# Allship Logistics Limited. Ghana. Cyanide Warehouse Recertification Audit.

# **Summary Audit Report.**

Report submitted to:-1400 I Street, NW, Suite 550 Washington. DC 20005 Unites Sates of America. Report of:-Allship Logistics Limited P.O. Box BT 582 Heavy Industrial area Opposite Tema Lube Oil Tema. Ghana.



#### 1.0 INTRODUCTION

#### 1.1 Operational information.

Name of warehouse facility : Allship Logistics Limited

Name of facility owner : Allship Logistics Limited

Name of facility operator. : Allship Logistics Limited

Name of responsible manager : Robert Kinsford Kutin

Address : Allship Logistics Limited

Head Office (Tema) Heavy Industrial area Opposite Tema Lube Oil

P.O. Box BT 582

State / Province : Tema

Country. : Ghana

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#### Audit scope.

The scope of this audit covers the warehousing of cyanide at Allship's Warehouse located at Dompim situated near Tarkwa in Ghana.

#### **Operation Location Detail and Description.**

Allship Logistics Limited is a wholly owned Ghanaian company established in 1990 with its premier or head office in Tema, Ghana. The company also operates from one (1) additional office – Takoradi operational center. The Takoradi operational center is responsible for the Allship Logistics Ltd. Warehouse located at Dompim near Tarkwa, Ghana. Most operational activities take place at Tema and Takoradi primarily due to the port activities of both cities.

The company is a member of International Federation of Freight Forwarders Association (FIATA) and Ghana Institute of Freight Forwarders (GIFF).

Allship has a 1.8-hectare truck yard and a 3.4-hectare warehouse facility at its head office in Tema, Ghana. It also has a 0.8-hectare truck yard and office facility at Takoradi and a 7.12-acre warehouse facility and office at its Dompim Warehouse, near Tarkwa, Ghana where solid sodium cyanide is stored.

Allship has a 4.5 acre truck yard and a 34,000 square meter warehouse facility at its Head Office in Tema. The Takoradi branch office has a 2.88 acre truck yard and a 5,000 square meter warehouse facility.

Allship Logistics Warehouse Name of facility

Signature of Lead Auditor

The Company has a cyanide storage warehouse located in Dompim – Pepesa measuring 65.50 meters by 24.50 meters with a roof ridge height roof of 9.50 meters. The facility was constructed and completed in 2011.

#### Cyanide Warehousing.

Dompim – Pepesa is about 80 kilometers from Takoradi which is in the Western Region of Ghana. The warehouse is approximately 171 kilometer west of Accra. and 23 kilometers from Tarkwa city center.

Allship's cyanide warehouse is located at Tarkwa Road, Dompim, a town with approximately 10 000 people and situated approximately 30 kilometers south-west of Tarkwa city center. Cyanide is delivered by ship to the port at Takoradi and some cyanide been transported and stored in the warehouse.

Allship designed and arranged the construction of the Warehouse during 2010. Warehouse drawings were done by Mr. E.M. Akuta an architect of profession during June 2006. An Environmental Impact Assessment (EIA) was done and on 28th December 2011 the Ghana Environmental Protection Agency (EPA) issued a certificate numbered EPA/EIA/343 which granted authorisation to Allship Logistics to commence the construction and operation of the sodium cyanide warehouse. EPA granted permit for its continuous use recently and the permit is valid till 27th March 2024.

The size of the Warehouse is 65.50meters by 24.50 meters with ridge height of 9.50 meters constructed and completed in 2011. The warehouse is of structural pre-engineered steel made up of steel stanchions, beams, braces, purlins and corrugated aluminum roofing and cladding and was constructed on 200mm reinforced concrete foundation, columns, beams and 200mm reinforced concrete floor to prevent seepage. There is no secondary containment because the facility does not handle liquid cyanide. The warehouse construction is watertight equipped with air vents at the pitch of the roof, no windows and each warehouse section has a manually operated roll-up door.

The warehouse is made up of two compartments separated by cement block wall from ground to roof height. Both compartments are fitted with vents to allow heat and fumes that may be generated within the warehouse to escape into the atmosphere. One compartment is used for the temporary storage of full sodium cyanide Intermediate Bulk Containers (IBC's) from Orica PTY Ltd via the port of Takoradi meant for Perseus Mining. The other section is used for the temporary storing cyanide waste packaging materials (plywood boxes, bulka sacs and polyethylene linings) generated at the mine site and returned from the mines where it is kept for later disposal by a registered disposal company.

Cyanide is packaged in one-ton polypropylene lined timber boxes which are destuffed from the sea freight containers at the warehouse and stored on concrete flooring in the warehouse. This kept there until required by the mine site Perseus Mining. Upon request by the mine, the cyanide boxes are removed from the warehouse, using a forklift and packed into a shipping freight container, doors then locked and sealed for road transport to the mine site. The distance from the port of Takoradi to the warehouse facility in Dompim-Pepesa is 68km. The distance from the warehouse to Perseus Mining is 119Km. The warehouse is secured with a wire fence on top of the wall and it is manned 24/7 by G4S a security company.

The warehouse has a stacking capacity for 2000 x 1 ton boxes of cyanide to be stored safely in this facility and is secured with lockable steel doors. The warehouse is situated within a well-built boundary secured with an electrical wire fence on top of the wall. The site is manned 24/7 by G4S, a security company. At night time an armed guard from the Ghana police patrols the complex.

At the time of the audit, boxes of cyanide were present within the designated section of the warehouse.

Allship Logistics Warehouse Name of facility

Signature of Lead Auditor

21st June 2023

Date

### Auditor's Findings and Attestation.

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In full compliance with

In substantial compliance with

Not in compliance with

with the International Cyanide Management Code.

#### **Compliance Statement.**

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

## **Auditor Information.** Audit Company: Tommie Müller - South Africa. Lead Auditor: Tommie Müller Lead Auditor E-mail: tommieb.muller@gmail.com Names and signatures of other Auditors: None. Auditor 1: Name (Print / Type Signature Auditor 2: Name (Print / Type Signature Auditor 3: Name (Print / Type Signature **Dates of Audit:** This audit was conducted in the period of 1st to 3rd March 2023.



#### **Auditor Attestation.**

I attest that I meet the criteria for knowledge, experience and conflict of interest for a Cyanide Code Certification Audit Lead Auditor, 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 Cyanide Code Auditors.

I attest that this Summary Audit Report accurately describes the findings of the certification audit. I further attest that the certification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Cyanide Production / Warehouse Verification Protocol and using standard and accepted practices for health, safety and environmental audits.

Allship Logistics Warehouse.

Name of Facility.

Signature of Lead Auditor

21st June 2023. Date

Allship Logistics Warehouse Name of facility

Signature of Lead Auditor

#### **Principles and Standards of Practice.**

of cyanide.	sign, construct and operate cyanide w	rarenouse racilities to prevent release
Standard of Practice 1.1:	,	ehouse facilities consistent with sound ality control/quality assurance procedures
	in full compliance with	
The operation is	□ in substantial compliance with	Production Practice 1.1
	□ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

The warehouse is located at Dompim - Pepesa, Western region of Ghana about 70km from the port of Takoradi and 23Km from Tarkwa city centre. The design of the warehouse was done by a qualified Architect (E.M. Akuta) and drawings were approved by the Ghanaian Governmental Authorities (EPA) in Takwa as well as by Takwa Municipality. Tarkwa Nsuaem Municipality Assembly issued a business permit / license dated. 29th May 2019. An Environmental Impact Assessment (EIA) was done and a certificate No. EPA/EIA 343 dated 28th December 2011 was issued

The design and construction of the warehouse building is in accordance with sound engineering principles and practice. Ghana EPA (Environmental protection Agency) has renewed the permit of the warehouse for continuous. Tarkwa - Nseum Municipal Assembly which is the local government authority also issued a business permit/license within the year (2019) for the continuous use of the facility.

The warehouse was approved and permit granted by Tarkwa Nsuem Municipal Assembly. Ghana Environmental Protection Agency inspected the facility prior to it being used and found it to be suitable to be used for sodium cyanide storage. EPA granted permit for its continuous use recently and the permit is still valid.

An Environmental Impact Assessment (EIA) was conducted and a certificate number EPA/EIA/343 dated 28th December, 2011 issued by EPA for the commencement and construction and operation of the sodium cyanide warehouse and incineration plant. The Ghana Environmental Protection Agency (EPA) permit was renewed on 28<sup>th</sup> March 2023 and valid till 27<sup>th</sup> March 2024. Permit number EPA/CCMC/GAR/LHCT – 6/23 issued. This certificate granting Allship permission to continue operating the existing Chemical Storage Facility located in Dompim-Pepesa in the Tarkwa-Nsuaem Municipality of the Western Region of Ghana.

Block plan (Layout) was noted. Ground Floor Plan Sheet No 2 dated June 2006 noted. Size of floor plan of the warehouse is of 65.5 m x 24.5 m with ridge height of 9.59m. Building been split in two sections by a dividing concrete brick wall built up from floor level to roof.

The size of the area that will be utilised for the warehousing of cyanide is 26.850 m x 20.0 m. The warehouse is of a pre-engineered structure made of steel stanchions, beams, braces, purloins and corrugated aluminum roofing and cladding. Reinforced concrete foundation columns, beams and 200 mm reinforced concrete floor elevated above ground level to prevent getting flooded with water. The exterior walls are 6.50 m in height with no windows. Exterior walls of the warehouse are built with bricks from mortar and bricks up to about 3.9 meters high from ground level and from there with corrugated sheeting up to the roof. Warehouse construction material is compatible with the chemicals that will be stored in the warehouse.

Environmental Protection Agency (EPA) conducted and Environmental Impact Assessment and issued an environmental certificate No. WRC 100987.01 to Allship Logistics Ltd granting latter permission to continue operating the existing Chemical Storage Facility located in Dompim-Pepesa in the Tarkwa-Nsuaem Municipality of the Western Region. Business Permit / License dated 25/1/23 issued.

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Signature of Lead Auditor

Quality control and quality assurance records have been retained. The Tarkwa Municipality approved the building plans and plan of the land. The local Fire Department issued a fire permit number 0006224. Kpone-Katamanso Municipal Assembly Building issued operating permit No. KKEMA / IND / 24/2019 issued and noted.

Expansion gaps in concrete flooring been sealed off with Master Seal PG 470 that will prevent any seepage or cyanide residue getting in contact with the soil below the floor. No cyanide in liquid form will ever be stored in this warehouse.

One (1) entrance door installed to each of the compartments in the warehouse exterior wall which can only be operated manually. A standby electrical generator is available at the facility and is protected against tampering. Adequate diesel fuel in the fuel reservoir of the generator. Generator gets checked regularly and serviced by external service provider. The standby generator has the capability to power the facility (lighting) and electric fence when the national grid goes down.

An electrical power outage could not cause or being a contributory factor for any cyanide released. Under normal circumstances and during an electrical power outage, the doors are closed manually.

During rainy days or signs that it is going to rain soon, no off-loading of cyanide packaging from freight containers or loading into the containers. The same applies for the off-loading of used cyanide packaging.

Only sodium cyanide in briquette form stored in warehouse. No other chemical stored inside warehouse.

<u>Standard of Practice 1.2</u>: Develop and implement plans and procedures to operate cyanide warehouse facilities in a manner that prevents accidental releases.

in	full	com	pliance	with
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The operation is  $\ \square$  in substantial compliance with Production Practice 1.2

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Allship Logistics do have several procedures in place and applicable to the current activities performed at this facility. Procedures describe the standard practices necessary for its safe and environmentally sound operation.

The following are their main Standard Operating procedures: -

- 1. Loading and offloading
- 2. Hydrogen Cyanide Gas Monitoring procedure
- 3. Emergency response and Evacuation
- 4. Equipment Maintenance procedures
- 5. Handling sodium cyanide waste packaging procedure
- 6. Decontamination of Personal Protective Equipment
- 7. Transportation of sodium cyanide waste packaging to contractor for disposal
- 8. Access control and security procedures.
- 9. Work during inclement weather procedures.
- 10. Evaluation of the plans and review procedure.
- 11. Maintenance procedure

Allship has identified "hotspot" areas within the warehouse facility. These include the packing area for the

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cyanide IBC's classified as medium risk, packing area for the cyanide waste packaging material as high risk, loading and offloading point as medium risk and the waste cyanide packaging received from the mines. HCN gas monitoring are carried out weekly at these areas and checklist completed by the Safety Officer.

The facility have environmentally sound procedures, Handling Sodium Cyanide Packaging waste No. HSE/WI/06, for the disposal of cyanide or cyanide-contaminated solids. Waste gets kept at warehouse for approx one month before reloaded into containers and transported to waste disposing Company, Verhad Transport. Allship has an agreement with this external company responsible for the removal of the waste material and taken off-site for incineration.

Warehouse personnel have been trained in cyanide awareness and emergency response. Procedures for safe and environmentally sound operations and HCN gas monitoring results were verified and noted

Procedure specifies that the threshold limit for cyanide should not exceed 4.7 ppm.

Allship conducts monthly facility inspection in the warehouse.

The facility has a recently revised Emergency Response and Evacuation procedure.

Cyanide awareness and emergency response training have been presented to all warehouse personnel. The training was conducted by a qualified external consultant. Tools box meetings are held weekly at the warehouse for all warehouse personnel. Records of details of weekly tools box meetings held

The warehouse facility is protected 24/7 with the entire boundary wall been secured with a security wire fence on top of the wall. The warehouse are guarded by two(2) security guards on dayshift and two(2) security guards on night shift plus and one (1) armed Ghanaian policeman. The facility is protected 24/7. The entire boundary wall around the facility is secured with a security wire fence on top of the wall.

Gas monitoring is performed every week and on opening of the warehouse doors (the cyanide storage and used cyanide packaging areas) and when off-loading the boxes containing cyanide from freight containers and when used empty cyanide packaging (boxes) is off-loaded coming from mine site is done. The HCN monitor is calibrated by an external company, Ultimate Resurgence Services. Certificate noted.

Warehouse Management implemented a procedure at the warehouse addressing the inspection of IBC's prior to be loaded into a sea freight container. Procedure requires that the HSE Officer is responsible for the inspection of the overall condition of packaging, damages of the packaging and the labelling displayed on all the IBCs. Labelling displayed on the packaging must correspond with the contents of the IBCs. Any discrepancy noted must be reported to the warehouse supervisor and report must be accompanied by photographs.

The facility has an Emergency Response and Evacuation procedure that stipulates the following anticipated emergencies and the measures to be taken during these events such as:

- Fire
- Medical emergency
- Severe weather
- Bomb threat
- Chemical spill
- Earthquakes
- Civil disorder
- Armed confrontation
- Terrorist attack/hostage taking

Measures to address the aforementioned instances are clearly detailed in the ERP.

The facility have a management of change procedure which identifies when site operating practices have or will be changed from those on which the original design and operating practices were predicated.

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Name of facility

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The facility has implemented maintenance program in accordance to the company's maintenance procedure. Maintenance records covering preventative maintenance activities carried out on equipment such as the reach stacker, forklift, and standby generator. The Workshop Supervisor in TEMA is responsible for the implementation of the Maintenance procedure for the cyanide trucks.

Forklift and a reach stacker are the main equipment used in the warehouse facility and serviced every 250 hours of running. Equipment is serviced by external service provider Pasico Ghana. Pre-trip checks are done on a weekly basis before fork lift and reach stacker is taken into use. Standby generator is serviced at 250hour intervals. Pre-departure checks conducted on delivery loaded vehicles before departure to mine sites. Allship conducts monthly inspection in the warehouse and surroundings.

No design changes have been made to the warehouse since it was designed and taken into use.

This warehouse do not handle any cyanide solution, therefore it does not generate contaminated water. No artificial vents installed in the warehouse. Opening vents fitted to the pitch of the warehouse roof and vents fitted in western wall of warehouse and vents fitted in western wall of warehouse which allows adequate ventilation through the warehouse. Prior to any work to be performed in the warehouse, the doors are opened and left open for a minimum period of 15 minutes to ensure any accumulated HCN gas can be drawn out of the working area. HCN gas concentration reading must be <4.7 ppm before access into warehouse is allowed. The same principle applies when entering the warehouse area where damaged packaging is kept. Employees always work on the "Buddy Buddy" system.

During rainy days or when circumstances have potential to rain, no loading of off-loading of cyanide from freight containers is done. Exterior warehouse walls are built from mortar and bricks and partly covered with corrugated iron sheeting. Roof is covered with corrugated iron sheeting. Roof is leakproof. The warehouse has been built in such a manner that no rainwater can gain ingress into stacking areas. High rise floor with ramp from ground level.

Adequate firefighting equipment, in the form of dry chemical powder (DCP) type is available in and around warehouse. CO<sup>2</sup> fire extinguishers been used at the office block.

The facility has procedures in place that stipulates that access to inside of facility is by appointment only. Boundary walls are built up by bricks and mortar with razor wire fitted on top. Access gate manufactured from steel structure and covered with steel flat sheeting. Security gates are manned 24/7 by trained security officers.

Cyanide is packed in 1-ton wooden boxes lined with polypropylene and polyvinyl plastic bags which are in accordance with international standards. Steel strapping around each box. Boxes with cyanide and used cyanide packaging are stored in locked warehouse areas fitted with steel roll-up access doors which are locked when access is not required.

Standard of Practice 1.3: accidental releases.	Inspect cyanide warehouse facilities to ensure their integrity and preven		
	in full compliance with		
The operation is	□ in substantial compliance with	Production Practice 1.3	
	□ not in compliance with		

This facility is not a cyanide production facility and do not handle any cyanide solutions or store liquid containing cyanide. Building structural integrity inspections are carried out by a qualified engineer, which

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Summarize the basis for this Finding/Deficiencies Identified:

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include the warehouse concrete floor.

The warehouse safety officer been tasked with the inspection of all areas in the warehouse and the condition of the freight containers. Defects reported to Warehouse Supervisor supported by appropriate photographs.

Procedures for the inspection and / or maintaining of freight containers been captured in the Emergency Response Plan. Procedures available at the Warehouse. Procedure requires the checking of the freight containers 1) prior to loading, 2) ensuring that container is clean in and exterior, 3) check for appropriate placarding on the container, 4) fit for delivery and 5) inspect for damage to container. Warehouse safety officer responsible for the checking of freight containers. Procedures require that any defect or damage noted be reported to Supervisor. Report supported by appropriate photographs.

Warehouse inspection procedures are in place and available at the Warehouse. Warehouse Safety Officer performs inspections as stipulated in the areas of the warehouse facility. Inspection intervals stipulated in ERP and inspection schedule. Evidence of quarterly workplace inspections performed on 29/11/2022, 30/3/203 and 2/5/2023 noted by Auditor

Deficiency noted during eyewash facility inspection captured on checklist. Defect was acted upon immediately and defect rectified. Copies of weekly area inspections carried out from 4<sup>th</sup> January 2023 to date up to date.

2. WORKER SAFETY:	Protect workers' health and safe	ety from exposure to cyanide.
Standard of Practice 2.1:	Develop and implement procedures to protect plant personnel from exposure cyanide.	
	in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 2.1
	□ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

The facility has developed operational procedures to minimises exposure during normal warehouse operations from the receipt of product, storage thereof and dispatch of cyanide containers. The key activities undertaken at the warehouse are the operation of forklift, container reach stacker and the disposal of cyanide packaging material. For the loading and offloading of sea freight containers with sodium cyanide IBC's from vehicles a reach stacker is used and forklift, for the destuffing of boxes from containers and when required loading boxed into containers for deliveries to the mine. Loading and offloading of cyanide empty boxes and other packaging materials such as the propylene bags and polyethylene bags.

Allship has developed procedures covering these activities. The Cyanide Warehouse Business Continuity Plan - Emergency Response Plan No GEP 4.11.1 addresses non-routine activities. All employees working at the warehouse are trained in the contents of this procedure.

The facility has implemented maintenance program in accordance to the company's maintenance procedure. Maintenance records covering preventative maintenance activities carried out on equipment such as the reach stacker, forklift, and standby generator. The Workshop Supervisor in TEMA is responsible for the implementation of the Maintenance procedure for the cyanide trucks.

The standby electricity generator serviced at 250-hour intervals. Maintenance and servicing of the forklift and reach stacker are serviced by Pasico Ghana Ltd an external service company. The Emergency Response Plan (ERP) requires that the appropriate Personal Protective Equipment (PPE) as per product Material Safety

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Data Sheet (MSDS) be worn when servicing the vehicles. The road transportation vehicles are serviced at intervals of 10 000 kilometers. The road transport vehicles get washed off before been sent to be serviced.

Load tests on forklift and reach stacker been carried out and certificates issued. Certification of equipment was done by a reputable external service provider.

To review proposed process, operational changes and modifications that could have a potential impact on worker health and safety of employees, facility has compiled procedure "Management of Change" addressing the handling of new products, changes on work processes or procedures.

Allship has identified "hotspot" areas within the warehouse facility. These include the packing area for the cyanide IBC's classified as medium risk, packing area for the cyanide waste packaging material as high risk area, loading and offloading point as medium risk and the waste cyanide packaging received from the mines. HCN gas monitoring are carried out weekly at these areas and checklist completed by the Safety Officer.

The company has sought Health and Safety inputs from the employees as well as management. Employees do get the opportunity to raise health & safety issues and suggestion to improve the health & safety with the warehouse. Daily health & safety talks are held with employees during which suggestions can be raised. Suggestion boxes available at the facility into which employees can deposit health & safety suggestions Employees are aware of the suggestion scheme that have been implemented. Suggestions are considered when revising procedures.

Allship have developed a process in respect of the use of the HCN Gas monitoring process and covered that in the Company's ERP. A HCN Gas monitor model MSA Model ALTAIR PRO with Serial#12700252 in use for the monitoring HCN gas levels. The gas detector has been calibrated by Ultimate Resurgence Services which is an approved company for the calibration of gas monitors. A calibration certificate for this device has been issued. The HCN gas device is set at a maximum of 4.7ppm. Monitoring of the presence of HCN gas are conducted weekly in the following designated areas on the warehouse facility. Areas are The packing area for cyanide lBCs, the packing area for cyanide waste, the loading and off-loading are of IBC's and Cyanide waste packaging materials packing area

Designated responsible employees been trained in the operating of the HCN monitor. Test records are kept on file for record purposes. Device is properly maintained.

The facility has the provisions to ensure that a system is used where employees can communicate with other personnel for assistance, help or aid where necessary. The ER Plan requires that the Buddy Buddy system be followed. Document stipulated that another employee (Buddy) will always be available during loading and off-loading of cyanide by another employee who has been trained in cyanide handling. Visual and / or two-way voice communication required. System confirmed with warehouse employees.

An employee who has been trained and found competent in cyanide awareness and first aid serves as a buddy who will aid and if required first aid to a cyanide affected person.

Procedures are in place to be followed during destuffing of wooden boxes containing cyanide, when loading boxes cyanide from warehouse into a container or any other area where the HCN levels rises to a level above 4.7 ppm. The portable HCN gas monitor clipped onto employee's overall will sound an audible alarm. Employee must vacate the area immediately and move to a zone where HCN gas concentration is way less than 4.7 ppm present. (Stay upwind).

Where an employee is required stay or work in an area where the HCN level is above 4.7 ppm, he/she must be dressed up in all the required PPE including the self-contained breathing apparatus (SCBA) fitted with a full-face respirator.

Some areas within the warehouse and its surroundings have been identified as possible areas where workers can be exposed to cyanide gas or cyanide dust particles at more than 4.7 ppm.

Warning signs indicating the possible presence of cyanide in handling or storage areas are displayed. The

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same applies for the required PPE to be worn.

The pre-employment and two-yearly medical examinations include the ability to use a respirator (claustrophobia), audiometry test, optometry test and lung function (pulmonary) tests.

A procedure has been developed addressing the decontamination of possible contaminated PPE. Employees after having worked in a cyanide area where the PPE could possibly get contaminated, must remove all clothing, boots, gloves and other PPEs and put them in a designated decontamination container in the decontaminated zone where it will be washed with a 1 % hypochlorite solution and tap water. Garment to be rinsed twice with fresh water. Under no circumstances should a worker use any PPE which are contaminated. Procedure SOP 4.12.21 addressed in clause 6.8 of the Company's ERP.

All personnel are prohibited from smoking, eating and drinking, and having open flames in areas where there is the potential for cyanide contamination. This is also stressed in the Emergency Response Plan as well as in the Induction training that smoking, eating and drinking, and having open flames on site is forbidden. Applicable symbolic safety signages are displayed at entrance to warehouse yard as well as on various places inside the facility.

The facility has a Personal Protective Equipment Management policy. Policy number HSE/P/05. Allship does hazard risk assessment evaluation of all Personal Protective Equipment and these are documented. PPE's are issued in accordance with the risk assessment. Symbolic safety signage that conforms to the Ghana requirements and international standards are displayed where appropriate PPE must be warned.

Upon the evaluation, the required Personal Protective Equipment (PPE) is issued to the employee. One set of PPE's are given to each employee per year. Visitors are given the required PPE's when entering the warehouse premises. PPE's of employees are inspected every day and recorded.

Recipients of Personnel Protective Equipment sign acceptance after having received PPE. Records of completed PPE Risk Evaluation forms are appropriately kept on file.

The entire warehouse facility is declared a "no smoking" "no eating", "no drinking" or "no open flame" area. Applicable warning signs (symbolic safety signage) such as toxic class 6 and marine pollutant labels, no eating, no drinking, no smoking and no open flames are displayed at strategic locations at the entrance to the warehouse complex and within the warehouse premises.

Standard of Practice 2.2:	Develop and implement plans and procedures for rapid and effective response to cyanide exposure.	
	in full compliance with	
The operation is	□ in substantial compliance with	Production Practice 2.2
	□ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

Allship Warehouse Management developed specific written emergency response plans or procedures for employees to respond to cyanide exposures, decontamination and evacuation from the affected area. Emergency Response Plan and Evacuation Procedures (ERP) are available at this facility. Contents of document revised on 2/1/2023.

An emergency shower and a low-pressure eye wash facility has been installed near the warehouse building and is inspected and maintained to ensure operability. Position indicated by appropriate symbolic safety signage displayed on conspicuous places. Safety shower and eye wash facility gets checked weekly and

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findings recorded in an appropriate inspection record. Potable water is available throughout the facility as well as a reservoir tank to store water to ensure the availability of water throughout the facility.

Appropriate fire extinguisher media been placed on the outside of the warehouse entrances. All extinguishers are recently serviced and ready for use. Fire extinguishers are checked monthly. Fire extinguishers gets serviced twice per year by accredited external service provider, Advance Safety Engineering, based in Takoradi.

The facility has water, oxygen, resuscitators, fully equipped first aid box, cyanide antidote and means of communication or emergency notification readily available for use kept in the warehouse office. The emergency equipment gets checked on a monthly basis and prior to departure from base. Equipment stored and/or tested as directed by their manufacturer and replaced when required. The antidote (Hydroxycobalamine) is stored in a cabinet in the Warehouse office at a temperature that ranges between 20 - 22 degrees Celsius, away from light, humid areas and maintained within its expiry date. These directions fall within the manufacturer's recommendations.

HCN gas monitor used in the warehouse is calibrated annually by a competent third-party service provider, Ultimate Resurgence Services. Gas monitoring device last calibrate on 5<sup>th</sup> October 2022.

Product Material Safety Data Sheets supplied by the manufacturer are displayed adjacent in the warehouse building and office block. Document compiled in English. English been the official language of the Company.

The site has the capability to administer basic first aid or medical assistance to workers been exposed to cyanide vapours and or dust. The warehouse staff has all been trained in basic first aid by Ghana Saint John's Ambulance Services to administer first aid treatment. Certificates of training issued to them.

Management has entered into an agreement with the Tarkwa Government Hospital and Effia Nkwanta Government hospital to handle cyanide exposed persons. In response to this agreement, both these medical institutions indicated in writing that they have adequate and appropriate first aid equipment, qualified staff and expertise that could respond to cyanide exposed incidents

The recommended cyanide antidotes used is Hydroxocobalamine. This will only be administered by a medical practitioner or trained paramedic at the designated hospitals.

The facility has developed procedures to transport employees to nearby locally available qualified off-site medical facility. Allship has notified the two hospitals of their roles in emergency situation.

The Emergency Response Plan (ERP) addresses the decontamination processes

Emergency mock drills are conducted periodically to test the response procedure for various exposure scenarios. Lessons leant from the drills are incorporated into emergency response planning.

Allship has a procedure for investigating and evaluating cyanide incidents. The process involves incident reporting, investigation and instituting of corrective measures to prevent recurrence of the incident. Evaluation of any incident ascertains whether the procedures are adequate to protect employees from cyanide exposures. The procedures are revised as and when necessary, after the evaluation. Since the last warehouse audit, no cyanide related incidents have been recorded at the warehouse facility.

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Signature of Lead Auditor

3. MONITORING:	Ensure that process controls are protective of the environment.
Standard of Practice 3.1:	Conduct environmental monitoring to confirm that planned or unplanned releases of cyanide do not result in adverse impacts.
	in full compliance with
The operation is	□ in substantial compliance with Production Practice 3.1
	□ not in compliance with
Summarize the basis for	this Finding/Deficiencies Identified:
Question 1(a) & (b) is no	t applicable to this facility as no process activities undertaken at this facility.
does not generate any cy	ndirect discharges of cyanide contaminated solution into surface waters. The facility vanide contaminated water and therefore do not monitor for cyanide been discharges ce and ground water down gradient.
There are no surface wat	er bodies near the warehouse which require monitoring.
	in workers and emergency response personnel to manage cyanide in a safe and ironmentally protective manner.
Standard of Practice 4.1:	Train employees to operate the plant in a manner that minimizes the potential for cyanide exposures and releases.
	in full compliance with
The operation is	□ in substantial compliance with Production Practice 4.1
	□ not in compliance with
Summarize the basis for	this Finding/Deficiencies Identified:
The facility trains their wo	orkers to understand the hazards of sodium cyanide. Training is provided to

The facility trains their workers to understand the hazards of sodium cyanide. Training is provided to employees before they will be allowed to perform any work with sodium cyanide. Annual refresher training presented for all the employees. The mandatory training programs for all workers working at the warehouse, are cyanide awareness training, Basic First Aid, Basic Fire Fighting, Proper Use of Personal Protective Equipment, emergency response and mock drills. Training in Personal Protective Equipment is also covered in the cyanide emergency response training and mock drills.

The required type of PPE's that is to be worn by employees is prescribed in the product MSDS and Issue Based Risk Assessment. These includes correct use of full-face respirator with canister, PVC gloves, disposal tyvek overalls, safety boots and helmets. PPE training is covered in tools box meetings. Employees are trained when new type of PPE are issued to workers.

The training programs are organized and presented by professional external consultants and the other training modules handled by inhouse trainers.

To assess the competency of each employee after training has been presented, it is required from participants

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to answer a written evaluation assessment on each course. Illiterate workers are subjected to a verbal questioning on the subject been presented. Attendance register required to be completed. The training models are all captured in the company's training matrix and the records are updated after each training program. A planned task observation is also used to ascertain employee's competency.

Training in Personal Protective Equipment is also covered in the cyanide emergency response training and mock drills. The required type of PPE's that is to be worn by employees is prescribed in the product MSDS. These include correct use of respirator with canister, PVC gloves, disposal tyvek overalls, safety boots and helmets. PPE training is covered in tools box meetings. Employees are trained when new type of PPE is issued to workers.

Employees been trained, assessed and certified competent prior to commencing work at the warehouse. Workers are trained in each of their specific task that they perform to prevent risks of exposure to cyanide releases and injuries. The tasks include loading and offloading of sodium cyanide IBC's, safe operation of forklift and reach stacker. The procedure addresses the safe practices in loading and offloading IBC's into or from sea freight containers to prevent unwanted risk of exposure to any worker due to possible cyanide gas been released. Prior to loading or offloading of cyanide full IBC's or empty cyanide boxes and other packaging, each worker needs to wear their prescribed PPE to perform this task.

At this warehouse facility no production activities are performed.

Training is provided by appropriately qualified personnel e.g. first aid (St John's ambulance services), fire-fighting (the Ghana Fire Department) other training (external consultant and inhouse employee).

Procedures refer to the precautions to worker's health and safety and in a manner that will prevent unwanted release of cyanide.

Standard of Practice 4.2:	Train employees to respond to cyanide exposures and releases.		
	in full compliance with		
The operation is	□ in substantial compliance with	Production Practice 4.2	
	□ not in compliance with		

Summarize the basis for this Finding/Deficiencies Identified:

The facility do present training to their employees and emergency response personnel to manage cyanide in a safe and environmentally protective manner and to ensure that they understand the hazards of cyanide not only to themselves, but also the environment and other people.

Allship Logistics train their workers to respond to cyanide exposures and releases in a safe manner. Training in Emergency Response and mock drills are held annually for all employees. The training module newly appointed employees includes Plant induction, cyanide awareness, Emergency Response Plan basic fire-fighting, basic first aid and the correct use of PPE. Once this training has been presented new employees can then starting working. The facility has a training matrix that stipulates the training requirements, employee's names their designations, date of training and next training date. The ERP addresses spill response actions for both small and large solid spills. Cyanide spill response actions are covered in the mock drills which are organized annually. The mock drills are conducted to equip all workers on how to respond to cyanide exposures and releases. Refresher ER training and mock drills conducted annually to ensure that employees have the required knowledge for effective response to cyanide exposed persons and spill actions. Training attendance records have the names and signatures of the workers, date training was presented, name and signature of the trainer.

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After each mock drill training post-mortem sessions are held. Recommendations and corrective action plans are issued and inefficiencies addressed by repeating the drill.

The Spill Response Actions in the Emergency Response Plan are found to be appropriate. Interviews conducted with warehouse employees was evident that the warehouse staff have been trained in cyanide emergency response actions and are competent to handle cyanide exposures and releases.

Feedback reports on each mock drill done in writing. Non-conformances and deficiencies observed noted and corrective action plans recommended. Issues discussed and drill rehearsed to ensure that employees are competent to handle cyanide emergencies.

Training records for training programs for the past 5 years are appropriately placed on record. Record retention for training records is set to be kept for a minimum period of 5 years.

Written assessments are held after each training module as well as annual mock drills. The purpose of this is to test, observe and evaluate the effectiveness of cyanide training and other warehouse task related training presented.

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

<u>Standard of Practice 5.1</u>: Prepare detailed emergency response plans for potential cyanide releases.

in full compliance with

The operation is 
in substantial compliance with Production Practice 5.1

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

An Emergency Response Plan and Evacuation procedure have been developed for the warehouse that details the actions to address potential releases of cyanide that may occur on site and that may require various other response actions. At the time of the audit, cyanide was stored inside the right section of the warehouse. Redundant cyanide packaging was kept inside the left storage area of the warehouse.

Two warehouse staff members, Kafyi Dei-Tutu and Philip Kwaw are well acquainted with the contents of ER Plan.

The ER Plan and Evacuation procedures details the emergency response for the most likely emergency situations that could occur, being a fire, spillage of solid cyanide, gas release, severe weather and natural disasters, earthquakes, civil disorder, and explosion.

A designated assembly point properly identified and position displayed.

No potentially affected communities in and around the immediate vicinity of the facility as the warehouse is about 2 km from the closest settlement. The warehouse facility has a standby electric generator which is used to generate power in case the national electricity grid goes off.

The Company do have an ER Plan compiled that details the emergency first aid measures that are to be followed in the event of emergency situations and in particular cyanide exposure cases. Specific first aid procedures and the administering of the cyanide antidote been detailed. Hydroxycobalamine being the preferred antidote for cyanide poisoning.

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The facility does not carry out any dissolution activities and does not have any tanks, valves, pipes, pumps and waste treatment facilities. The facilities has procedures in handling cyanide exposed persons and spills of cyanide.

As per the ERP, oxygen is administered to a cyanide exposed person and then transported whilst on oxygen to the hospital. The victim is transported using an ambulance or the company's escort vehicle. Allship has an arrangement with Tarkwa Government Hospital and Effia Nkwanta Government hospital which has the recommended cyanide antidote. The recommended antidote used is Hydroxocobalamin. Administration of the antidotes is carried out solely by a medical doctor or a trained paramedic at the designated hospital.

Standard of Practice 5.2:	Involve site personnel and stakeholders in the planning pro	
	in full compliance with	
The operation is	□ in substantial compliance with	Production Practice 5.2
	□ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

The facility has involved its workforce and stakeholders in the emergency response planning process. Direct engagement of communities by Allship did not occur as the Ghanaian Environmental Protection Agency (EPA) is tasked with the consultation of the community on the issue of cyanide warehousing. Local response agencies such as Ghana Environmental Protection Agency, Ghana Police, Ghana Fire Service, Ghana Ambulance Service, the elected community leader of the communities have been notified and is involved in the ER planning process.

The nature and scale of identified scenarios are unlikely to result in impacts beyond the facility boundary. The Environmental Protection Authority (EPA) which issued the permit for the warehouse facility is responsible for the community consultation. Allship entered in consultation with the Assembly man (Elected community leader) of Dompim township via the Environmental Protection Authority (EPA).

The following external responders have been notified about their roles and responsibilities during emergency situation and the responders have acknowledged the roles they need to play in an emergency situation involving cyanide. Letters notifying the external responders of their roles and responsibilities should it be required of them during cyanide incidents. The stakeholders accepted in writing to assist during cyanide incidents at the warehouse. The external responders are;

- Ghana EPA
- Ghana Police Service
- Ghana Fire Service
- Mine site
- Medical Providers namely Tarkwa Government hospital and Effia Nkwanta Government hospital.

The ERP addresses the process of communication between themselves and the stakeholders.

Allship organizes annual Emergency Response training and mock drills together with the external responders namely Ghana Police, Ghana Fire Service and Ghana Ambulance Service.

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Standard of Practice 5.3: resources for emergency re-		d commit necessary equipment and	
	in full compliance with		
The operation is	☐ in substantial compliance with	Production Practice 5.3	
	□ not in compliance with		
Summarize the basis for this	s Finding/Deficiencies Identified:		
	the Warehouse Safety Officer is the app sponsible for initiation of alerts and to cor tions.		
The ERP identifies the emer	gency response teams.		
absence the Branch Manage	formally appointed as the primary emerger acts as alternative in his position. The essary to manage the required function.		
The ER Plan details the call-out procedures, the emergency contact list, the roles and responsibilities of the ER Response teams, the list of emergency response equipment and inspection procedures. Warehouse ERP details the emergency response teams: Warehouse Safety Officer, Escort driver, Reach stacker operator, Forklift operator, Warehouse employees, Security officers on duty at the warehouse, Ghana police, Ghana EPA, Ghana Ambulance services, Ghana Fire Services, Water Resources Commission and mine sites.			
Appropriate training for emergency responders is stipulated in the Emergency Response Plan and Evacuation procedure for the Warehouse and the office block. Required training also included in training matrix. Allship organises annual Emergency Response training and mock drills together with the external responders namely Ghana Police, Ghana Fire Service and Ghana Ambulance Service. The training comprises annual cyanide emergency response scenario training.			
The Emergency Response Plan and Evacuation procedure for the Warehouse and the office block details the required emergency equipment that must be made available. Equipment been checked monthly by the Safety Officer to ensure availability and operability.			
Standard of Practice 5.4:	Develop procedures for internal and exreporting.	ternal emergency notification and	
	in full compliance with		
The operation is	☐ in substantial compliance with	Production Practice 5.4	
	□ not in compliance with		
Summarize the basis for this	s Finding/Deficiencies Identified:		
In case of a cyanide emerge	er is responsible for initiating and contacency situation, each emergency response gned with roles and responsibilities.	ting both internal and external responders team member and the external	

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Procedures and appropriate telephone contact information is available when required to notify the members of the Company's Managing team, any other heads of departments that need to be informed, external regulatory agencies, external responders and medical facilities. Manufacturer / consignor (Orica) and International Cyanide Management Institute (ICMI) will also be notified accordingly. Telephone numbers are listed and included in the Emergency response plan.

The Ghana EPA in conjunction with Allship Management is responsible for notifying the communities.

Emergency contact telephone numbers are kept current and revised annually. Test calls verify correctness and operational.

The facility has contact information for notifying potentially affected communities of the incident and/or response measures and for communication with the media. Manufacturer / consignor (Orica) and International Cyanide Management Institute (ICMI) will also be notified accordingly. ER procedure explicate on the responsibility in the addressing the media and who to notify the consignor and ICMI.

ER procedure details the responsibility of addressing the media and who to notify the consignor and ICMI. Emergency Response Plan does not specifically address contact with media however from interviews held with employees and other senior members, it was clear that the Managing Director is the only authorised person allowed to address the media and release media statements.

Standard of Practice 5.5:	that account for the additional hazards of using cyanide treatment chemicals.		
	in full compliance with		
The operation is	☐ in substantial compliance with	Production Practice 5.5	

Summarize the basis for this Finding/Deficiencies Identified:

□ not in compliance with

Emergency Response Plan PART D: "CLEAN UP AND CONTAINMENT OF SODIUM CYANIDE SPILLAGES" describes specific, appropriate remediation measures, such as recovery or neutralization of solutions or solids, decontamination of soils or other contaminated media and management and / or disposal of spill cleanup debris.

The plan addresses the following: -

- · Recovery of sodium cyanide solid material
- Neutralization and/or disposal of excavated soil
- Neutralization and/or disposal or recovered solution
- Neutralization of soil and/or water in situation
- Recovery and treatment of surface/ground water

Contaminated soils are neutralized using Ferrous sulphate under strict conditions and neutralized material sent to the mine site for disposal at their tailing dam site.

There is no surface water on the site or within proximity of the site.

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Clause 4.3.4 of ERP refers and noted. In case of an incident resulting in a spill of sodium cyanide solid in the warehouse, the Safety Officer and the warehouse ER team will take the initial clean-up response and should it be required, call upon the outside responders to assist.

There is no surface water on the site or within proximity of the site.

Potable water is available throughout the facility as well as a water reservoir in which water is stored to ensure the availability of water within the facility, should the main water supply, for some reason, be shut down.

The ER Plan stipulates that under no circumstance's sodium hypochlorite, ferrous sulphate and hydrogen peroxide be used as neutralizing agent for cyanide that has been released into surface water.

Standard of Practice 5.6:

Periodically evaluate response procedures and capabilities and revise them as needed.

in full compliance with

The operation is

□ in substantial compliance with

Production Practice 5.6

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The Emergency Response Plan states that "All documentation will be reviewed and updated based on the outcome of the yearly emergency mock drill or when significant or critical changes have been observed or reported. The company will review the ER Plan based on the lessons learnt or recommendations made from the outcome of an incident investigation. Working documents and forms reviewed periodically as and when required.

The Company procedures require that the TM Plan and ER Plan be revised and evaluated at least on an annual basis or when significant or critical changes have been observed or reported. The Emergency Response Plan and Evacuation procedures were revised on 2nd January 2023. Revision 9.

Company procedures require that mock drills be held at least on an annual basis. Emergency mock drills are to ascertain the preparedness of the Company's site personnel, drivers, escort leaders, security officers and external service providers to respond to a cyanide related emergency and to evaluate their competency as well as the effectiveness of the requirements as stipulated in the ER plan. Based on the non-conformances and observation done during the annual mock drills, the ERP is reviewed according. Mock drill were conducted on 11/08/22, 30/9/21 and 9/11/20.

The Safety Officer and his team is responsible for reviewing and updating the plan annually to ensure that the business and technology changes are aligned with the plan.

The facility had no emergency involving cyanide since the last audit to date.

The facility's procedures require that refresher training in cyanide awareness and mock drills are held on an annual basis. The annual training and mock drill have been followed consistently and records filed. Mock drill reports are issued for every mock drill that is conducted. External emergency responders such as Ghana Fire Service, Ghana Police and Ghana Ambulance Service participate in the annual mock drills.

End of report.

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