# **International Cyanide Management Code Pre-Operational Certification Audit**



# Chemours Laguna Sodium Cyanide Production Facility

**Summary Audit Report** 

### **Submitted to:**

The International Cyanide Management Institute 1400 I Street, NW – Suite 550 Washington, DC 20005 USA

2020 Audit Cycle





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# Chemours Laguna Sodium Cyanide Production Facility Summary

### **Company Names & Contact Information**

Name and location of Operation:	Chemours Laguna Plant Carretera a Dinamita Km 6.7 S/N Gómez Palacio, Durango, Mexico. C.P. 35100
Responsible Manager for Operation:	Gustavo Gonzalez Chemours Laguna Plant Manager
Name and contact information for Chemours Laguna ICMC Audits:	Brian Morris Cyanide Business Global Product Stewardship Manager Email: Brian.R.Morris@chemours.com

### **Operational Overview**

The Chemours Company is a chemical manufacturing company that offers a wide range of products and services for diverse markets globally. The Chemours Memphis, Tennessee Plant in the United States is currently the only Chemours cyanide production facility and has been certified to the ICMI Cyanide Code since 2006. The Chemours Laguna Plant is currently under construction and will be used to supply solid sodium cyanide to customers in Mexico.

Chemours maintains certifications for its North American production and transloading operations, including the Memphis production plant (including Memphis and Carlin packaging operations), the bulk loading facility in Malartic, Quebec, and the two Mexican transloading facilities (San Luis Potosi and Hermosillo). Chemours also maintains multiple certified supply chains globally. The Laguna Plant will be Chemours second production plant and its first in Mexico.

The Laguna Plant construction was started in 2017 and is currently on hold as Chemours resolves some matters associated with the project. The operation is designed to have a production capacity of 65,000 tons of solid sodium cyanide per year.

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The plant design has significant operational improvements to reduce risk to the environment, workers, and the community. The plant will have a 100% closed-loop design that will enable it to recycle 100% of its process water and eliminate water discharges to the environment. The plant will operate a thermal oxidizer that is designed to destruct 100% of air emissions. Operational efficiencies introduced into the design of the process will eliminate the need for a warehouse because there will be no on-site warehouse storage of cyanide. There is also an anticipated significant reduction in the generation of cyanide dust during operations due to overall process design improvements.

#### **Audit Implementation and Conclusions**

Solid sodium cyanide pre-production policies, procedures, and records were evaluated during this assessment. The Laguna Plant facility, in its partially constructed state, was also physically evaluated using on-site auditing methods.

The audit was conducted through discussions and interviews with senior management, operations management, product stewardship, and environmental, health, and safety (EHS) staff. The audit team used the ICMI "Cyanide Production Pre-Operational Verification Protocol" to evaluate International Cyanide Management Code (Cyanide Code) compliance.

Draft procedures were largely in place and were evaluated during this audit. The assessment was based on random samples of information and therefore deficiencies may exist which have not been identified. The depth to which records and data were sampled was typical of an environmental, health and safety (EHS) management system audit. Although legally required records were sampled in order to evaluate Cyanide Code compliance, legal compliance with federal, regional, and local regulations was not part of the scope of this evaluation.

The Chemours pre-operational certification audit was performed by an independent third-party audit team with the necessary ICMI qualifications for Lead Auditor for all types of International Cyanide Management Code (Cyanide Code) audits and Technical Expert for Cyanide Code audits of cyanide transportation and production operations. The audit was conducted in English and Spanish. Cyanide was not yet being produced at the time of the pre-operational audit and the plant was not yet completely built.

All aspects of the cyanide operations in its pre-operational state noted above were included in this Cyanide Code Pre-Operational Certification Audit. The operation was found to be in FULL COMPLIANCE with Cyanide Code Cyanide Production Pre-Operational requirements.

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### **Auditor's Finding**

The planned cyanide management practices for the Chemours Laguna production were evaluated for Cyanide Code compliance using the *ICMI Cyanide Production Pre-Operational Verification Protocol*. Chemours internal standards, policies, practices, and procedures regarding the management of the cyanide operations were reviewed.

The auditors found that the overall level of preparedness and understanding of ICMI Cyanide Code requirements was excellent. Management systems upon which the operation is based were found to be very mature. Personnel demonstrated a very high level of experience and skill regarding all facets of the cyanide plant construction project and planned operations.

Cyanide had not yet been introduced to the operation at the time of this audit. The plant was still under construction.

The results of this pre-operational certification audit demonstrate that the Chemours Laguna Plant and all planned cyanide-related operations are in FULL COMPLIANCE with International Cyanide Management Code pre-operational production requirements.

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Lead / Technical Auditor:	Nicole Jurczyk E-mail: njurczyk@mss-team.com
Auditor:	Germán Hernández
Date(s) of Audit:	July 7-8, 2020

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Certification 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 the Audit Reports accurately describe 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 Pre-Operational Verification Protocol and using standard and accepted practices for health, safety and environmental audits.

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#### **Chemours Laguna Pre-Operational Certification Audit Results**

1. OPERATIONS: Design, construct and operate cyanide production facilities to prevent release 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 ☐ in full compliance with Production Practice 1.1

Summarize the basis for this Finding:

Chemours has implemented quality control and quality assurance programs as part of the Laguna Plant construction project. Personnel, including the Plant Manager, interviewed during the audit confirmed that the company is committed to retaining all quality control and quality assurance records from the construction of the cyanide production plant. Records were available to demonstrate that appropriately qualified personnel are reviewing the facility construction process at frequent intervals to confirm that all stages of the facility conform to engineering plans. A sample of the initial quality control and quality assurance records were reviewed during the audit and were found to be acceptable.

Chemours is committed to ensuring that the materials of construction for the cyanide production facility are compatible with reagents that will be used in the planned production processes. Chemours has many years of experience in building cyanide operations that are safe for workers and the environment and in the principles of Process Safety Management (PSM).

The Chemours materials of construction specification is used by Chemours Engineers to confirm that all parts of the operation are constructed according to Chemours specifications. Interlock information was reviewed during the audit. Each critical system has been designed to have an interlock mechanism. The interlocks are designed to prevent cyanide releases in the event of a power loss or equipment failure. An extensive Process Hazard Analysis (PHA) of potential release scenarios was done to determine the exact placement and types of interlocks needed.

All production activities will be done on a concrete surface. There will be no cyanide-related activities performed outside of the containment area. Specifications and drawings were reviewed during the audit to confirm that all tanks and storage vessels will have level indicators and high-level alarms that will be linked into the distributed control system (DCS). Designs were reviewed and interviews with project engineers indicate that the planned indicators should be sufficient for preventing the overfilling of cyanide process and storage vessels.

Chemours is committed to constructing secondary containments for process and storage tanks and containers with materials that provide a competent barrier to leakage. Additionally, these

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secondary containment areas are sized to hold a volume greater than that of the largest tank, any piping draining back to the tank, and additional capacity to account for the highest possible rainfall from a severe storm event. Engineering planning information, calculations, and rainfall information were reviewed for the tanks. All information was found to be appropriate and acceptable.

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

The operation is **☑** in full compliance with Production Practice 1.2

Summarize the basis for this Finding:

Chemours has approximately 300 plans and procedures for the production facility that describe the standard practices necessary for its safe and environmentally sound operation. Some of the procedures were finalized at the time of the audit and some were in draft form. Procedures are in Spanish and were evaluated onsite during the audit by a native Spanish speaking auditor. There are no planned storage facilities.

Extensive operational and emergency response procedures have been drafted by Chemours specifically for this operation. Procedures that address normal operations, upset conditions, and emergency events are addressed in the documentation.

Chemours is committed to developing contingency plans for upset conditions. There is a Standard Operating Condition (SOC) Matrix that details what needs to be done if there is an upset condition. Chemours also has also drafted emergency response procedures for situations that may result in cyanide exposures or releases.

Management, engineering, and EHS personnel were interviewed during the audit. All personnel audited demonstrated a high level of awareness regarding change management. Chemours maintains a formal Management of Change (MOC) process that calls for a risk analysis to be performed prior to making any changes to procedures or equipment. All MOC procedure reviewed during the audit was found to be appropriate for the operation.

Chemours has already started to implement a formal preventive maintenance program including procedures, training, and checklists to maintain the production equipment and facilities that have already been built. Operators will inspect and perform preventive maintenance at appropriate frequencies. According to interviews, maintenance activities will be recorded, and records will be maintained in SAP as part of the overall management system that will be used for the plant, including the administration of maintenance activities.

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Chemours is planning to monitor process parameters with the distributed control system (DCS) and calibrate all instruments according to manufacturer's recommendations. SAP and work orders will be used for managing calibration tasks and records.

Chemours is committed to implementing procedures to prevent discharges of cyanide-contaminated water to the environment and for managing and disposing of cyanide-contaminated solids in an environmentally sound manner. The plant is designed to recycle process water 100% back into the process. There are no water bodies near the plant. Cyanide-contaminated waste will be processed by authorized waste handlers and incinerated.

The production building will have adequate ventilation to prevent the build-up of hydrogen cyanide gas. The partially completed facility was reviewed during the audit and interviews confirmed that ventilation plans appear to be appropriate. All cyanide production activities will be done under roof to prevent contact with water. There is no cyanide storage planned. The perimeter of the facility is completely fenced to ensure that no unauthorized personnel access the site. Chemours is committed to ensuring that all cyanide packages are labelled in the appropriate languages for the countries through which the material is transported. The solid sodium cyanide will be shipped in ISO tanks marked as UN 1689 outbound. Red dye (required by the Cyanide Code) is added to the sodium cyanide after loading. The cyanide will then be dissolved with water into solution at the mine site. The returning (empty) ISO tank will be marked with a UN 3414 cyanide solution placard to account for the potential residual that is expected to be in the tank.

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

The operation is ☑ in full compliance with Production Practice 1.3

Summarize the basis for this Finding:

Chemours Laguna is committed to developing a program to conduct routine inspections of all cyanide production equipment and facilities including: tanks, valves, pipelines, and containments. Daily routine inspections will be performed and recorded on rounds sheets. The Chemours Mechanical Integrity / Quality Assurance (MIQA) program will include inspections to confirm that tanks that hold cyanide solutions are evaluated for structural integrity and signs of corrosion and leakage. The perimeter of the facility is completely fenced to ensure that no unauthorized personnel access the site.

Secondary containments will be assessed for their integrity, the presence of fluids and their available capacity, and to ensure that any drains are closed to prevent accidental releases to the environment. Pipelines, pumps and valves will be inspected for deterioration and leakage. Chemours is committed to inspecting its cyanide facilities at frequencies that are sufficient for ensuring that equipment is functioning within design parameters. Records that fulfill all ICMI inspection record requirements, including the recording of the inspector name, date, results of

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inspection, and corrective actions when deficiencies are found will be retained. This information was confirmed through interview, a review of draft procedures, plans, and work orders. Initial records demonstrated that all Cyanide Code requirements are being met and all information was found to be acceptable by the auditors.

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

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

The operation is  $\square$  in full compliance with Production Practice 2.1

Summarize the basis for this Finding:

To minimize worker exposure under normal operations, the facility is developing and plans to implement cyanide related procedures for: producing and shipping cyanide. There are no plans for the storage of cyanide at the plant.

Procedures are also being drafted for abnormal operations and maintenance-related activities. A list of all planned operational, maintenance, and EHS procedures was available for review and many procedures had already been written at the time of the audit. SAP is also starting to be used for the creation of detailed work orders that include procedural steps for preventive maintenance, inspection, and calibration tasks.

Chemours has a formal Management of Change (MOC) process and database platform that it uses to review proposed operational changes and record results of the review. According to interviews, the MOC process is used to evaluate the potential impacts on worker health and safety, as well as potential impacts tot the environment. EHS personnel are involved in assessing the potential impacts of all relevant changes prior to approving them. Changes in documentation, installations and operational changes will be processed using this procedure.

According to interviews, procedures are written by Operators and then they are approved by another person and by the Plant Manager upon first release of the procedure. Additionally, Chemours is planning on reviewing procedures at least every three years. Chemours will be using its Job Cycle Check process and worker input every three years to evaluate the continued accuracy of the procedures, the safety of the job, and the skills of the workforce.

The facility is committed to using portable and stationary monitoring devices throughout the cyanide production, storage, and loading areas. Plans are in place to calibrate HCN monitors according to manufacturer's specification. Maintenance and calibration will be performed by internal personnel per the manufacturer's recommendations and requirements.

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Chemours is committed to conducting an occupational health study prior to formal plant start-up to confirm that safe working conditions exist and that cyanide levels are below 4.7 ppm. The facility will be evaluated for elevated HCN exposure potential.

Chemours has identified the areas of the plant as low hazard operation, highly toxic area, and highly hazardous process. Areas are being identified based on past experience at other Chemours cyanide plants. All personnel will be wearing personal monitors.

There is a regulation in Mexico that requires that an employee exposure study be done. Chemours is committed to performing this study after commissioning, and then again annually. The results of the monitoring study will be used to refine personal protective equipment requirement definitions. Initial personal protective equipment requirements have been developed and are defined in draft procedures.

For work tasks where there is a potential for exposure to cyanide, Chemours is committed to ensuring that employees utilize the buddy system (at least two employees working together). Chemours is also committed to the use of radios throughout the process area. Interviews confirmed that the health of employees will be evaluated to determine their fitness to perform their specified work tasks. Chemours has been working with a doctor to establish the medical surveillance program. There is a full health check every three years and some medical tests are done annually. The Fitness for Duty protocol was reviewed. Employees are also evaluated upon hire or when they change position, or when they come back to work after being away from the job. Records will be maintained.

A clothing change policy has been drafted which requires that employees change clothes upon leaving the operational area. According to draft procedures, operators will remove any clothing that has potentially been in contact with cyanide before leaving the facility. Chemours is also committed to having safety procedures in place for contractors and visitors to address the need to decontaminate clothing.

Chemours is committed to ensuring that appropriate cyanide warning and PPE signs are present in all operational areas. Eating, drinking, smoking, and open flames will be prohibited where there is a potential for cyanide contamination. Leadership showed very good awareness of the restrictions and of the potential dangers of not adhering to those restrictions. Initial signs were posted at the time of the audit and Chemours was committed to posting more.

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

The operation is **☐** in full compliance with Production Practice 2.2

Summarize the basis for this Finding:

Chemours has drafted a comprehensive Emergency Response Procedures for rapid and effective response to cyanide exposure. The draft procedure for medical emergencies involving cyanide exposure was reviewed during the audit. The procedure was reviewed and was found to be appropriately detailed.

Shower / low-pressure eye wash stations are planned to be located throughout the facility. Maps showing the location of this equipment were reviewed during the audit. The placement of the showers was observed during the field tour. ANSI-Z-358.1 is the standard that is referenced for the placement and selection of emergency eye wash and shower equipment.

The facility will also have non-acid fire extinguishers located at strategic locations. Shower / low-pressure eye stations and fire extinguishers will be inspected regularly. Chemours is committed to maintaining records of these inspections.

Chemours is committed to having water, oxygen, resuscitator, antidote and a means of communication readily available for use in the plant at all times. Chemours is planning to inspect and appropriately maintain emergency response equipment and cyanide antidote to ensure availability during an emergency. The antidote will be maintained according to manufacturer recommendations. Emergency response equipment plans were found to be acceptable.

SAP will be used to schedule and record safety inspections. The SAP work orders for these inspections were being drafted at the time of the audit. Initial examples of inspection forms were reviewed during the audit and were found to be acceptable.

Cyanide Safety Data Sheets and first aid procedures will be available to workers in English and Spanish. The safety information will also be published as posters in Spanish at the facility.

The facility is committed to alerting workers to storage tanks, process tanks, containers and piping that contain cyanide. The direction of cyanide flow in pipes will also be identified. The procedure that calls for the labeling of the pipes with the direction of flow was reviewed during the audit. There will be a monthly inspection of equipment, including the markings on the pipes.

The facility decontamination procedure was in draft at the time of the audit. The procedure includes the decontamination of shoes, etc. This requirement includes contractors. They are evaluating whether people will decontaminate shoes or wear them home. Clothing will be washed onsite.

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Chemours personnel demonstrated an excellent understanding of the decontamination procedure and the need for safety precautions.

Chemours is committed to having its own on-site capability to provide medical assistance to workers exposed to cyanide. The operation is planning to have a nurse and paramedics and ambulances on site. Chemours is also planning to work with other industries in the area to leverage resources. It would take 30 minutes or more to get medical assistance from a local hospital. Chemours is committed to developing and implementing procedures to transport exposed workers to locally available qualified medical facilities. Procedure LAG-PS-916 was already drafted at the time of the audit.

Chemours has committed to alerting local hospitals and clinics of the potential need to treat patients for cyanide exposure and for confirming that local hospitals have the necessary skills, equipment, and qualified staff to respond to a cyanide exposure emergency. This was confirmed through interviews.

Chemours is committed to doing emergency response drills that test different scenarios. The exact frequency of the drills was still to be defined at the time of the audit but is planned to be done at least annually. The plan is to conduct a large drill each year with external emergency responders. Red cross, civil protection, fire fighters are involved in the planning process.

The Chemours incident investigation procedure is part of the PSM program. The Chemours Laguna Plant is committed to implementing the incident investigation procedure for investigating, evaluating and reporting incidents, including cyanide exposure cases.

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

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

The operation is ☑ in full compliance with Production Practice 3.1

Summarize the basis for this Finding:

According to interviews, there are no plans for this facility to have direct discharge to surface water. This requirement is likely to be inapplicable to the operation. The Chemours Laguna Plant is committed to ensuring that its operations do not impact groundwater. The plan is for 100% of water to be recycled back into the process.

According to interviews, Chemours is committed to ensuring that its operations remain in compliance with Cyanide Code requirements and that its operations do not impact groundwater. Groundwater is too deep below the site for monitoring wells. There is an air gap backflow

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prevention in the general service water tank to ensure that there is no backflow to the municipality. In the unlikely event that impact to groundwater occurs, Chemours is committed to performing remedial activities to protect the groundwater's beneficial use.

No cyanide had been introduced to this facility at the time of the audit. In the unlikely event of a release of cyanide to the environment in the future, the operation is committed to engaging the appropriate resources to ensure that any remediation needs are fulfilled.

According to interviews, indoor air cyanide concentrations will be monitored using portable and stationary HCN detectors. Chemours has committed to limit atmospheric process emissions of hydrogen cyanide gas such that the health of workers and the community are protected. Thermal oxidation will be used to destroy air pollutants. The design-based efficiency is planned to be 100% destruction. The operation will monitor system effectiveness every four hours by monitoring temperature and excess oxygen. These sampling points will be used to confirm proper operation of the thermal oxidizer.

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

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

The operation is  $\square$  in full compliance with Production Practice 4.1

Summarize the basis for this Finding:

Chemours is committed to training all personnel to ensure that they understand the hazards of cyanide. The training will be given prior to working with cyanide and training will be refreshed on an annual basis. The training will be offered in Spanish and will include information on a full range of training topics related to cyanide. This material will be used for the cyanide safety training along with face to face training sessions that will be given annually.

Site personnel will receive training regarding the use, storage and cleaning of the personal protective equipment (PPE) required by each activity or task. Chemours is committed to training its workers to perform their normal production tasks with minimum risk to worker health and safety and in a manner that prevents unplanned cyanide releases. Internal training in the operational procedures will be delivered to all relevant personnel prior to cyanide being introduced to the operation.

The training for operators is done in three phases. Employees will receive classroom and on-thejob training in production tasks. Initial Phase 1 and 2 training was done using 3D models, since

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the plant is not yet fully constructed. Phase 3 training will be done after completion of the plant and the introduction of cyanide to the operation.

The training elements necessary for each job will be identified in the training materials. The facility will use the work procedures to supplement training materials. Training will be provided by appropriately qualified personnel. The auditor confirmed through interviews that the individuals who will be involved in the development and delivery of training are highly qualified and capable of providing safety and operations training.

Chemours will train all personnel on cyanide awareness prior to their beginning work in the operation. Personnel will be trained on job procedures before working with cyanide. Records will be retained.

The facility plans to evaluate the effectiveness of cyanide training by testing and performance evaluations done after the initial training sessions. Evaluation records will be kept by the site for at least the length of employment.

<u>Production Practice 4.2</u>: Train employees to respond to cyanide exposures and releases.

The operation is ☐ in full compliance with Production Practice 4.2

Summarize the basis for this Finding:

The Chemours Laguna Plant is committed to training all personnel on its emergency response procedures. The emergency spill procedure lists detailed steps for managing a solid versus liquid spill. The exam for the procedure is included at the back of the procedure. The annual training plan indicates that everyone is trained on the spill response procedure. Chemours is also committed to having at least one physical drill each year to test and improve worker response skills.

The ERP was reviewed during the audit. Chemours is committed to processing corrective actions and revising emergency procedures as necessary following the drills or actual plan deployment. Drill results will be evaluated from a training perspective to determine the need for revisions to training materials or training approaches.

The site is committed to maintaining training records and evaluation results of all trained workers. Training records will be maintained for at least as long as the employee is working at the site and will fulfill all ICMI training record requirements. There is a Chemours records retention policy already in place. Extensive training has already been done at the plant. The audit team reviewed training records and found them to be comprehensive.

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

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

The operation is ☐ in full compliance with Production Practice 5.1

Summarize the basis for this Finding:

Chemours has developed several emergency response procedures that are specific to the site to address potential releases of cyanide that may occur on site. The "General Emergency Planning" procedure, LAG-PS-900, dated September 2018 will be referred to here as the Emergency Response Plan (ERP). The document was reviewed during the audit.

The plant emergency procedures consider the potential failure scenarios appropriate for its sitespecific environmental and operating circumstances, including potential releases of cyanide from the operation, cases of fire and explosion, and situations where equipment may malfunction. The scenarios were found to be appropriate by the auditors.

It is not foreseen that the community could be impacted to the degree that it would require evacuation. The emergency notification procedures specify the telephone numbers and the notification procedure to be followed in the event of an emergency. The Medical Response Procedure states that only a person with a medical certificate or a hospital person can administer the antidote (nurse or paramedic).

Each operator is trained to give first aid, but the antidote would only be administered only by a medical professional. The spill response procedure states that the person who is responding to a release event must locate the origin of the spill. Procedures are in place to describe the necessary actions that are to be taken to contain, assess, mitigate, and/or prevent a cyanide release.

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<u>Production Practice 5.2:</u> Involve site personnel and stakeholders in the planning process.

#### The operation is $\square$ in full compliance with Production Practice 5.2

Summarize the basis for this Finding:

Chemours is committed to involving its workforce, authorities, and the community in the emergency response planning process. Chemours is committed to carrying out an emergency response training in the community annually. There are ten different small communities that the site has engaged in discussion and outreach activities / meetings. Chemours is also committed to setting up an emergency planning committee with the other companies in the area. The plant is committed to reaching out to the community to share information. The brochure that is given out to the community with information about the plant and the risks was reviewed.

The plant is committed to working with external responders, including hospitals. Paramedics will be onsite 24/7. A letter was available to demonstrate that the Civil Protection agency had been notified about the emergency response plan and the placement of the safety equipment, etc.

The emergency response plans will be shared with and validated by the Civil Protection again at the startup of the plant. Chemours also offered a two-day training in the State of Sonora in 2018 and then in the State of Zacatecas in 2019. Seven people from the Laguna area attended the emergency response training.

Chemours is committed to engaging stakeholders on a regular basis to ensure that its emergency plans remain current and address changing conditions.

<u>Production Practice 5.3</u>: Designate appropriate personnel and commit necessary equipment and resources for emergency response.

The operation is  $\square$  in full compliance with Production Practice 5.3

Summarize the basis for this Finding:

Primary and alternate emergency response coordinators with clearly defined authority to commit resources are in the ERP. The Emergency Response Teams (Brigades) are identified by titles of the personnel who are involved. Quarterly scheduled training for emergency response started this year. All employees get trained in all emergency procedures. The plant is committed to maintaining call-out procedures and 24-hour contact information for emergency response coordinators and team members. The responsibilities, authorities and duties for managing an emergency are clearly described in the ERP.

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Chemours is committed to developing a list of emergency response equipment that always needs to be available at the plant. Chemours is committed to inspecting its emergency response equipment regularly using a checklist. Its availability and operability will be confirmed during the operational audit. Interviews were used to confirm Leadership awareness and commitment to fulfilling requirements. Chemours is committed to clearly defining the roles of outside responders, medical facilities and communities in appropriate emergency response procedures.

Chemours is committed to confirming that outside entities included in the ERP are aware of their involvement. External responders will be included in the emergency response drills and implementation exercises. Interactions, collaborative emergency response planning strategies, and training programs offered to external responders were found to be appropriate for the operation.

<u>Production Practice 5.4</u>: Develop procedures for internal and external emergency notification and reporting.

The operation is ☐ in full compliance with Production Practice 5.4

Summarize the basis for this Finding:

The plant is committed to developing a wholistic and comprehensive procedure for communication with management, regulatory agencies, outside response providers and medical facilities, as appropriate.

The plant is also committed to developing a procedure for communication with the hospital, responders, etc. The primary contact person with the media is the Plant Manager. The operation has an in-country media relations person. There is a neighborhood spokesman for each community defined with contact information maintained by the plant.

<u>Production Practice 5.5</u>: Incorporate into response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

The operation is  $\square$  in full compliance with Production Practice 5.5

Summarize the basis for this Finding:

Chemours ensures that its emergency plans describe 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 clean-up debris, and provision of an alternate drinking water supply, as appropriate. The spill procedure has detailed instructions on the remediation, testing, and disposal procedures to be used in the event of a solid and/or liquid spill. This spill procedure clearly states in bold writing that cyanide treatment chemicals are not allowed

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to be used in surface water. There are no water bodies near the plant. The spill procedure details that monitoring needs will be identified during the remediation phase, in the event of a release. Guidance for this is given in the procedure and was found to be appropriate by the audit team.

<u>Production Practice 5.6</u>: Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is ☐ in full compliance with Production Practice 5.6

Summarize the basis for this Finding:

The ERP states that the emergency plans are reviewed at least once three years. Chemours is committed to maintaining complete and accurate information. Chemours will be developing a review frequency for telephone numbers, etc. that is effective for maintaining up-to-date information.

The Plant is committed to conducting emergency response drills at least annually as part of the plan evaluation process. Chemours holds hands-on emergency response training (drills) as part of its product stewardship efforts in the country. Chemours is committed to developing an effective frequency and strategy for working with external stakeholders on emergency response drills locally.

The ERP states that emergency plans will be reviewed and updated after any emergency or recommendations following an emergency response drill.

<u>Chemours Laguna Plant</u> Name of Operation

Signature of Lead Auditor
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