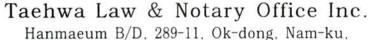
Registered No. 2008 - 712

NOTARIAL CERTIFICATE



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공증실: (052)261-7866(대), 7867, 7865 FAX: (052)261-7863

Name of Cyanide Production Facility : Tongsuh Petrochemical Co., Ltd.-Ulsan Plant

Name of Facility Owner : Tongsuh Petrochemical Co., Ltd.

Name of Facility Operator : Keun-Soo Park

Name of Responsible Manager : Cheol-Woong Joo

Address : 154, Bukokdong, Namgu

State/Province : Ulsan city

Country : South Korea

Telephone : 82-52-259-7792

Fax : 82-52-259-7695

E-Mail : changsu@tspc.co.kr

Description of operation:

The plant of Tongsuh Petrochemical Corp., Ltd. ("Tongsuh") is located at the Ulsan Petrochemical Industry Complex. The whole area covered by Tongsuh is 159,577 m', with its cyanide production facilities (inclusive of subsidiary facilities) accounting for 9,355 m'. The cyanide factory includes all facilities related to production, storage, and consignment. The only cyanide produced by Tongsuh is sodium cyanide used for gold mining. This sodium cyanide is produced using the hydrogen cyanide(HCN) generated during the acrylonitrile process as raw material. The product is available in briquette form. Tongsuh employs 16 staff in its production facility. The utilities used at the Tongsuh plant, i.e. electricity, water, etc., are being provided by the petrochemical support center. Tongsuh's safety and environment management is governed by Korean laws; it is much more strictly controlled by the relevant supervisory authority because the company is located at the petrochemical industry complex.

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Auditor's Finding

This operation is

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

with the International Cyanide Management Code.



* For cyanide production operations seeking Code certification, the Corrective Action Plan to bring an operation in substantial compliance into full compliance must be enclosed with this Summary Audit Report. The plan must be fully implemented within one year of the date of this audit.

Audit Company: BSI Korea

Audit Team Leader: S H Ahn E-mail: sangho.ahn@bsi-global.com

Names and Signatures of Other Auditors: n/a

Date(s) of Audit: 12~14 Nov. & 01 Dec. 2007

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 Production Operations and using standard and accepted practices for health, safety and environmental audits.

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1. OPERATIONS:	Design, construct and operate cyanide production facilities to prevent release of cyanide.			
Production Practice I	.1: Design and construct cyanide production facilities consistent with sound, accepted engineering practices and quality control/quality assurance procedures.			
The operation is	X in full compliance with ☐ in substantial compliance with ☐ not in compliance with			
Summarize the basis for this Finding/Deficiencies Identified: The Tongsuh NaCN plant was established at August 1985 and expanded in 1988, 1993 & 2003 year. During the construction, quality control and assurance activities were implemented according to plan submitted by construction company. During and after the construction, Tongsuh technical team and Korea Occupational Safety & Health Agency inspected according to drawing, specification and legal requirements. Inspection results were passed and all relevant records related to QA/QC & inspection were maintained. Automatic interlock systems were established in risky areas to prevent cyanide release during emergency situation. To prevent the contamination of soil and water, all cyanide process facilities were established on a concrete, secondary containment & dike were installed enough to contain spilled cyanide and cyanide solution pipelines were covered by outer piping. To prevent overfilling in reactor and storage vessel, level gauge and alarm system were maintained in DCS system. So all Tongsuh cyanide plant facilities were constructed safely and comply with the Code criteria.				
Production Practice	1.2: Develop and implement plans and procedures to operate cyanide production facilities in a manner that prevents accidental releases.			
The operation is	X in full compliance with ☐ in substantial compliance with ☐ not in compliance with			
Tongsuh established a employee health, PH	for this Finding/Deficiencies Identified: and maintained safe operation procedure to control facility maintenance, E, pollution and monitoring related to cyanide process. And also rol procedure was established and maintained to control emergency			
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situation such as cyanide exposure and release. Tongsuh implemented the change control procedure in which the issue, review and evaluation of change were defined. Facility maintenance team implemented preventive maintenance activities according to period and method defined in program. Process main parameters such as flow rate, temperature, pressure and level were monitored and monitoring equipment was calibrated according to defined schedule. Cyanide solution and cyanide contaminated water in secondary containments can not be discharged without authorization. Cyanide contaminated water treated in WWT. Tongsuh control cyanide wastes according to waste control procedure including segregation, maintain and dispatch to certified waste sub contractor.

The cyanide products were packed according to packaging procedure and IMDG (International Maritime dangerous Goods) code and stored in warehouse in which ventilation installed and secured moisture.



Production Practice 1.3: Inspect cyanide production facilities to ensure their integrity and prevent accidental releases.

X in full compliance with

The operation is \Box in substantial compliance with

Production Practice 1.3

 \square not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Tongsuh safety team conduct routine inspection for out-side area of cyanide process. And production team conduct routine inspection for process including tank, valve, reactor, storage area, secondary containment and waste tank. Inspection frequency was determined from such criteria as importance, failure history etc as defined in maintenance procedure. Inspection date, inspector and deficiency were recorded and maintained in computer system. Corrective action for deficiency was implemented and result was recorded.

2. WORKER SAFETY: Protect workers' health and safety from exposure to cyanide.

Production Practice 2.1: Develop and implement procedures to protect plant personnel from exposure to cyanide.

X in full compliance with The operation is \Box in substantial compliance with \Box

Production Practice 2.1

□ not in compliance with

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Summarize the basis for this Finding/Deficiencies Identified:

Tongsuh employee, visitor and contractor were prevented from exposure of cyanide during routine & non routine operation and emergency situation according to PPE control & safety operation procedures. Tongsuh also review proposed process and operational change for their impact on employee health and safety. Tongsuh employee participate safety committee to develop and evaluate health and safety procedure. Tongsuh use monitoring device calibrated by maintenance team to detect the leakage of hydrogen cyanide. Working environment was inspected twice per year for such item as the concentration of hydrogen cyanide and dust. Inspection results were "non-detected" far below from 4.7 PPM and comply with legal requirement. Tongsuh identified area and activities where worker can be exposed to cyanide and maintained warning signs of cyanide presence. Employee, visitor and contractors were required to wear PPE and prohibited smoking, eating, drinking in those cyanide contamination areas such as process, packaging area etc. Tongsuh maintained buddy system in repairing, inspection, patrol and maintenance works. During those works, employee use radio to request assistant for the case of emergency situation. Employee received health check every year. According to the health check results, fitness of employee to perform their tasks were determined and follow up action implemented.

Production Practice 2.2:	Develop and implement plans and procedures for rapid and
	effective response to cyanide exposure.

X 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:

General emergency plan and detail response methods to cyanide exposures were defined in Tongsuh's emergency plan procedure and cyanide handling manual. First aid equipment such as low pressure eye wash station, air shower and fire extinguisher were maintained in process and packaging areas. First aid kits such as water, oxygen, resuscitator and antidote were in cabinets installed in process area and office. Safety team inspected the first aid equipment & kits by monthly basis, replaced the equipment & kits not effective any more and maintained inspection records according to safety operation procedure. To control the cyanide exposure situation, Tongsuh have maintained internal & external communication channel and communication equipment such as wire less phone & phone. Tongsuh also employed nurse, installed infirmary in plant and maintain ambulance. Tongsuh identified 3 local hospitals in Ulsan city and informed about potential need to treat patients exposed to

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cyanide. The local hospitals understand Tongsuh' situation and nominated staff ready for emergency situation. Emergency plan for cyanide exposure situation were tested and results were reflected to revised plan. Tongsuh maintained incident evaluation procedure in which detail investigation, root cause analysis, corrective & preventive actions were defined. Tongsuh maintained in process and control room area the MSDS, first aid procedure & cyanide handling manual written in Korean. The cyanide storage tanks, containers and pipe line containing cyanide were identified by marking, notice board etc. And cyanide flow directions were identified by arrow mark in pipe line. Decontamination details for employee, contractor and visitor leaving cyanide process were defined in cyanide handling manual, According to the manual, they shall exchange clothing and pass the air shower before leaving the process. The manual actually implemented in Tongsuh plant.

3. MONITORING: Ensure that process controls are protective of the environment.



Production Practice 3.1: Conduct environmental monitoring to confirm that planned or unplanned releases of cyanide do not result in adverse impacts.

X 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:

Waste water from cyanide process was treated in WWT and discharged directly to sea. Monitoring results of final discharged water show the maximum cyanide concentration was 0.4 mg/l WAD (PPM) comply with Code's requirement and Korea law. Korea legal requirement for the maximum cyanide concentration of final discharged water is 1 ppm. Tongsuh do not need to monitor the free cyanide concentration in mixing zone because several other plants discharged rain water & steam condensate water into mixing zone and only the final discharged water shall be monitored according to Korean legal requirement. Sometimes Korea government body (Environment Agency) take sample from mixing zone and test the concentration. If the test result of cyanide concentration is over the legal requirement 0.01 ppm, then the government body will analyze the cause and issue penalty to Company. But such situation has not been occurred since plant operation started in 1985 year. Tongsuh do no have indirect discharge to surface water. Because all cyanide process were covered by dike and spilled cyanide, chemical & rain water were collected and dispatched to WWT. The capacity of secondary tank is enough to collect initial rain water poured into cyanide process area. Rain water outside the cyanide process was discharged to rain water line. But it is unlikely to be happened the contamination of rain water line. The Tongsuh Plant is in Ulsan city. In Ulsan city, there is no designated beneficial

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use of ground water, no regulatory point of compliance and no actual beneficial use of the ground water. So Tongsuh do not monitor the quality of ground water. Only conduct the monitoring of land contamination every year to preserve land & soil. Recent test was implemented at 20 September 2007. The cyanide was not mostly detected but in that case detected below legal requirements. Tongsuh limited the hydrogen cyanide gas emissions maximum 10ppm according to Korean legal requirement to protect the health of employee and local community. Monitoring result of hydrogen cyanide concentration is 0.001ppm. Monitoring frequency for air emission of hydrogen cyanide and water discharge were defined in air and water environment control procedure. With the monitoring result analysis, Tongsuh can identify and implement the process change, incident and required corrective action.

4. TRAINING: Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.



Production Practice 4.1: Train employees to operate the plant in a manner that minimizes the potential for cyanide exposures and releases.

X in full compliance with

The operation is

☐ in substantial compliance with

Production Practice 4.1

 \square not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

According to training procedure, Tongsuh have trained 2 hours every month for existing employee and 16 hours special training for new employee related to cyanide hazards.

Tongsuh have prepared and implemented annual training plan in which such items as wearing of personnel protective equipment, emergency preparedness for cyanide release and responsibility, authority & detail control method for dealing cyanide were included. The annual training plan were implemented and training records were maintained. Qualification of safety trainer was defined. Usually plant safety controller qualified according to procedure have implemented training for workers in cyanide process area. And also cyanide process team leader qualified as safety trainer conducted training before the start of daily works. Tongsuh usually evaluate the training effectiveness by written test. And also team leader conduct daily observation for workers to check whether they are implement the safety policy and procedures.

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Production Practice 4.2: Train employees to respond to cyanide exposures and releases.				
The operation is	X in full compliance with ☐ in substantial compliance with ☐ not in compliance with ☐ not subject to	Production Practice 4.2		
Summarize the basis for this Finding/Deficiencies Identified: All Tongsuh's employees are well aware of the emergency response actions against cyanide exposures and releases through be repeated education and training, and they should be made continually aware of such information. The emergency response plans specify all the employees' duties such as safety representative, first-aid responder or firemen, etc. Related mock situation drills are regularly conducted to ensure that the employees are familiar with their duties and roles. The results of the mock situation drills are evaluated and analyzed. And and all areas for improvement found are immediately improved. The results of education of training are recorded.				
5. EMERGENCY RESPO	ONSE: Protect communities and the e development of emergency res capabilities.	9		
Production Practice 5.1:	Prepare detailed emergency respons cyanide releases.	se plans for potential		
The operation is	X in full compliance with ☐ in substantial compliance with ☐ not in compliance with	Production Practice 5.1		
Summarize the basis for this Finding/Deficiencies Identified: Emergency response procedures for potential cyanide releases are prepared. Such procedures include all the necessary items covering emergency communication, rescue, evacuation, relief, pollution prevention actions, assessment, communication among relevant institutions, etc. Allocation of and familiarization with the employees' individual duties to be performed under emergency situations are ensured to prevent confusion during such situations. In addition, Tongsuh prepares emergency response scenarios based on Integrated Risk Management				
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System (IRMS) and carrie release.	es out mock situation training under each scenario, e.g., cyanide
Production Practice 5.2:	Involve site personnel and stakeholders in the planning process.
The operation is	X in full compliance with ☐ in substantial compliance with ☐ not in compliance with
The emergency response prespective duties but also established an emergency petrochemical complex an occur. Communities such police and hospitals are incorpoduction facility. Tongsu	clan deals with not only those factory workers assigned to their those concerned with the company. Tongsuh has prepared and communication network to contact nearby factories at the d potentially affected communities should any emergency event as local government and environment authorities, fire stations, cluded and they have knowledge of the risks related to the cyanide h is always prepared for any emergency patient, having designated earest it and verifying their capability to provide adequate medical
Production Practice 5.3:	Designate appropriate personnel and commit necessary equipment and resources for emergency response.
The operation is	X in full compliance with ☐ in substantial compliance with ☐ not in compliance with
All Tongsuh's employees during an emergency, with response actions. The emer of those for control, secur recovery, etc. The equipment through checks and repa cooperative system has be	have been tasked with their respective duties to be performed at the plant manager serving as the person in charge of emergency response organization consists of 8 functional units inclusive ity, medical, firefighting, CBR (chemical, biological, radiological), ent for emergency response actions is maintained in a ready state irs. A list of such equipment is also maintained. Moreover, a been established and operated where fire stations and nearby participate in the mock situation drills. To control the emergency

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situation effectively, emergency responders received trainings such as personnel rescue, lead excavation, facility control etc. And also safety team test the call-out procedure as defined in emergency procedure. In safety team office and cyanide process control room, Tongsuh maintained internal & external communication detail in notice board in which contact information for emergency responders such as fire agency, hospitals, local community & nearby company identified.

Production Practice 5.4:	Develop procedures for internal and notification and reporting.	external emergency		
The operation is	X in full compliance with ☐ in substantial compliance with ☐ not in compliance with	Production Practice 5.4		
Summarize the basis for this Finding/Deficiencies Identified: The emergency communication network is prepared for prompt notification in the emergency response plan. The internal communication system is made up of 2 sub-systems. First, the vertical report system covers the person who discovers an emergency accident such as cyanide release and up the chain of command to the plant manager who serves as the chief emergency response manager. The other is the site alarm system, which simultaneously notifies site personnel. External notifications by phone are conducted with the above mentioned communities.				
Production Practice 5.5: Incorporate into response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.				
The operation is	X in full compliance with ☐ in substantial compliance with ☐ not in compliance with	Production Practice 5.5		
Summarize the basis for this Finding/Deficiencies Identified: Hazards associated with the use of cyanide treatment solution and its handling methods are detailed in Material Safety Data Sheets (MSDS) and Tongsuh's sodium cyanide manual. Remediation methods are also included. The above mentioned documents are arranged for ready reference by the site workers who are taught the key contents repeatedly during safety				

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training sessions. Potential need for environmental monitoring to identify the extent & effect of HCN & NaCN release, sampling method, parameter and possible location were defined in Integrated management System procedure.

Production Practice 5.6: Periodically evaluate response procedures and capabilities and

revise them as needed.

X in full compliance with

The operation is \Box in substantial compliance with

Production Practice 5.6

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

As stated before, Tongsuh periodically carries out mock drills for emergency response. The plan expressly states that the results be evaluated and analyzed and used as data for improving of the procedure. In addition, Tongsuh conducts periodic mock situation emergency communication training to check the state of the communication system.

According to emergency procedure, emergency plan shall be evaluated after the application to actual emergency cases. And revised as needed. Actual emergency situation requiring the plan has not been occurred.



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등부 2008년 제 712 호	Registered No. 2008-712
인 증	Notarial Certificate
위 감사보고서 요약 에 기재된 안 상 호	Chang Su Han — attorney in fact of Sang Ho Ahn—
의 대리인 한 창 수 는 본직의 면전에서 위 본인이 서명한——	appeared before me and admitted
것임을 확인하였다.	said principal's subscription to the attached "SUMMARY AUDIT—— REPORT".
2008년 02월 26일 이 사무소에서 위 인증한다.	This is hereby attested on this 26 day of Feb. 2008 at this office.
^{광중인가} 태화종합법률사무소 법무법인	Taehwa Law & Notary Office Inc.
울산광역시 남구 옥동 289-11 한마음빌딩 7 2 도시 기계대한민 공중담당변호사	Hanmaeum B/D, 289-11, Ok-Dong, Nam-Gu Ulsan, Korea AR Doon Signature of the Notary Public
	This office has been authorized by the

This office has been authorized by the Minister of Justice, the Republic of Korea, to act as Notary Public Since Dec. 21, 1998 Under Law No. 3790