INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Cyanide Transportation Summary Audit Report

For the
International Cyanide Management Code

SAM IK LOGISTICS Co., Ltd.

16 March 2020
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: Byeong Ya Im / President
Name of Responsible Manager: Chi Yeon Jeong / Manager of Management Control Team
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Location detail and description of operation:

SAM IK LOGISTICS Co., Ltd. is transportation service provider contracted with sodium cyanide manufacturer, Ulsan Plant of TongSuh Petrochemical Co., Ltd. SAM IK LOGISTICS Co., Ltd. as a subcontractor of Hae Dong Logistics, has transported the sodium cyanide produced by Ulsan Petrochemical Plant #3 of TaeKwang Industrial Co., Ltd.

SAM IK LOGISTICS Co., Ltd. has transported the sodium cyanide from Ulsan Plant of TongSuh Petrochemical Co., Ltd. and Ulsan Petrochemical Plant #3 of TaeKwang Industrial Co., Ltd to Busan New Port by roadway transportation and railway transportation.

SAM IK LOGISTICS Co., Ltd. was initially ICMC certified in December 2010 and recertified lastly in February 2017. Almost 3 years were elapsed since the last recertification. Therefore, recertification audit was conducted again during 21, 22 and 29 January 2020.

Since February 2017 when SAM IK LOGISTICS Co., Ltd was ICMC re-certified, there was a few changes in their cyanide transportation as below:

- Since 2010, SAMIK LOGISTICS Co., Ltd. has transported sodium cyanide produced by TongSuh Petrochemical Co., Ltd same as before. Since 2017, they as subcontractor of Hae Dong Logistics have transported the sodium cyanide produced by Ulsan Petrochemical Plant #3 of TaeKwang Industrial Co., Ltd.

- The sodium cyanide was exported to foreign countries through Busan New Port in Korea.

The distance from Ulsan Plant of TongSuh Petrochemical Co., Ltd. and Ulsan Petrochemical Plant #3 of TaeKwang Industrial Co., Ltd. to Busan New Port is about 80 Km.

The followings are brief transportation routes.

1) Transportation route 1
   - Ulsan Plant of TongSuh Petrochemical Co., Ltd. and Ulsan Petrochemical Plant #3 of TaeKwang Industrial Co., Ltd. -> Ulsan Rail Center: By roadway transportation
   - Ulsan Rail Center -> Busan New Port Rail Center: By railroad transportation
   - Busan New Port Rail Center -> Busan New Port: By roadway transportation

2) Transportation route 2
   - Ulsan Plant of TongSuh Petrochemical Co., Ltd. and Ulsan Petrochemical Plant #3 of TaeKwang Industrial Co., Ltd. -> Busan New Port: By roadway transportation

SAM IK LOGISTICS Co., Ltd.

[Signature]
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Audit’s Findings

This operation is

- [X] in full compliance
  - [ ] in substantial compliance *(see below)* with the International Cyanide Management Code.
  - [ ] not in compliance

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

Audit Company: DS GMP
Audit Team Leader: Mr. Do Sik Yoon
E-mail: dosiky@naver.com
Date(s) of Audit: 21, 22 and 29 January 2020

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 SAM IK LOGISTICS Co., Ltd. has not experienced any significant cyanide incident or compliance problem during the previous three-year audit cycle.

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SAM IK LOGISTICS Co., Ltd.

[Signature]

Name of Transporter

16 March 2020

Lead Auditor Signature

Date

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SAM IK LOGISTICS Co., Ltd.

[Signature]

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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:
SAM IK LOGISTICS Co., Ltd. updated the Cyanide Transportation Operational Manual CT-02 Rev2.0. In Chapter 5 of the manual, the processes of route selection for sodium cyanide transportation is defined. According to the manual, they surveyed the possible routes from the sodium cyanide manufactures 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. SAM IK LOGISTICS Co., Ltd. evaluated several possible routes and finally selected two transportation routes as below.

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

(1) Transportation route 1
- Ulsan Plant of TongSuh Petrochemical Co., Ltd. and Ulsan Petrochemical Plant #3 of TaeKwang Industrial Co., Ltd. -> Ulsan Rail Center: By roadway transportation
- Ulsan Rail Center -> Busan New Port Rail Center: By railroad transportation
- Busan New Port Rail Center -> Busan New Port: By roadway transportation

(2) Transportation route 2
- Ulsan Plant of TongSuh Petrochemical Co., Ltd. and Ulsan Petrochemical Plant #3 of TaeKwang Industrial Co., Ltd. -> Busan New Port: By roadway transportation

SAM IK LOGISTICS Co., Ltd. established risk identification and evaluation process in Cyanide Transportation Operational Manual that covered risk identification and risk evaluation, and again implemented risk identification and evaluation for their two transportation routes in May 2019.

SAM IK LOGISTICS Co., Ltd. prepared control measure and applied to the high risks such as release to road, land and surface water by truck capsize during roadway transportation and leakage to land during handling by fork lifter in Ulsan Rail Center and Busan New Port Rail Center.

SAM IK LOGISTICS Co., Ltd. should periodically reevaluate the transportation routes every year. The periodic reevaluation for the two transportation routes was implemented in May 2019. They defined and maintained the process for getting feedback on route condition from driver, reviewing the information and identification of additional risks. They should prepare additional control measure if any high risk identified. It is found that there was recently no special information from driver that can influence the identified risks and control measures.

SAM IK LOGISTICS Co., Ltd. documented the control measure in Cyanide Transportation Manual. The safety principle and emergency response plan related to road transportation and interim storage areas were reflected to the manual including driving speed, prevention of over loading, vehicle

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inspection etc., fork lifter handling and maintenance, emergency response plan for release to road, land and water surface. The manual was also communicated and trained to employees, drivers and contractor as rail operation company.

Since 2010 until now, SAM IK LOGISTICS Co., Ltd. received a few 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 cyanide manufactures as TongSuh Petrochemical Co., Ltd. and TaeKwang Industrial Co., Ltd.
2) Exporters as Samsung C & T Corporation
3) Korea health and safety agency & Fire-fighting agency

SAM IK LOGISTICS Co., Ltd. reviewed the overall detail courses for their two 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. There was no special case needed the escort or convey in Korea since 2010 until January 2020.

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 manufactures, 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.

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 Rail Center to Busan New Port Rail Center and found that Korea Railroad Corporation complied with Railroad transportation safety act. 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. The procedure and emergency response plan were also communicated between SAM IK LOGISTICS Co., Ltd. and 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.

X in full compliance with
□ in substantial compliance
□ not in compliance with

with Transport Practice 1.2

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

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

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undertaking the handling and transportation work for dangerous substance as chemicals, gas and radioactive material. SAM IK LOGISTICS Co., Ltd. has 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.

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 Rail Center to Busan New Port Rail Center. 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 full compliance with with Transport Practice 1.3
- □ in substantial compliance
- □ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:
SAM IK LOGISTICS Co., Ltd. has 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 and Busan New Port Rail Center were defined in manual and marked in each fork lifters according to instruction from fork lifter manufacturer.

SAM IK LOGISTICS Co., Ltd. has 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.

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 months. 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, there is no special case signing the stress and overloading identified since last visit. The overloading is prohibited in Korea by Road traffic safety act. The truck and trailer cannot transport more than 20 tons. The capacity of fork lifter is also 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 tons. In order to comply with manual and safety act, SAM IK LOGISTICS Co., Ltd. has transported only one container in which 16 ton of sodium cyanide can be fully inserted.

The sodium cyanide manufacturers as TongSuh Petrochemical Co., Ltd. and TaeKwang Industrial Co., Ltd. ordered only one container transported for each transportation order. SAM IK LOGISTICS Co., Ltd. was prevented automatically the overloading for sodium cyanide transportation. The railroad transportation from Ulsan Rail Center to Busan New Port Rail Center was operated by Korea Railroad
SAM IK LOGISTICS Co., Ltd.

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

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

The operation is  
- X in full compliance with  
- □ in substantial compliance  
- □ not in compliance with  

with Transport Practice 1.4

Summarize the basis for this Finding/Deficiencies Identified:
In the Cyanide Transportation Operational Manual, SAM IK LOGISTICS 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. and TaeKwang Industrial Co., Ltd. After the loading to container, the amount and appearance were checked by TongSuh Petrochemical Co., Ltd., TaeKwang Industrial Co., Ltd. and drivers. The container was locked by drivers. The amount of sodium cyanide and appearance inspection results was recorded in dispatch order sheets communicated from TongSuh Petrochemical Co., Ltd. and TaeKwang Industrial Co., Ltd. to drivers. The process to maintain the integrity of manufacture's packaging was defined and implemented by truck and trailer drivers and forklift operators appropriately. TongSuh Petrochemical Co., Ltd. and TaeKwang Industrial Co., Ltd. have used sodium cyanide containers on which the mark of toxic chemical presence was 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. SAM IK LOGISTICS Co., Ltd. has transported the sodium cyanide container marked the toxic chemical presence by TongSuh Petrochemical Co., Ltd. and TaeKwang Industrial Co., Ltd. and maintaining MSDS by drivers. Those marking of toxic chemical presence and maintaining MSDS complied with Korea legal requirement and Cyanide Transportation Operational Manual. SAM IK LOGISTICS 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  
2) Preventive maintenance schedule was prepared for trucks, trailers and forklifters.  
3) The maximum working time of truck and trailer drivers and forklift operators  
4) Process to prevent load from shifting. The drum and box containing sodium cyanide were inserted into container and then the containers were secured to trailers with twist locks.  
5) The process of suspension and modification of sodium cyanide transportation  
6) A drug abuse is prevented according to Cyanide Transportation Operational Manual  
7) 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, SAM IK LOGISTICS Co., Ltd. has checked the railroad transportation route from Ulsan Rail Center to Busan New Port Rail Center in May 2019. They also found that Korea Railroad Corporation complied with Railroad transportation safety act in which safety process to prevent accident was defined.

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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:
SAM IK LOGISTICS Co. Ltd does 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. has pager and mobile phone. So, during transportation they have communicated with the Ulsan Rail Center, Busan New Port Rail Center and Seoul Head Office. They have communication channel sheet in which telephone numbers of SAM IK LOGISTICS Co., Ltd., safety team of TongSuh Petrochemical Co., Ltd., TaeKwang Industrial Co., Ltd., Industrial safety and health agency, police, hospitals in Ulsan and Busan and firefighting agency were defined.

SAM IK LOGISTICS 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 and Busan New Port Rail Center during transportation. 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.

In May 2019, SAM IK LOGISTICS Co., Ltd. has conducted periodic route evaluation for two transportation routes for sodium cyanide transportation. During the route evaluation, they could not find any communication blackout area along the two transportation routes.

SAM IK LOGISTICS 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 Rail Center and Busan New Port Rail Center. The Ulsan Rail Center and Busan New Port Rail Center have maintained the transportation log sheets in which the transportation order numbers, truck and trailer numbers, driver names, train numbers, departing time and arriving time were recorded.

The inventory control was defined and implemented in Cyanide Transportation Operational Manual. TongSuh Petrochemical Co., Ltd. and TaeKwang Industrial Co., Ltd. input the dispatch amounts, container number and dates for individual transportation order in their Enterprise Resource Planning (Herein after ERP) systems. They recorded the same items in dispatch sheets and issued to drivers of SAM IK LOGISTIC Co., Ltd. The drivers convey the sodium cyanide containers from TongSuh Petrochemical Co., Ltd. and TaeKwang Industrial Co., Ltd. to Ulsan Rail Center and submit the

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dispatch sheets to Ulsan Rail Center. The Ulsan Rail Center maintain the dispatch sheets and send the copy of dispatch sheet to Busan New Port Rail Center by e-mail. Busan New Port Rail Center check the container delivered by train with the detail items in dispatch sheets, and ordered the drivers for the transportation from Busan New Port Rail Center to Busan New Port. The drivers convey the sodium cyanide containers and submit the dispatch sheets to shipping companies. During the above transportation, the inspection of lock on door and container appearance was implemented and results were recorded by Ulsan Rail Center and Busan New Port Rail Center. The Ulsan rail Center and Busan New Port Rail Center have also maintained the transportation log sheets in which the transportation order numbers, truck and trailer numbers, driver names, train numbers, departing time and arriving time were recorded.

The dispatch and transportation control were defined and implemented as in Cyanide Transportation Operational Manual. TongSuh Petrochemical Co., Ltd. and TaeKwang Industrial Co., Ltd. have input the dispatch amounts, container numbers and dates for individual transportation order in their ERP systems. They have recorded the same items in dispatch sheets and issued to drivers of SAM IK LOGISTIC Co., Ltd. The dispatch sheets were finally communicated to shipping companies. During the audit, it was found that the amount of sodium cyanide in container and transportation order was recorded in each dispatch sheets, ERP systems of TongSuh Petrochemical Co., Ltd. and TaeKwang Industrial Co., Ltd. and transportation log sheets in Ulsan Center and Busan New Port Rail Center. The Material Safety Data Sheet (MSDS) was available during roadway transportation, railroad transportation, Ulsan Rail Center and Busan New Port Rail Center. The drivers, operators and office members have maintained Material Safety Data Sheet in trucks, trailers, train, storage areas and office.

For railroad transportation, SAM IK LOGISTICS Co., Ltd. has conducted the route evaluation from Ulsan Rail Center to Busan New Port Rail Center. 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
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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 [X] in full compliance with [ ] in substantial compliance [ ] not in compliance with
with Transport Practice 2.1

Summarize the basis for this Finding/Deficiencies Identified:
SAM IK LOGISTICS Co., Ltd. considered the interim storage areas as Ulsan Rail Center and Busan New Port Rail Center. The two interim storage areas were not changed since last recertification audit during 2016 year. In Ulsan Rail Centre, only the trans-loading works by fork lifters from trucks and trailers to trains was implemented. In Busan New Port Rail Center, only the trans-loading works by fork lifter from trains to trucks and trailers were implemented. There were temporary storage areas for the sodium cyanide containers in Ulsan Rail Center and Busan New Port Rail Center. So, SAM IK LOGISTICS Co., Ltd. has controlled the temporary storage areas as interim storage areas.
- Install the notice panel in which sodium cyanide presence, no smoking and eating and 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.

The Ulsan Rail Center and Busan New Port Rail Center areas were totally fenced and prevented unauthorized access to those areas. Only Ulsan Rail Center and Busan New Port Rail Center members, drivers and members of Korea Railroad Corporation admitted for the entrance. Visitor shall be checked, registered and admitted the entrance.

In Ulsan Rail Center and Busan New Port Rail Center areas, the sodium cyanide containers were maintained in nominated areas. Those areas were fenced and controlled by SAM IK LOGISTICS Co., Ltd. to prevent the access of foreigner and incompatible chemicals as acid, oxidizer and explosives. The sodium cyanide stored in containers of which the bottom is not directly contact with ground. Therefore, the possibility of mixing with other materials is very low.

The sodium cyanide was initially packaged in polyethylene inner film and then packaged again by drum or polypropylene woven bag & box. The packaging material is waterproof. The drums and box 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 the way designed to minimize the potential contact with water. The possibility of water contact in Ulsan Center and Busan New Port Rail Center is very low.

The sodium cyanide containers were maintained in nominated areas in Ulsan Rail Center and Busan New Port Rail Center. Those interim storage areas of sodium cyanide containers as Ulsan Rail Center and Busan New Port Rail Center are located outdoors and open-air environment. So, there is no need for ventilation of hydrogen cyanide gas.

In Ulsan Rail Center and Busan New Port Rail Center, the sodium cyanide containers were

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maintained in nominated interim storage areas for which bunds were installed around that areas. So, the spilled sodium cyanide cannot be released into water or spread to other areas and cause extra contamination. The capacity of interim storage areas is enough to contain any spilled sodium cyanide and prevent the extend of release. The sodium cyanide is maintained in container. Therefore, it was expected that the spilled sodium cyanide may not be released out of the containers.
SAM IK LOGISTICS Co., Ltd.

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 with Transport Practice 3.1
□ in substantial compliance
□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:
SAM IK LOGISTICS 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 manufactures, shipping companies, export consigner, Korea safety and health agency, police and hospitals in Ulsan and Busan.

SAM IK LOGISTICS Co., Ltd. defined and maintained the emergency response plan in Cyanide Transportation Operational Manual. They also prepared detail emergency response plans those can be applicable for such cases as sodium cyanide release to road, land, surface water, robbery during transportation and interim storage and taken away by criminal suspect during transportation. The emergency response plan in Cyanide Transportation Operational Manual can be applied overall emergency situation. The detailed emergency response plans can be applied case by case to relevant emergency situation. In June 2019, 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 drum or woven bag & wooden box and transported in container. They define the preparation of treatment equipment, personnel protective equipment and neutralization method in emergency response plan considering the spillage of solid sodium cyanide. They will also use sawdust, cement powder and sand to collect the spilled sodium cyanide according to the plan. They considered the two transportation methods as roadway transportation and railroad transportation. They received comments and information from TongSuh Petrochemical Co., Ltd., TaeKwang Industrial 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, SAM IK LOGISTICS Co., Ltd. traced the two transportation routes. They checked the infrastructure of those two 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 plans.

SAM IK LOGISTICS Co., Ltd. considered the design of the transportation truck, trailer and train. They only use double walled transportation trucks and trailers. The containers used for shipping sodium cyanide are sea containers those are secured to the trailers before departing the sodium cyanide manufactures. 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 plans.

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In each detail emergency response plans of SAM IK LOGISTICS Co., Ltd., they defined steps from starting of emergency to finalizing the emergency situation. The processes including first aid, medical assistant and communication channel for cyanide exposure incident to drivers and employees was also reflected to the detail emergency response plans. The detail response actions, responsibility and relevant external responder were defined in each step.

SAM IK LOGISTICS Co., Ltd. identified outside responders in emergency response plan as below:
1) Customer and consigner: TongSuh Petrochemical Co., Ltd., TaeKwang Industrial Co., Ltd., SamSung C & T Corporation and Shipping Companies
2) Railroad 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 plans.

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

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

with Transport Practice 3.2

Summarize the basis for this Finding/Deficiencies Identified:
SAM IK LOGISTICS Co., Ltd. prepared safety training plan every year for their drivers and employees. In the training plan, detail training items were defined for every month. The emergency response training was planned once per 3 months. During the training, they use the emergency response plans as training material. After the training, they recorded the training results and maintained the records for 3 years according to their procedure. In March, June, September and December 2019, the trainings for emergency plans was implemented according to the safety training plan and also results were recorded.

In the emergency response plans 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 and Seoul head office, the other relevant team and external agency were defined.

SAM IK LOGISTICS Co., Ltd. defined the emergency response equipment in Cyanide Transportation Operational Manual and also in detail emergency response plans. They also prepared lists of emergency response equipment as personnel protective equipment and treatment equipment for the case of transportation and interim storage areas. 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 areas and office. During the recertification audit, it was found that they maintained personnel protective equipment and treatment equipment as defined in list and emergency plans.

According to Cyanide Transportation Operational Manual, Ulsan Center and Busan New Port Rail Center office member as safety representative should inspect emergency response equipment in driver’s trucks, trailers and interim storage areas. The inspection should be implemented per a month

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and results were also recorded. The main inspection items are maintained of emergency response equipment in list and effective function of the equipment.

The railroad transportation is implemented by Korea Railroad Corporation. SAM IK LOGISTICS 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. The procedure and emergency response plan were communicated between SAM IK LOGISTIC Co., Ltd. and Korea Railroad Corporation. The role and responsibility during an emergency response was delineated to Korea Railroad Corporation as well.

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

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

Summarize the basis for this Finding/Deficiencies Identified:
SAM IK LOGISTICS Co., Ltd. identified outside responders in emergency response plan as below.
1) Customer and consignor: TongSuh Petrochemical Co., Ltd., TaeKwang Industrial Co., Ltd, SamSung C & T Corporation and Shipping Companies
2) Railroad 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, SAM IK LOGISTICS Co., Ltd. has checked twice per year the information of above outsider responders as contact person name, telephone number, etc. and maintain the information up to date. In June 2019, 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.

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

Summarize the basis for this Finding/Deficiencies Identified:
SAM IK LOGISTICS Co., Ltd. prepared and maintained the emergency response plan in Cyanide Transportation Operational Manual. In the emergency response plan, the remediation as recovery and protect for released sodium cyanide, decontamination of soil and water, control and disposal of wastes etc. were defined. SAM IK LOGISTICS Co., Ltd. is responsible for performing the remediation of cyanide spillage including the recovery and neutralization of cyanide, decontamination of
SAM IK LOGISTICS Co., Ltd.

contaminated media and management and disposal of spill cleanup debris with the help of manufactures. According to the emergency response plan, the contaminated material shall be dispatched to waste contractor approved by local government office and incinerated by waste contractor. They also communicated the manual to Korea Railroad Corporation.

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.

The operation is □ in substantial compliance □ not in compliance with X in full compliance with

with Transport Practice 3.5

Summarize the basis for this Finding/Deficiencies Identified:
According to emergency response plan in Cyanide Transportation Operational Manual, 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 two transportation routes. In June 2019, they revised emergency response plan especially the communication channel to reflect the changes of contact points and telephone numbers. They also reviewed the plan’s adequacy during June 2019 year in Ulsan Rail Center and Busan New Port Rail Center. They should do the mock emergency drill once per year. The mock emergency drill was implemented in Ulsan Center and Busan New Port Rail Center in June 2019. The simulation of cyanide exposure to drivers during transportation and cyanide release to land and surface water was presented and response follow up was conducted during the emergency mock drill.
They checked the overall process and adequacy of emergency response plan and recorded the results. In 2019, the cooperated emergency mock drill was implemented with TongSuh Petrochemical Co., Ltd in Ulsan area.
In their Cyanide Transportation Operation Manual, the evaluation of emergency response plan and revision as needed after the actual incidents as cyanide exposures and releases was also defined. Since 2010 until January 2020, there was no actual emergency case in transportation process of SAM IK LOGISTICS Co., Ltd. Therefore, they have no experience for the implementation of emergency response plan to actual emergency case.

SAM IK LOGISTICS Co., Ltd. 16 March 2020
Name of Transporter Lead Auditor Signature Date
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