INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Cyanide Transportation Summary Audit Report

For the
International Cyanide Management Code

SAM IK LOGISTICS Co., Ltd.

06 December 2016
Summary Audit Report

Name of Cyanide Transportation Facility: SAM IK LOGISTICS Co., Ltd.
Name of Facility Owner: SAM IK LOGISTICS Co., Ltd.
Name of Facility Operator: Yoon Seok Oh / General Manager of Administration Team
Name of Responsible Manager: Yoon Seok Oh / General Manager of Administration Team
Address: 9F, Goryeo Daeyungak Center, 25-5, 1-ga, Chungmuro, Chung-ku,
State/Province: Seoul 100-706  Country: South Korea
Telephone: 82-2-3708-7000  Fax: 82-2-3708-7091  E-Mail: ysoh@samik21.com
Website: www.samik21.com

Location detail and description of operation:

The SAM IK LOGISTICS Co., Ltd. is transportation service provider contracted with sodium cyanide manufacture TongSuh Petrochemical Co., Ltd. Ulsan Plant. The sodium cyanide is produced by TongSuh Petrochemical Co., Ltd. Ulsan Plant and transported to Busan New Port and Busan Port in Korea by SAM IK LOGISTICS Co., Ltd. The SAM IK LOGISTICS Co., Ltd. have transported the sodium cyanide from TongSuh Petrochemical Co., Ltd. Ulsan Plant to Busan New Port and Busan Port by roadway transportation and railway transportation.
The SAM IK LOGISTICS Co., Ltd. was initially ICMC certified during December 2010 year and recertified during 2013 year.
Almost 3 years were elapsed since first recertification, so second recertification audit was conducted during 01 and 02 December 2016 year.
The transportation routes were not changed since 2013 year. However the quantity of transportation to Busan New Port has been increased. The quantity of transportation to Busan Port has been reduced relatively. So the main transportation route is transportation from TongSuh Petrochemical Co., Ltd to Busan New Port.
The distance from TongSuh Petrochemical Co., Ltd. to Busan New Port is about 80 Km and to Busan Port is about 60 Km.
The followings shows brief transportation routes.
(1) Transportation route 1 (Main Route)
   - TongSuh Petrochemical Co., Ltd. Ulsan Plant -> SAM IK LOGISTICS Co. Ltd Ulsan Center : By roadway transportation
   - SAM IK LOGISTICS Co. Ltd Ulsan Center -> Busan New Port Rail Center : By rail transportation
   - Busan New Port Rail Center -> Busan New Port : By roadway transportation
(2) Transportation route 2
   - TongSuh Petrochemical Co., Ltd. Ulsan Plant -> SAM IK LOGISTICS Co., Ltd. Ulsan Center : By roadway transportation
   - SAM IK LOGISTICS Co. Ltd Ulsan Center -> Busan Station : By rail transportation
   - Busan Station -> Busan Port : By roadway transportation
(3) Alternative transportation route
   - TongSuh Petrochemical Co., Ltd. Ulsan Plant -> Busan New Port and Busan Port : By roadway transportation

SAM IK LOGISTICS Co., Ltd.
06 December 2016

Name of Transporter:  Lead Auditor Signature: Date:
SAM IK LOGISTICS Co., Ltd.

Auditor’s Findings

This operation is

X in full compliance

*(see below)* with the International Cyanide Management Code.

The operation has maintained full compliance with the International Cyanide Management Code throughout the previous three-year audit cycle.

Audit Company: 3 Points Co., Ltd.
Audit Team Leader: Mr. Sang Ho Ahn
E-mail: triplepoint@naver.com
Date(s) of Audit: 01 and 02 December 2016

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.

During this recertification audit, I confirmed that the SAM IK LOGISTICS Co., Ltd. have not experienced any significant cyanide incident or compliance problem during the previous three-year audit cycle.

. SAM IK LOGISTICS Co., Ltd.  06 December 2016
______________________________
Name of Transporter  Lead Auditor Signature

SAM IK LOGISTICS Co., Ltd.  06 December 2016
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Name of Transporter  Lead Auditor Signature
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 X in substantial compliance □ not in compliance with with Transport Practice 1.1

Summarize the basis for this Finding/Deficiencies Identified:

The SAM IK LOGISTICS Co., Ltd. prepared the Cyanide Transportation Operational Manual SCTM-01Rev.05 that defined the processes of route selection for sodium cyanide transportation. According to the manual, they surveyed the possible routes from the sodium cyanide manufacture to their final destination, and then selected the sodium cyanide transportation routes considering the possibility of potential accident and release including detail check items as population density, infrastructure, pitch, grade, prevalence & proximity of water and fog.

The SAM IK LOGISTICS Co., Ltd. evaluated several possible routes and finally selected three transportation routes as below. Since the last recertification audit, the quantity of transportation to Busan New Port has been increased. So the main transportation route is transportation from TongSuh Petrochemical Co., Ltd to Busan New Port.

1) Transportation route 1 (Main Route)
   - TongSuh Petrochemical Co., Ltd. Ulsan Plant -> SAM IK LOGISTICS Co., Ltd. Ulsan Center : By roadway transportation
   - SAM IK LOGISTICS Co., Ltd. Ulsan Center -> Busan New Port Rail Center : By rail transportation
   - Busan New Port Rail Center -> Busan New Port : By roadway transportation

2) Transportation route 2
   - TongSuh Petrochemical Co., Ltd. Ulsan Plant -> SAM IK LOGISTICS Co., Ltd. Ulsan Center : By roadway transportation
   - SAM IK LOGISTICS Co. Ltd Ulsan Center -> Busan Station : By rail transportation
   - Busan Station -> Busan Port : By roadway transportation

3) Alternative transportation route
   - TongSuh Petrochemical Co., Ltd. Ulsan Plant -> Busan New Port or Busan Port : By roadway transportation

The minimization of possibility for potential accidents and release was key item in selection of the three transportation routes.

The SAM IK LOGISTICS Co., Ltd. established risk identification and evaluation procedure in Cyanide Transportation Operational Manual that covered risk identification and risk evaluation, and during June 2016 year, they implemented the risk identification and evaluation again for their three transportation routes.

The SAM IK LOGISTICS Co., Ltd. prepared control measure and applied to those high risk items such as release to road, land and surface water by truck capsise during road transportation and leakage to land during handling by fork lifter in Ulsan Center, Busan New Port Rail Center and Busan Station and.

SAM IK LOGISTICS Co., Ltd. 06 December 2016

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The SAM IK LOGISTICS Co., Ltd. should reevaluate the transportation routes every year periodically. The periodic reevaluation for three transportation routes was implemented during June 2016 year. And also they defined and maintained the process for getting feedback on route condition from driver, reviewing the information and identification of additional risks. And also they should prepare additional control measure if any high risk identified. Recently there was no special information from driver that can influence the identified risks and control measures.

The SAM IK LOGISTICS Co., Ltd. documented the control measure in Cyanide Transportation Manual, safety principle and emergency response plan related to road transportation and interim storage in which such items defined as driving speed, prevention of over loading, vehicle inspection etc., fork lifter handling and maintenance, emergency response plan for release to road, land and water surface. And also the manual, principle and emergency response plan were communicated and trained to employees, drivers and contractor as rail operation company.

Since 2010 year until now December 2016 year, SAM IK LOGISTICS Co., Ltd. received some comments from below stakeholders and relevant government bodies and the comments from stakeholders and legal requirements were appropriately reviewed and reflected to route selection and development of control measures for high risk items as below;
1) Comments from TongSuh Petrochemical Co., Ltd.
2) Samsung C & T Corporation
3) Korea health and safety agency & Fire fighting agency

The SAM IK LOGISTICS Co., Ltd. reviewed the overall detail courses for their three transportation routes. They finally decided that convoys, escorts or additional measures are unnecessary. According to the Cyanide Transportation Operation Manual, they will use escort or convey for special cases as social disturbance, strike by driver and if requested by government. But since 2010 year until now December 2016 year, there was no special case needed the escort or convey in Korea.

The SAM IK LOGISTICS Co., Ltd. established emergency response plan for sodium cyanide release and human exposure. In the emergency response plan, role and mutual aid with export consigners, sodium cyanide manufacture, rail operation company, ports, safety agency, police, fire fighting agency, hospital etc. were defined. They communicated and advised the emergency response plan to relevant bodies.

The SAM IK LOGISTICS Co., Ltd. does not subcontract any of sodium cyanide roadway transportation to logistic company. The railroad transportation is implemented by Korea Railroad Corporation. They checked the railroad transportation route from Ulsan Center to Busan New Port Rail Center and Busan Station and found that Korea Railroad Corporation complied with "Railroad transportation safety act". And then they made contract agreement with the Korea Railroad Corporation for sodium cyanide transportation. In the contract agreement, the responsibility of Korea Railroad Corporation to comply with railroad transportation safety act and safety manual was defined. And also procedure and emergency response plan were communicated from SAM IK LOGISTICS Co., Ltd. to Korea Railroad Corporation.

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 [X] in full compliance with [ ] in substantial compliance with Transport Practice 1.2

SAM IK LOGISTICS Co., Ltd

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Date

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SAM IK LOGISTICS Co., Ltd.

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:
The SAM IK LOGISTICS Co., Ltd. have used only licensed drivers according to “Road traffic safety act”. The drivers shall have license admitted the operation and driving for truck and trailer. And also they use only licensed operators of fork lifter according to “Heavy equipment control act” in Ulsan Center, Busan New Port Rail Center and Busan Station.

According to Cyanide Transportation Operational Manual and “Industrial Safety and Health Act”, the truck and trailer drivers and fork lifter operators receive minimum 16 hours training before undertaking the handling and transportation work for dangerous substance as chemicals, gas and radioactive material. So SAM IK LOGISTICS Co., Ltd. have trained their new drivers and operators for sodium cyanide safety issues as emergency response plan, wearing of personnel protective equipment and Cyanide Transportation Operational Manual.

And also SAM IK LOGISTICS Co., Ltd. provided monthly training to their drivers and operators for safety issues related to transportation and sodium cyanide handling. For railroad transportation, they checked the railroad transportation route from Ulsan Center to Busan New Port Rail Center and Busan Station. And they found that Korea Railroad Corporation have used licensed train drivers and implemented safety training.

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

The operation is ☐ in substantial compliance ☐ not in compliance with

X in full compliance with with Transport Practice 1.3

Summarize the basis for this Finding/Deficiencies Identified:
The SAM IK LOGISTICS Co., Ltd. have used trucks and trailers originally designed for road transportation. The maximum load bearing capacity “20 ton” is defined in Cyanide Transportation Operational Manual with the reflection of requirements from “Road traffic safety act”. The maximum capacities of fork lifters used in Ulsan Center, Busan New Port Rail Center and Busan Station were defined in manual and marked in each fork lifter according to instruction from fork lifter manufacture.

The SAM IK LOGISTICS Co., Ltd. have an appropriate preventive maintenance schedule for trucks, trailers and fork lifters. The maintenance period, inspection item, last and next inspection dates were defined in maintenance schedule. They have implemented maintenance as scheduled and results including inspection results, part and oil exchange results were retained in maintenance center and in each truck, trailer and fork lifter. During the maintenance, the load bearing capacity and adequacy considering the maximum weight of transportation were checked and repair results were recorded.

The SAM IK LOGISTICS Co., Ltd. defined the process of verification for the adequacy of equipment in Cyanide Transportation Operational Manual. According to the manual, the adequacy of truck, trailer and fork lifter for the road those must bear have been checked during preventive maintenance implemented every 6 month. The tire air pressure, tire abrasion, tire exchange date and running kilometer and distortion of frame were also checked to identify sign of stress and overloading. The inspection and maintenance results were recorded in each equipment history card retained in
maintenance center. According to the maintenance records, until now there is no special case signing the stress and overloading identified.

The overloading is prohibited in Korea by “Road traffic safety act.” So the truck and trailer cannot transport more than 20 ton. And also the capacity of fork lifter is more than the weight of one container. According to “Road traffic safety act” and Cyanide Transportation Operational Manual, the maximum weight for road transportation is 20 ton. So to comply with manual and safety act, the SAM IK LOGISTICS Co., Ltd. have transported only one container in which 16 ton of sodium cyanide can be fully inserted.

The sodium cyanide manufacturer, “TongSuh Petrochemical Co., Ltd” ordered only one container transported for each transportation order. The SAM IK LOGISTICS Co., Ltd. were prevented automatically the overloading for sodium cyanide transportation. The railroad transportation from Ulsan Center to Busan New Port Rail Center and Busan Station was operated by Korea Railroad Corporation. As one of government subsidiary company, the Korea Railroad Corporation complied with “Railroad transportation safety act” in which prevention of overloading and control of train was defined.

For railroad transportation, the SAM IK LOGISTIC Co., Ltd. have checked once per year the railroad transportation routes from Ulsan Center to Busan New Port Rail Center and Busan Station. And they found that Korea Railroad Corporation complied with “Railroad transportation safety act” in which prevention for overloading and control of train were defined.

_Transport Practice 1.4: Develop and implement a safety program for transport of cyanide._

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_Summarize the basis for this Finding/Deficiencies Identified:_

In the Cyanide Transportation Operational Manual, the SAM IK LOGISTIC Co., Ltd. defined the handling and inspection method for the container of sodium cyanide. The loading of sodium cyanide to container was controlled and implemented by TongSuh Petrochemical Co., Ltd. in Ulsan Plant. After the loading to container, the amount and appearance were checked by TongSuh Petrochemical Co., Ltd. and drivers. And the container was locked by drivers. The amount of sodium cyanide and appearance inspection results were recorded in dispatch order sheet communicated from TongSuh Petrochemical Co., Ltd to drivers. The process to maintain the integrity of producer’s packaging was defined and implemented by truck and trailer drivers and fork lifter operators appropriately. The TongSuh Petrochemical Co., Ltd. has used sodium cyanide containers on which the mark of toxic chemical presence were attached and easily identified during transportation. According to “Industrial safety and health act”, the marking of toxic chemical presence and maintaining of MSDS were required during transportation.

The SAM IK LOGISTIC Co., Ltd. have transported the sodium cyanide container marked the toxic chemical presence by TongSuh Petrochemical Co., Ltd. maintaining MSDS by drivers. Those marking of toxic chemical presence and maintaining MSDS complied with Korea legal requirement and Cyanide Transportation Operational Manual.

The SAM IK LOGISTIC Co., Ltd. defined and implemented the safety processes related to sodium cyanide handling and transportation in Cyanide Transportation Operational Manual covering the followings.

1) Truck and trailer inspection prior to departure

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2) Preventive maintenance schedule was prepared for trucks, trailers and fork lifters.
3) The maximum working time of truck and trailer drivers and fork lifter operators
4) Process to prevent load from shifting
5) The process of suspension and modification of sodium cyanide transportation
6) A drug abuse is prevented according to Cyanide Transportation Operational Manual
7) The SAM IK LOGISTICS Co., Ltd. defined the retention period for records originated from
   inspection, preventive maintenance, transportation log sheet and dispatch order sheet etc.
For railroad transportation, during June 2016 year, the SAM IK LOGISTIC Co., Ltd. have checked
the railroad transportation route from Ulsan Center to Busan New Port Rail Center and Busan Station.
And they found that Korea Railroad Corporation complied with “Railroad transportation safety act” in
which safety process to prevent accident was defined.

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

The operation is

- X in full compliance with
- ☐ in substantial compliance
- ☐ not in compliance with

with Transport Practice 1.5

Summarize the basis for this Finding/Deficiencies Identified:
The SAM IK LOGISTICS Co. Ltd do not transport the sodium cyanide by sea and air.

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

The operation is

- X in full compliance with
- ☐ in substantial compliance
- ☐ not in compliance with

with Transport Practice 1.6

Summarize the basis for this Finding/Deficiencies Identified:
The drivers of SAM IK LOGISTICS Co., Ltd. have pager and mobile phone. So during transportation
they have communicated with the Ulsan Center, Busan New Port Rail Center, Busan Station and
Seoul Head Office. And also they have communication channel sheet in which telephone numbers of
SAM IK LOGISTICS Co., Ltd., safety team of TongSuh Petrochemical Co., Ltd., Industrial safety
and health agency, police, hospitals in Ulsan and Busan and firefighting agency were defined.

The SAM IK LOGISTIC Co., Ltd. provided the pagers to each driver, recorded the pager number and
tested once per week. The test results were recorded in log sheets. Usually the drivers communicated
with Ulsan Center, Busan New Port Rail Center and Busan Station during transportation. So actually
the function of pager can be tested every transportation. Each driver has mobile phone and the number
of mobile phone was registered to emergency communication channel. The mobile phone controlled
by driver individually. But according to Cyanide Transportation Operational Manual, the driver
should control the mobile phone properly, so that can be used in emergency situation and
transportation.

During June 2016 year, the SAM IK LOGISTICS Co., Ltd. have conducted periodic route evaluation
for two routes and alternative route for sodium cyanide transportation. During the route evaluation,
they could not find any communication blackout area along the two transportation routes and alternative route.

The SAM IK LOGISTIC Co., Ltd. defined and implemented the tracking of sodium cyanide transportation in Cyanide Transportation Operational Manual. For each transportation by truck and trailer, the progress of transportation can be checked by mobile communication between driver, Ulsan Center, Busan New Port Rail Center and Busan Station. The Ulsan Center, Busan New Port Rail Center and Busan Station have maintained the transportation log sheets in which the transportation order number, truck and trailer number, drivers name, train number, departing time and arriving time were recorded.

The inventory control was defined and implemented in Cyanide Transportation Operational Manual. The TongSuh Petrochemical Co., Ltd. input the dispatch amount, container number and date for individual transportation order in their ERP system. They record the same items in dispatch sheet and issued to driver of SAM IK LOGISTIC Co., Ltd. And the driver convey the sodium cyanide container from TongSuh Petrochemical Co., Ltd to Ulsan Center and submit the dispatch sheet to Ulsan Center. The Ulsan Center maintain the dispatch sheet and send the copy of dispatch sheet to Busan New Port Rail Center and Busan Station by mail or fax. Busan New Port Rail Center and Busan Station check the container delivered by train with the detail items in dispatch sheet. And then order the driver for the transportation from Busan New Port Rail Center to Busan New Port and Busan Station to Busan Port. The driver convey the sodium cyanide container and submit the dispatch sheet to shipping company. During the above transportation, the inspection of lock door and container appearance was implemented and results were recorded by Ulsan Center, Busan New Port Rail Center and Busan Station. And also the Ulsan Center, Busan New Port Rail Center and Busan Station have maintained the transportation log sheets in which the transportation order number, truck and trailer number, drivers name, train number, departing time and arriving time were recorded.

The dispatch and transportation control were defined and implemented as in Cyanide Transportation Operational Manual. The TongSuh Petrochemical Co., Ltd. have input the dispatch amount, container number and date for individual transportation order in their ERP system. They have recorded the same items in dispatch sheet and issued to driver of SAM IK LOGISTIC Co., Ltd. And the dispatch sheet was finally communicated to shipping company. During the audit, it was found that the amount of sodium cyanide in container and transportation order were recorded in each dispatch sheet, ERP system of TongSuh Petrochemical Co., Ltd and transportation log sheets in Ulsan Center, Busan New Port Rail Center and Busan Station.

The Material Safety Data Sheet was available during roadway transportation, railroad transportation, Ulsan Center, Busan New Port Rail Center and Busan Station. The driver, operator and office member have maintained Material Safety Data Sheet in truck, train, storage area and office.

For railroad transportation, the SAM IK LOGISTIC Co., Ltd. have conducted the route evaluation from Ulsan Center to Busan New Port Rail Center and Busan Station. And they found that Korea Railroad Corporation complied with “Railroad transportation safety act” including above processes.
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.

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Summarize the basis for this Finding/Deficiencies Identified:
When the SAM IK LOGISTICS Co. Ltd was ICMC recertified during 2013 year, they considered the interim storage areas as Ulsan Center, Busan New Port Rail Center and Busan Station. The three interim storage areas were not changed since 2013 year recertification audit.
In Ulsan Station and Busan New Port Rail Center, only the trans-loading works by fork lifter was implemented. And actually there is no temporary storage for the sodium cyanide container on the ground in Ulsan Center and Busan New Port Rail Center. However they controlled the trans-loading areas as below.
- Install the notice panel in which sodium cyanide presence, no smoking and eating, prohibit fire.
- Install emergency response plan in which the use of personnel protective equipment, control of spilled sodium cyanide and communication channel defined.
They also maintained personnel protective equipment as mask, glove, rubber boot, etc. and control equipment as shovel, film bag, sand etc.
In Busan Station, the SAM IK LOGISTICS rent about 400m² from Korea Railroad Corporation and use as dangerous substance storage area. The sodium cyanide containers transported from train was unloaded by fork lifter and maintained temporary about maximum 2 days in the interim storage area. Then the sodium cyanide containers were loaded to truck and trailer and transported to Busan Port. Busan Station office team controlled the interim storage area as below.
- Install the notice panel in which sodium cyanide presence, no smoking and eating, prohibit fire.
- Install emergency preparedness in which the use of personnel protective equipment, control of spilled sodium cyanide and communication channel defined.
They also have maintained personnel protective equipment as mask, glove, rubber boot, etc. and control equipment as shovel, film bag, sand etc.

The Ulsan Center and Busan New Port Rail Center areas were totally fenced and prevented unauthorized access to those areas. So only Ulsan Center and Busan New Port Rail Center member, driver and member of Korea Railroad Corporation admitted for the entrance. Visitor shall be checked, registered and admitted the entrance.
In Busan Station, the interim storage area of sodium cyanide container was fenced and locked by Busan Station office member. Only the Busan Station office member as nominated controller, manager and fork lifter operator are admitted for the entrance. The overall Busan Station area was controlled by Korea Railroad Corporation, so security level is relatively high.

In Ulsan Center and Busan New Port Rail Center, the trans-loading works was implemented. So actually the sodium cyanide containers were maintained in train and partially truck and trailer. As the sodium cyanide containers were loaded in train, so separated from incompatible chemicals as acid, oxidizer and explosives. In Busan Station, the sodium cyanide containers were maintained in nominated area as above. That area was fenced and controlled by Busan Station office member to prevent the access of foreign and incompatible chemicals as acid, oxidizer and explosives.

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And the sodium cyanide stored in containers of which the bottom is not directly contact with ground. So possibility of mixing with other materials is very low.

The sodium cyanide was initially packaged in film and then packaged again by can. The cans were inserted into container. The sodium cyanide containers were maintained in interim storage area to prevent the contact with water as below;
1) The sodium cyanide was maintained in container of which the bottom was not directly contact with ground.
2) The sodium cyanide was maintained in container designed and made to protect rain water. So the sodium cyanide stored in a manner designed to minimize the potential contact with water. The possibility of water contact in Ulsan Center, Busan New Port Rail Center and Busan Station and is very low.

The sodium cyanide containers were maintained on truck, trailer and train in Ulsan Center and Busan New Port Rail Center and nominated area in Busan Station. Those interim storage areas are opened. So no need for ventilation of hydrogen cyanide gas.

In Ulsan Center, the trans-loading works from truck and trailer to train was implemented. And in Busan New Port Rail Center, the trans-loading works from train to truck and trailer was implemented. The trans-loading works were implemented by fork lifter. Those areas were segregated from water line and any other vehicle and foreigner. So any spilled sodium cyanide cannot be spread to other area and cause extra contamination of water and land by vehicle and foreigner.
In Busan Station, the sodium cyanide containers were maintained in nominated storage area for which bunds were installed around that area. So the spilled sodium cyanide cannot be released into water or spread to other area and cause extra contamination. The interim storage area is about 400m², so the capacity is enough to prevent the extend of release of spilled sodium cyanide.
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 [X] in full compliance with [ ] in substantial compliance [ ] not in compliance with Transport Practice 3.1

Summarize the basis for this Finding/Deficiencies Identified:
The SAM IK LOGISTIC Co., Ltd. identified possible emergency situations as sodium cyanide release to road, land, surface water, robbery during transportation and interim storage and taken away by criminal suspect during transportation. They defined and maintained the emergency response plan in Cyanide Transportation Operational Manual. They defined what they should do, wearing of personnel protective equipment, using of treatment equipment for spilled sodium cyanide, communication channel and relevant external responders such as sodium cyanide manufacture, shipping companies, export consigner, Korea safety and health agency, police and hospitals in Ulsan and Busan.

The SAM IK LOGISTIC Co., Ltd. defined and maintained the emergency response plan in Cyanide Transportation Operational Manual. And also they prepared detailed emergency response plans those can be applicable for such cases individually as sodium cyanide release to road, land, surface water, robbery during transportation and interim storage and taken away by criminal suspect during transportation. So the emergency response plan in Cyanide Transportation Operational Manual can be applied overall emergency situation. And also the detailed emergency response plans can be applied case by case to relevant emergency situation. During June 2016, they revised the communication channel in emergency response plan to reflect the change of contact points and telephone numbers.

The emergency response plan of SAM IK LOGISTICS Co., Ltd. considered the solid sodium cyanide packaged in film and can and transported in container. So considering the spillage of solid sodium cyanide, they define the preparation of treatment equipment, personnel protective equipment and neutralization method in emergency preparedness plan. According to the plan, they will use sawdust, cement powder and sand to collect the spilled sodium cyanide.

They also considered the two transportation methods as roadway transportation and railroad transportation. They also received comments and information from TongSuH Petrochemical Co., Ltd., Industrial safety and health agency and Korea Railroad Corporation and reflected to the emergency response plan. They also communicated the emergency response plan to Korea Railroad Corporation.

During the preparation of detail emergency response plans, the SAM IK LOGISTICS Co., Ltd. traced three transportation routes. They checked the infrastructure of those three transportation routes. The check results of road condition, proximity of water, bridge condition, railroad condition and road traffic condition were reflected to detail emergency response plan.

The SAM IK LOGISTIC Co., Ltd. considered the design of the transportation truck, trailer and train. They only use double walled transportation truck and trailer. So the containers were fixed as designed in double walled transportation truck and trailer. They do not transport tank lorry, so no need to consider the top or bottom unloading. The train operation by Korea Railroad Corporation was checked and traced the overall transportation route. The checked results were reflected to detail emergency plan.

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In each detail emergency response plan of SAM IK LOGISTICS Co., Ltd., they defined steps from starting of emergency to finalizing the emergency situation. The detail response actions, responsibility and relevant external responder were defined in each step.

The SAM IK LOGISTIC Co., Ltd. identified outside responders as below. Those outside responders were almost same as last ICMC recertification audit during 2013 year.
1) Customer and consigner: TongSuh Petrochemical Co., Ltd., SamSung C & T Corporation and Shipping Companies
2) Transportation Company: Korea Railroad Corporation
3) Government body: Fire fighting agency, Industrial safety and health agency, Local government office as Ulsan city office and Busan city office and Police
4) Hospital: Hospital in Ulsan and Busan,

They defined the general roles of above outside responders in Cyanide Transportation Operational Manual. The detail response actions, responsibility and relevant external responder were defined in each step of detail emergency plan.

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

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

Summarize the basis for this Finding/Deficiencies Identified:
The SAM IK LOGISTIC Co., Ltd. prepared safety training plan every year for their drivers and employee. In the training plan, detail training items were defined for every month. The emergency response training was planned once per 3 month. During the training, they use the emergency response plan as training material. After the training, they recorded the training results and maintained the records for 3 years according to their procedure. During March, June and September 2016 year, the training for emergency plan was implemented according to the safety training plan and also results were recorded.

In the emergency response plan of SAM IK LOGISTICS Co., Ltd., the roles and responsibilities of driver, team leader and team member of Ulsan Center, Busan New Port Rail Center, Busan Station and Seoul head office, other relevant team and external agency were defined.

The SAM IK LOGISTIC Co., Ltd. defined the emergency response equipment in Cyanide Transportation Operational Manual and also in detail emergency response plans. And also they prepared lists of emergency response equipment as personnel protective equipment and treatment equipment for the case of transportation and interim storage. The drivers should maintain the list and emergency response equipment as in list in truck during transportation. The interim storage areas also maintain the list and emergency response equipment as in list around the interim storage area and office. During the recertification audit, it was found that they maintained personnel protective equipment and treatment equipment as defined in list and emergency plan.

According to Cyanide Transportation Operational Manual, Ulsan Center, Busan New Port Rail Center and Busan Station office member as safety representative should inspect emergency response equipment in driver’s truck and interim storage areas. The inspection should be implemented once per
month and results were recorded. Main inspection items are maintaining of emergency response equipment as in list and effective function of the equipment.

The railroad transportation is implemented by Korea Railroad Corporation. The SAM IK LOGISTIC Co., Ltd. made contract agreement with the Korea Railroad Corporation for sodium cyanide transportation. In the contract agreement, the responsibility of Korea Railroad Corporation to comply with railroad transportation safety act and safety manual was defined. In the safety manual, the role and responsibility of Korea Railroad Corporation for emergency situation as sodium cyanide spillage to land and release to water was defined. And also procedure and emergency response plan were communicated from SAM IK LOGISTIC Co., Ltd. to Korea Railroad Corporation. So the role and responsibility during an emergency response was delineated to Korea Rail Operation Company.

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

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<td>The operation is</td>
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**Summarize the basis for this Finding/Deficiencies Identified:**
The SAM IK LOGISTIC Co., Ltd. identified outside responders in emergency response plan as below.
1) Customer and consignor: TongSuh Petrochemical Co., Ltd., SamSung C & T Corporation and Shipping Companies
2) Transportation Company: Korea Railroad Corporation
3) Government body: Fire fighting agency, Industrial safety and health agency, Local government office as Ulsan city office and Busan city office, Police
4) Hospital: Hospital in Ulsan and Busan.
According to Cyanide Transportation Operational Manual, the SAM IK LOGISTICS Co., Ltd. have checked twice per year the information of above outsider responders as contact person name, telephone number, etc. and maintain those information as up to date. During 2016 year, they checked and updated the information of outsider responders in Ulsan Center, Busan New Port Rail Center, Busan Station and Seoul Head Office.

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

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**Summarize the basis for this Finding/Deficiencies Identified:**
In the emergency plan of SAM IK LOGISTICS Co., Ltd., the remediation as recovery and protect for released sodium cyanide, decontamination of soil and water, control and disposal of wastes etc. were defined. They also communicated the manual to Korea Railroad Corporation.

__________________________
SAM IK LOGISTICS Co., Ltd.

__________________________
Lead Auditor Signature

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SAM IK LOGISTICS Co., Ltd.

According to emergency response plan in Cyanide Transportation Operational Manual, the prohibit of the use of sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat sodium cyanide that has been released into surface water was defined.

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

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**Summarize the basis for this Finding/Deficiencies Identified:**

According to emergency response plan in Cyanide Transportation Operational Manual, the SAM IK LOGISTICS Co., Ltd should check the emergency response plan twice per year and revise the contact information and detail process with the reflection of changes in three transportation routes. During June 2016 year, they revised emergency response plan especially the communication channel to reflect the change of contact points and telephone numbers. And also they reviewed the plan's adequacy during June 2016 year in Ulsan Center, Busan New Port Rail Center and Busan Station.

They should do the mock emergency drill twice per year. The mock emergency drill was implemented in Ulsan Center, Busan New Port Rail Center and Busan Station during June 2016 year. They checked the overall process and adequacy of emergency response plan and recorded the results. And during 2015 year, cooperated emergency mock drill was implemented with TongSuh Petrochemical Co., Ltd in Ulsan area. Since 2010 year until now December 2016 year, there was no actual emergency case in transportation process of SAM IK LOGISTICS Co., Ltd. So they have no experience for the implementation of emergency response plan to actual emergency case.