

INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Cyanide Production

Summary Audit Report Form

For The International Cyanide Management Code

www.cyanidecode.org

July 2005

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SUMMARY AUDIT REPORT FOR CYANIDE PRODUCTION OPERATIONS

Instructions

- 1. The basis for the finding and/or statement of deficiencies for each Production Practice should be summarized in this Summary Audit Report for Cyanide Production Operations. This should be done in a few sentences or a paragraph.
- 2. The name of the cyanide production operation, lead auditor signature and date of the audit must be inserted on the bottom of each page of this Summary Audit Report. The lead auditor's signature at the bottom of the attestation on page 3 must be certified by notarization or equivalent.
- 3. An operation undergoing a Code Verification Audit that is in substantial compliance must submit a Corrective Action Plan with the Summary Audit Report.
- 4. The Summary Audit Report and Corrective Action Plan, if appropriate, for a cyanide production operation undergoing a Code Verification Audit with all required signatures must be submitted in hard copy to:

International Cyanide Management Institute (ICMI) 2010 Crow Canyon Place, Suite 100 San Ramon, California 94583-1344 USA

- 5. The submittal must be accompanied with 1) a letter from the owner or authorized representative which grants the ICMI permission to post the report on the Code Website, and 2) a completed Auditor Credentials Form. The letter and lead auditor's signature on the Auditor Credentials Form must be certified by notarization or equivalent.
- 6. Action will not be taken on certification based on the Summary Audit Report until the application form for a Code signatory and the required fees are received by ICMI from the applicable cyanide production company.
- 7. The description of the operations should include sufficient information to describe the scope and complexity of the cyanide production operation.

Ferminal Name of Facility Owner: Cy	Plus		
Name of Facility Operator: I			
Name of Responsible Manag		Heinrich Ruth	
Address: 33 Dumont Street,	East		
State/Province: Quebec	Country: Car	nada	
Γelephone: 514-337-2421	Fax: 514-337-9057	E-Mail:	
heinrich.ruth@cyplus.com			

Additional contact person:

Bill Clark, ESHQ Compliance Manager

Phone: 001-215-321-7226 Fax: 001-215-321-3944 bill.clark@cyplus.com

Description of operation:

The purpose of the Cadillac Terminal operation is to receive solid NACN briquettes, to dissolve these briquettes with warm water, store the 30% NaCN solution and deliver this solution to the CyPlus customers via tanker trucks. The solid cyanide will be sent from the supplier's production facility in the USA by hopper railcars. They are parked inside the fenced Terminal area and unloaded inside the Terminal building. All three storage tanks, pipes and pumps are located in concrete dikes designed to contain the NaCN solution in case of a spill. The railcar and the tanker truck area is also in an dike as well. The tractors dedicated for hauling the tanks with cyanide solution to the Canadian customers are equipped with a state of the art Satellite Tracking System with an on board communication keyboard. Under regular conditions, two or respectively three people are working at the Terminal.

It is important to know that the Cadillac Transloading Terminal is self-contained and all operations are carried out inside the building.

CyPlus Terminal, Cadillac/Canada
Name of Facility

Signature of Lead Auditor

U. K. Dulm

Sept 24rd, 2006 Date

Auditor's Finding

This operation is		
x in full compliance ☐ in substantial compliance ☐ not in compliance	e *(see below)	
with the International Cyanide Ma	anagement Code.	
* For cyanide production operation Action Plan to bring an operation must be enclosed with this Surimplemented within one year of	on in substantial compliance in mary Audit Report. The plan	nto full compliance
Audit Company: DQS GmbH; Au Audit Team Leader: Dr. Klinken, Names and Signatures of Other Au	Heinz Theo E-mail: okt.kli	
Date(s) of Audit: August 1 st , 2006	5	
I attest that I meet the criteria for kr Verification Audit Team Leader, establ and that all members of the audit International Cyanide Management Insti	ished by the International Cyanide team meet the applicable criteri	Management Institute a established by the
I attest that this Summary Audit Reportance and the verifical accordance with the International Cyani Production Operations and using states accordance audits.	ition audit was conducted in a pride Management Code Verification	rofessional manner in Protocol for Cyanide
CyPlus Terminal, Cadillac/Canada Name of Facility	Signature of Lead Auditor	Sept 24 rd , 2006. Date
CyPlus Terminal, Cadillac/Canada Name of Facility	M. M. M. Signature of Lead Auditor	Sept 24 rd , 2006 Date
	Page 3 of 9	i ki Dagi

	esign, construct and operate cyanide production facilities to prevent lease of cyanide.		
<u>Production Practice 1.1</u> :	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 complete Transloading Terminal at Cadillac site including all equipment has been built according to Canadian regulations. The construction and the corresponding programs for Quality Assurance and Quality Control are on an high level and meet the Code's criteria. Each step of construction, implementation and realization of the facility had been regulated and approved. All activities during this phases had been supervised by competent engineers and project managers. The used materials and the installed equipment as well as the constructing activities were controlled by QA/QC procedures and were carried out by qualified personnel. Corresponding records are available, documented and retained in specific files. Final approvals and statements of the authorities are in place. The "Training and Operation Manual" describes the production process and all installed equipment on the production facility. It defines automatic systems and interlocks to shut down production and prevent releases. Technical equipment to control the production process is installed and under control. The whole cyanide transloading process is controlled, supervised and checked by an automatic control system. The Terminal is a self-contained facility, all activities are done under roof and on concrete floor with additional membrane. Sufficient capacity of secondary containment is available, spill prevention and containment measures for all pipelines are provided.			
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		
Summarize the basis for this Finding/Deficiencies Identified: The Training and Operation Manual describes the production process and all installed equipment of the facility. It defines automatic systems and interlocks to shut down production systems and prevent releases. As well, technical safety equipment is installed and under control. The whole cyanide transloading process is controlled, supervised and checked by automatic systems). A corresponding Emergency and Response Plan provides organization, systems and facilities to respond to and prevent unplanned releases of cyanide. An integrated management system for quality and environment acc. to ISO 9001 and ISO 14001 had been certified. All relevant procedures are described. CyPlus Terminal, Cadillac/Canada Name of Facility Signature of Lead Auditor Date			

Production Practice 1.3:	Inspect cyanide production facilities to ensure their integrity and prevent accidental releases.
The operation is	x in full compliance with ☐ in substantial compliance with ☐ not in compliance with
the installation register in tanks, pipelines, containm certified bodies. The corre requirements. Additional i controls are considered ai inspections are documente	tis Finding/Deficiencies Identified: CyPlus provides a list representing accordance to legislation. It covers annual routine inspections of tents and other equipment by authorized experts and independent esponding inspection protocols state compliance with the Code's routine inspections by employees (permanently) and preventive and are part of the maintenance program. The results of those routine and in the shift manual or in data files, respectively. Corrective actions are initiated and documented in equipment manuals.
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.
The operation is	x in full compliance with ☐ in substantial compliance with ☐ not in compliance with
In accordance to Canadia to perform a danger and r places have been analyzed e.g. by Degussa Corporate Preventive measures are a quality, environment and in a sound and safe manns such as general safety insor emergency operations. management handbook (stested and calibrated. Wa	nis Finding/Deficiencies Identified: In law and internal requirements the CyPlus organization is enforced isk analysis in which all relevant aspects are considered. The working in cooperation with medical experts, doctors and safety engineers, is safety and Health Department. The analysis is reviewed periodically. Internanced, if necessary. Within the integrated management system for safety CyPlus has implemented many documents to operate the facility for er. Specific instructions to minimize worker exposure are developed tructions, instructions concerning the handling of hazardous material Change management is mentioned in different procedures and in the see chapter 12). Hydrogen cyanide monitoring equipment is maintained, rning signs are installed throughout the facility; smoking, eating and the employees demonstrated high awareness to the auditor.
Production Practice 2.2:	Develop and implement plans and procedures for rapid and effective response to cyanide exposure.
The operation is CyPlus Terminal, Cadillae Name of Facility	x in full compliance with ☐ in substantial compliance with Production Practice 2.2 c/Canada Signature of Lead Auditor Date

□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The facility has developed and implemented an operational alarm and emergency response plan in accordance to Canadian law and internal Degussa requirements. This includes the specific conditions and measures in the Transloading Terminal. All relevant aspects such as behaviour in case of emergency are taken into account. First aid and emergency response equipment (showers, eye-wash stations, fire-extinguishers, cyano kit, MSDS and so on) are available and under control. A medical support with all required instruments and equipment has been implemented. In fact, the Cadillac Terminal is located in the middle of a mining area; this means that the affected institutions for support are possessing the necessary equipment and are well experienced. The labeling of tanks, pipelines reactors and other items is in place. Mock emergency drills are conducted (see, for example, simulation report, dated April 25th, 2005).

3.	MONITORING:	Ensure that proces	s controls are	protective o	f the environment

Production Practice 3.1:	Conduct environmental monitoring to confirm that planned unplanned releases of cyanide do not result in adverse impacts.		
The operation is	x in full compliance with ☐ in substantial compliance with ☐ not in compliance with	Production Practice 3.1	

Summarize the basis for this Finding/Deficiencies Identified:

To fulfil legal and other requirements, indicated environmental monitoring concerning emissions, wastewater handling, waste disposal or hazardous materials are realized. The results show that environmental impacts are under control. For example, the CyPlus facility has no direct discharge to surface water. The facility has a self-contained system with concrete floor and an additional membrane underneath. There is no beneficial use of ground water and no numerical ground water standards are applied to Cadillac at a specified point of compliance. A scrubber is in place to wash the volatile emissions so that in fact no emissions will pass. As well, no air permit is required. Different monitoring devices for controlling the environmental impact are in place; they were checked in a regular manner.

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 the potential for cyanide exposur	plant in a manner that minimizes es and releases.
The operation is	x in full compliance with ☐ in substantial compliance with ☐ not in compliance with	Production Practice 4.1
CyPlus Terminal, Cadilla Name of Facility	c/Canada Signature of Lead A	Sept 24 rd , 2006 uditor Date

Summarize the basis for this Finding/Deficiencies Identified:

Based on their professional education, the operating employees are qualified as skilled workers which went through professional training. In addition, a training program is elaborated for each employee. This program provides several lessons concerning the general operation of the facility or the use of personal protective equipment as well as specific training concerning individual tasks. The training is provided by qualified experts and superiors. The training effectiveness is evaluated by testing, examination or observation. The training elements are documented and the records are retained according to internal requirements for several years.

<u>Production Practice 4.2</u> :	Train employees to respond to cyanide exposures and re	eleases.
The operation is	x in full compliance with ☐ in substantial compliance with ☐ not in compliance with ☐ not subject to	÷ 4.2
The above mentioned educe requirements of the certain aid responder are conside experts or institutes. They and to improve their behard drills are performed to opt	nis Finding/Deficiencies Identified: cation is the basis for the training concept which is specification is the basis for the training concept which is specific function of each employee. Trainings for special tasks stred. These training lessons are performed by internal and are provided to qualify specific functions of the operation viour in cases of emergency such as cyanide exposure. Petimize the response in cases of emergency; the response that in the response that it is a supplied to the response to	uch as first d external n personnel priodical
5. EMERGENCY RESPO	ONSE: Protect communities and the environment development of emergency response standard capabilities.	_
<u>Production Practice 5.1</u> :	Prepare detailed emergency response plans for pote releases.	ential cyanide
The operation is	x in full compliance with ☐ in substantial compliance with ☐ not in compliance with	5.1
All relevant and potential Emergency Response Plan DETER manual (Degussa external responders such a support is given by contra such as evacuation, inform with all relevant institution CyPlus Terminal, Cadillace		(P or c) ituations the furthermore onse actions munication uzardous ept 24 rd , 2006
Name of Facility	Signature of Lead Auditor	Date

material or control of releases. Containment, assessment, mitigation and actions to prevent future releases are considered.

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
Tasks and responsibilities The certain functions such responders or the involver potentially affected common mayor, fire-brigades, poli- risks of the cyanide produ emergency are regulated.	is Finding/Deficiencies Identified: in cases of emergency are regulated by the different response plans. as security personnel, medical department, fire-brigade, contracted ment of the top management are taken into account. Beside this, mities such as local government and environmental authorities, the me or hospitals are involved and well informed about the nature of the metion facility. The ways of communication in general and in cases of The acting persons know each other. Documents concerning the megency are in place at the different communities.
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
The Emergency Response duties in cases of emergence coordinator, the top mand Teams are defined, too. A professional support with procedures, site maps with inspection procedures are together with production s	is Finding/Deficiencies Identified: Plans determinate the different functions and roles with specified cy such as the responsibilities of the chief emergency response gement or the communication manager. The Emergency Response is mentioned above, the Cadillac Terminal provides contracted in a permanent 24 hours standby service. General alarming is focal points of risks, catasters or lists of response equipment and integrated into the plans. Mock drills are performed periodical staff. Outside responders are involved in extensive mock drills. All are reported and documented.
Production Practice 5.4:	Develop procedures for internal and external emergency notification and reporting.
The operation is	x in full compliance with ☐ in substantial compliance with ☐ not in compliance with
Summarize the basis for the CyPlus Terminal, Cadillacter Name of Facility	is Finding/Deficiencies Identified: Canada Signature of Lead Auditor Sept 24 rd , 2006

The relevant procedures are described in the above mentioned alarm and emergency response plans. They contain relevant procedures for internal and external emergency notification and reporting. The relevant contacts such as authorities, police, neighboured companies, public institutions, hospitals or public media are involved. Contracted responders are considered. All emergency cases run through DETER (Degussa Team Emergency Response) that is responsible for internal communication to the different levels of the management according to Degussa DEN reporting regulations (DEN = Degussa Emergency Network).

Production Practice 5.5:	Incorporate into response pla monitoring elements that account j cyanide treatment chemicals.	
The operation is	x in full compliance with ☐ in substantial compliance with ☐ not in compliance with	Production Practice 5.5
a	ar Fr. F. /D. C	

Summarize the basis for this Finding/Deficiencies Identified:

All the emergency response activities run through the activation of an external organization for support as contracted via term sheet. This is a specialist in responding against cyanide accidents and incidents. Due to their skill and in order to fulfil their requirements they will realize appropriate remediation measures if necessary and as described in the regarding documentations (e.g. ERAP). Technical and personnel response capabilities are regulated in the ERAP. If necessary, specific activities will be realized in relation to the environmental impacts. Remediation measures are integrated in this concept. Detoxification by chemical treatment is prohibited.

Production Practice 5.6: Periodically evaluate response procedures and capabilities and revise them as needed.

x in full compliance with
□ in substantial compliance with
□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

As stated before, the response procedures are trained periodically. Mock drills are performed, e.g. extraordinary drill on March 10th, 2005. The results and reports of these drills are the basis to review the procedures. In addition, the different alarm and emergency response plans are revised once per year by the competent manager or EHS responsible, respectively.

CyPlus Terminal, Cadillac/Canada
Name of Facility

Signature of Lead Auditor

Sept 24rd, 2006.
Date