires tech support from the equipment manufacturer. It is important to identify blackout areas along transport routes, that is why the PAC-916 procedure has been implemented, according to this procedure blackout areas are identified during the evaluation of a route. According to the available route assessment, all blackout areas are identified, including the estimate time to leave the area. Approximately five km prior to the blackout area, the GPS system notifies the monitoring personnel. The monitoring personnel contact the driver. The driver communicates with the monitoring personnel once the shipment has left the blackout area. Excellence Freights has established a tolerance of 15 minutes to contact the truck after the estimated time to cross the area. If the driver has not communicated after this time, an emergency protocol is activated to locate the shipment; this includes activating the satellite tracking system.

As required by the Official Mexican Standard NOM-004-SCT, a bill of lading is issued by the cyanide supplier which includes the number of the container, the net content, and customer information. Excellence Freights has developed the procedure PAC-914 for the reception and delivery of cyanide. The procedure establishes that the drivers must ensure to review the ladings and to carry them at the unit. The containers are received locked and tagged. These tags are removed only at the destination site.

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- 2.2. INTERIM STORAGE: DESIGN, CONSTRUCT AND OPERATE CYANIDE TRANS-SHIPPING DEPOTS AND INTERIM STORAGE SITES TO PREVENT RELEASES AND EXPOSURES.
- 2.2.1. Transport Practice 2.1: Store cyanide in a manner that minimizes the potential for accidental releases.

This operation is

	in f	ull con	npliance
•	1111	CLI COL	rprimice

- in substantial compliance with Transport Practice 1.6
- \Box not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

Excellence Freights does not operate interim storage facilities; therefore this practice is not applicable.

- 2.3. EMERGENCY RESPONSE: PROTECT COMMUNITIES AND THE ENVIRONMENT THROUGH THE DEVELOPMENT OF EMERGENCY RESPONSE STRATEGIES AND CAPABILITIES.
- 2.3.1. Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases.

This operation is

- $\sqrt{}$ in full compliance
- in substantial compliance with Transport Practice 3.1
- □ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

Excellence Freights has prepared an Emergency Response Plan (Plan Para la Atención de Emergencia en el Transporte de Cianuro) PAC-936 dated August 5, 2016. This Emergency Response Plan includes emergency response instructions for the different scenarios that according to their route assessment could take place at ground transportation. Excellence Freights transports sodium cyanide only in trucks with couplings containers. The scenarios included in the Emergency Response Plan are consistent with this transport modality. This includes specific response instructions for truck crashing with and without product spill involving solid state as well as scenarios where the truck driver is hurt and cannot participate in the emergency response.

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The Emergency Response Plan is based on the route risk assessment which includes the identification of the road conditions and characteristics (steep slopes, curves, bridges, traffic intensity) in different sections of the route.

The main event identified is the potential spillage of cyanide in the ground as a result of a collision or other event that would result in loss of containment. The amount to be spilled is estimated in less than 1 ton. The instructions include monitoring the HCN concentrations with a portable monitor, collecting the spilled material with shovels and place it in drums; in the event of rain covering the material with a plastic canvas. The plan also includes the scenario of spill on water in which case the prohibition of chemicals is included as discussed below as well as monitoring of the cyanide content in water; communication mechanisms with authorities and communities are also included.

The response instructions for the different scenarios were prepared indicating first the position that is responsible for executing that action. The instructions include the responsibilities of the different Excellence Freigths employees as well as those for the Federal Police, Red Cross and the municipal Civil Protection Agencies. Additionally, there is a section that describes the different roles for other external responders including the Mutual Aid Committees (CLAMs for their Spanish name) from Coatzacoalcos and Minatitlan and the client brigade in case they become involved. CLAMs are local industrial organization to support its members in the event of an emergency; Excellence Freights is member of the Coatzacoalcos's CLAM and has made arrangements to receive support from the Minatitlan one as well.

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

This operation is

- $\sqrt{}$ in full compliance
- □ in substantial compliance with Transport Practice 3.2
- □ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

As mentioned in Practice 1.2, the training program includes the following topics: hazardous materials handling, defensive driving, personal protective equipment, and managing of sodium cyanide and related emergencies (spillage and cyanide poisoning), among others.

Additionally, Excellence Freights completed a mock emergency drill in January 2017 and according to their procedures two are completed each year. Personnel trained include drivers, monitoring personnel and operations supervisor. As mentioned in Practice 3.1 the PAC-936 procedure, which establishes the roles and responsibilities of Excellence Freights staff in case of emergency. The interviewed personnel were aware of their roles and responsibilities. Annex 11 of the Emergency Response Plan includes a list of emergency equipment and personal protective equipment to be transported by each truck and that to be transported by the emergency brigade, and comprises the following:

Per truck:

- Safety shoes
- One pair of leather gloves
- One pair of chemical resistant gloves
- Safety glasses
- High visibility best
- Hard hat
- Danger tape
- Dry chemical dust extinguisher
- Shove

Emergency Brigade

- Truck
- 2 Type A suits
- 2 Scuba units with two spare tanks each
- 1 tube for decontamination water recovery
- 2 empty drums

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- 50 kg of lime
- 1 absorbent material kit
- First aid kit
- Wind indicator
- 3 radios

The emergency equipment must be carried by the driver prior to the departure of each vehicle. The inspection is recorded using an inspection form; which is kept in the shipment file. The Emergency Brigade emergency response equipment is inspected on a monthly basis and its completeness was verified during the audit. As mentioned in the Transport Practice 1.2, All vehicle operators receive initial and periodic refreshers of the emergency response procedures by means of a training program provided when the drivers are hired and on a yearly basis.

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

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- $\sqrt{}$ in full compliance
- □ in substantial compliance with Transport Practice 3.3
- □ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

The emergency notification and reporting instructions are included within the Section 6 of the Emergency Response Plan. This plan includes a list of external responders and other organizations that must be notified in case of an emergency, the list includes contact information (Annex 5). The section 10 of the plan states that it must be reviewed at least once per year. The Plan was dated August 2016 and no updates had been required at the time of the audit.

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

This operation is

- $\sqrt{}$ in full compliance
- in substantial compliance with Transport Practice 3.4
- □ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

The Emergency Response Plan includes general instructions for the handling of contents in case of a spill as well as decontamination and neutralization of soil using lime. It also establishes that all debris and waste must be handled as

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hazardous waste. these would be used to collect debris and other contaminated media; this would be collected, transported and disposed of through companies authorized by the Federal Environmental Agency (SEMARNAT).

Section 6.7.8 of the Emergency Response Plan establishes that it is forbidden to use any chemical product including sodium hypochlorite, iron sulfate and hydrogen peroxide in any water body or when there is the potential for these chemicals to reach a water body.

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

This	operation	is

- $\sqrt{}$ in full compliance
- □ in substantial compliance with Transport Practice 3.5
- □ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

Section 10 of the Emergency Response Plan establishes that the plan must be reviewed after every emergency drill and must be assessed through two emergency drills per year (one desk top and one in the field). Based on the drills results the Plan must be modified if needed. It also states that must be reviewed after an actual emergency. No modifications were deemed necessary based on the January 2017 drill report; this was related to a crash with no product spill. Next desktop drill will be conducted in October 2017 and a spill drill will be conducted in November 2017; these scenarios would be related to incidents during the transport operations including intoxicated persons as a result of the incident.

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