Responsible Care® Verification Report

Nouryon

October 9-10, 2018

CHEMISTRY INDUSTRY ASSOCIATION OF CANADA

Responsible Care®
Our commitment to sustainability.

Disclaimer

This report has been produced by a team, convened by the Chemistry Industry Association of Canada (CIAC), to provide advice to the member-company and assist it in meeting its Responsible Care® commitments. The material in this report reflects the team's best judgment in light of the information available to it at the time of preparation. It is the responsibility of the CIAC member-company that is the subject of this report to interpret and act on the report's findings and recommendations as it sees fit. Any use which a third party makes of this document, or any reliance on the document or decisions made based upon it, are the responsibility of such third parties. Although CIAC members are expected to share the results of this guidance document with interested parties, the Association, its member-companies, their employees, consultants and other participants involved in preparing the document accept no responsibility whatsoever for damages, if any, suffered by a third party as a result of decisions made or actions based on this report.

Responsible Care® is a registered trademark of the Chemistry Industry Association of Canada.

NOURYON

CHEMISTRY INDUSTRY ASSOCIATION OF CANADA
2018 RESPONSIBLE CARE® VERIFICATION
FOLLOW-UP

This report documents the conclusion of an independent team tasked with conducting a follow-up to the verification process undertaken, by the same team, on August 16, 2018 and October 9 & 10, 2018, at the company's Saskatoon, Saskatchewan facility.

The conclusion from the above 2018 process was that the team was unable to confirm that the company was currently capable of self-responding to the range of Findings Requiring Action identified during the verification, and that the team should return within one year to continue with the process.

The purpose of this follow-up was therefore to review the company's progress in addressing those Findings Requiring Action as well as the Works in Progress, from the 2018 process.

This follow-up concluded that most of the Findings Requiring Action and Works in Progress had been addressed. Any outstanding Findings Requiring Action were transferred to the Works in Progress category. Residual Works in Progress are listed below.

Opportunities for Improvement from the 2018 process were briefly reviewed, and it was confirmed that the company would be addressing these in due course, as deemed appropriate.

As a result of the examination conducted, the verification team is of the opinion that the Responsible Care Ethic and Principles for Sustainability are guiding company decisions and actions, and that a self-healing management system is now in place to drive continual improvement. The verification is complete and no further involvement is required by this team.

January 07, 2020
Dave Mack
Verification Team Leader

For more information on this or the 2018 Responsible Care Verification Report, please contact your local company site or the company's overall Responsible Care coordinator:
Barry Blanchard
HSE Supervisor
306 242 3855 (ext. 224)
barryjackson.blanchard@nouryon.com

RESIDUAL WORKS IN PROGRESS

1. Preparing to submit to the CIAC a recently completed survey which assesses the understanding and implementation of the key elements of process safety.
2. Implementing a revised Management of Change process which will be included in a new corporate package referred to as "HSE Suite", currently being rolled out.
3. Preparing to submit to the CIAC a recently prepared report addressing site security and vulnerability assessment and correction.
4. Developing a formalized process to regularly monitor the Responsible Care related performance of existing customers and their pick-up carriers. [Note: Customer training visits have been done with respect to handling and use of company product.]
5. Developing a document cross referencing the Responsible Care code elements to company policies, standards, processes and procedures as applicable, and identifying gaps for continual improvement. {Note: This has been substantially completed.]
6. Participating in the development of a written Community Advisory Panel terms of reference

EXECUTIVE SUMMARY

This report documents the observations and conclusions of the independent verification team tasked with conducting a Responsible Care Verification of Nouryon. The verification was undertaken on August 16, 2018 and October 9 and 10, 2018, and included team visits to the Saskatoon, Saskatchewan facility. This was the sixth Responsible Care verification completed for Nouryon. The last verification was completed on October 15 and 16, 2015.

While considering all aspects of the Responsible Care Commitments during this verification, the team placed an emphasis on conducting an in-depth examination of company aspects related to the effects of its reduction in the scope of facility operations and new ownership.

As a result of the examination conducted, the verification team is not yet able to conclude that the company is presently capable of self-responding to the range of Findings Requiring Action identified during the verification. The rationale for the above was discussed with the company management team who accepted the conclusion.

A number of the concerns raised may be attributed to the recent downsizing and change in management personnel who currently have limited knowledge of the CIAC Responsible Care Commitments expectations. With the appropriate education and support the management team should be able to fully implement the changes needed.

The verification team therefore advises the company to inform its peers, seek assistance as necessary and invite the team to return within one year to conclude the verification process. Given the number of actions required, a plan in place to address all of these together with completion of the most important findings should suffice for verification team review within this time period.

Signed: _____   Date: December 04, 2018
Dave Mack
Verification Team Leader

For more information on this or a previous Responsible Care Verification Report, please contact your local company site or the company's overall Responsible Care coordinator:
Barry Blanchard
HSE Supervisor
306 242 3855 (ext. 224)
barryjackson.blanchard@nouryon.com

SUMMARY OF VERIFICATION TEAM OBSERVATIONS

Findings Requiring Action

The following relate to instances where the current status is at variance with the requirements of CIAC Responsible Care Commitments.

1. The process safety management program has not been benchmarked against the CIAC/Canadian Society of Chemical Engineering guideline. **[OP 30]**
2. The CIAC survey to assess understanding and implementation of the key elements of process safety has not recently been completed and submitted. **[CIAC Responsible Care Commitments – Appendix 'F' – item 26]**
3. There no program in place to regularly carry out transportation emergency plan drills or exercises. **[OP 45]**
4. There is no program in place to address critical infrastructure and business continuity. **[OP 49 – 55]**
5. A report has not recently been submitted to the CIAC regarding the company's status in meeting expectations for site security and vulnerability assessment and correction. **[CIAC Responsible Care Commitments – Appendix 'F' – item 27]**
6. There is no formalized process in place to regularly monitor the Responsible Care related performance of the local contracted product distribution warehouse. **[ST 118]**
7. There is no formalized process in place to assess the Responsible Care related performance of new customers and their pick-up carriers, prior to the placement of supply contracts. **[ST 117]**
8. There is no formalized process in place to regularly monitor the Responsible Care related performance of existing customers and their pick-up carriers. **[ST 118]**
9. There is no formalized process in place to regularly monitor the Responsible Care related performance of contract laboratories. **[ST 118]**
10. A documented management system has not been established to address the plan-do-check-act continual performance improvement cycle for all elements of the Accountability Code **[AC125 – 136].**
11. The site's worst-case incident scenario for the current scope of operations has yet to communicated to those in the community who may be affected, including the Community Advisory Panel. **[AC129]**
12. A statement that reflects the company's view of Social Responsibility has not been defined. **[AC128 and Responsible Care Commitments – Appendix 'A']**
13. The CIAC Responsible Care® Commitments are not completely embedded in the company's planning processes.
14. The knowledge level of the Saskatoon facility management team, on the Responsible Care program content, appears to be insufficient to ensure on-going conformance with the expected commitments as defined by the CIAC, which include the Responsible Care Ethic & Principles for Sustainability, Management System Expectations and Codes. **[Management System Guide]**
15. The existing document cross referencing the Responsible Care code elements to company programs, which was prepared for former manufacturing operations, has not been reviewed and updated to reflect the company's policies, standards, processes and procedures applicable to the current reduced scope of operations. **[Management System Guide]**
16. The existing document entitled "Saskatoon Plant Management System" has not been reviewed and updated to address the system and its components, and how the system functions for the current scope of operations. **[Management System Guide]**
17. There is no formalized process to regularly assess the effectiveness of the overall Responsible Care management system in delivering continual performance improvement in the code elements. **[Management System Guide]**
18. While the company's SAQ review and corporate auditing of same covers a number of Responsible Care related activities, there is no audit which ties into each of the Responsible Care codes.
19. There is no formalized process to follow-up and take corrective action on the findings from Responsible Care verifications. **[Management System Guide]**

Works in Progress
The following relate to self-initiated actions in support of continual performance improvement.

1. Implementing the revised management of change process which will be included in a new corporate package referred to as "HSE Suite" currently being rolled out.
2. Implementing the CIAC protocol for regular motor carrier Responsible Care related performance evaluations.
3. Establishing a schedule to carry out a process hazard revalidation every 5 years.
4. Working with the municipality to establish a program of regular integrated emergency exercises.
5. Clarifying company policy with respect to legalized use of cannabis in Canada.
6. Auditing waste handlers with respect to their Responsible Care related performance. The plan is to do this every two years.
7. Planning to carry out a Phase II Environmental Assessment on the Saskatoon operating facility.
8. Planning an audit of the local contracted product distribution warehouse.
9. Developing a plan to visit existing customers to provide updates on product health, safety and environmental aspects.
10. Participating in the development of a written Community Advisory Panel terms of reference.
11. Implementing the new corporate package referred to as "HSE Suite" currently being rolled out, which will include a standard integrated process to ensure appropriate follow-up to identified corrective actions from audits, incident investigations and the like.

Improvement Opportunities
The following relate to suggested actions that could enhance the effectiveness of current programs.

1. Establish a guideline to define who needs to sign off on management of change documentation.
2. Benchmark the facility emergency plan against Canadian Standard CAN/CSA-Z731-03-Emergency Preparedness and Response, latest edition.
3. Utilize the CIAC Business Continuity Implementation Guide for assistance in program development.
4. Review the credentials of the contracted occupational hygienist to ensure they are adequate and up to date.
5. Work with the site's industrial neighbours on mutual issues related to emergency response and how each other may affect their critical infrastructure and business continuity.
6. Establish targets for emissions, effluent and waste reduction based upon on-going data collection.
7. Benchmark the company waste handler audit protocol against the CIAC guideline.
8. Add a specific Responsible Care by name reference into new employee orientations and during annual training, with a brief review of the Ethic & Principles for Sustainability, Management System Expectations and the Codes, and how these apply to day to day operations
9. Display the official Responsible Care flag at the entrance to the facility.
10. Include references and descriptions of Responsible Care by name in supply and service contracts.
11. Review the CIAC Stewardship Guide for help on meeting each of the Stewardship code elements.
12. Share the Responsible Care verification report with other appropriate stakeholders in addition to the Community Advisory Panel (e.g., municipality, non-government organizations, etc.)
13. Establish a standard Responsible Care performance report which can be distributed to the Community Advisory Panel and other appropriate stakeholders.
14. Consult the Community Advisory Panel in meeting the Accountability Code elements, how to measure their impacts and continual improvement on them.
15. Consult the Community Advisory Panel about its operations for continual improvement.
16. Communicate incidents to the Community Advisory Panel as they occur rather than waiting till the next scheduled meeting.

17. Explore the benefits of relationships with local government officials, non-government organizations and the general public, and establish an approach to interfacing where appropriate.
18. In the document cross referencing the Responsible Care code elements to company programs, include brief information on how each code element is monitored for compliance (e.g. through audits, reviews, etc.) including the degree to which each code requirement is being met and plans to address any identified gaps. (Note: The CIAC is preparing a new template entitled "RC Codes & Commitments Implementation Tracking" that may be useful.)

Successful Practices
The following relate to actions that strongly support sustained excellence in performance.

1. To help and encourage employees on ethical behaviour, the company has a confidential "Speak Up" program that can be used by whistle blowers, and recently held a "Harassment Prevention and Response Training" workshop.
2. The comprehensive on-line document management system which pulls Responsible Care related information together, and makes this readily available for reference.

1. INTRODUCTION

1.1   About Responsible Care Verification

As a member of the Chemistry Industry Association of Canada (CIAC), the most senior executive responsible for Nouryon's operations in Canada attests annually to CIAC and its peers that the company's operations conform to the expectations contained in the Responsible Care Commitments and are guided by *Responsible Care Ethic and Principles for Sustainability*.

The Responsible Care® Ethic and Principles for Sustainability

We are committed to do the right thing, and be seen to do the right thing.

We dedicate ourselves, our technology and our business practices to sustainability - the betterment of society, the environment and the economy. The principles of Responsible Care® are key to our business success, and compel us to:

- work for the improvement of people's lives and the environment, while striving to do no harm;
- be accountable and responsive to the public, especially our local communities, who have the right to understand the risks and benefits of what we do;
- take preventative action to protect health and the environment;
- innovate for safer products and processes that conserve resources and provide enhanced value;
- engage with our business partners to ensure the stewardship and security of our products, services and raw materials throughout their life-cycles;
- understand and meet expectations for social responsibility;
- work with all stakeholders for public policy and standards that enhance sustainability, act to advance legal requirements and meet or exceed their letter and spirit;
- promote awareness of Responsible Care, and inspire others to commit to these principles.

As an element of this commitment to Responsible Care, Nouryon must, every three years, participate in an external verification intended to:

1. Provide the Executive Contact with an external perspective when assessing if the company is indeed meeting the intent of the Responsible Care Commitments, along with advice on areas that may require attention;
2. Identify opportunities for assisting the company when benchmarking its own practices and performance against those of its peers, thus supporting continual improvement;
3. Contribute to the credibility of Responsible Care amongst company personnel and stakeholders, as well as the stakeholders of the broader industry;
4. Identify successful company practices that can be promoted to peers in the CIAC membership; and
5. Support the identification of areas of common weakness so that collective tools and guidance can be developed to improve performance in those areas across the CIAC membership.

Verification is conducted according to a common protocol, developed by the association's members and others, including several critics of the chemical industry. The verification is generally conducted by a team consisting of:

- Knowledgeable industry experts with experience in Responsible Care;
- A representative of the public at large (usually with a public interest background and with experience in Responsible Care gained from serving on the CIAC's National Advisory Panel) and
- One or more representatives of the local communities where the company's facilities are located.

Once completed, the Verification Report is made publicly available through the CIAC website (www.canadianchemistry.ca). is also is expected to share the report with interested persons in its communities and other stakeholders as part of its ongoing dialogue processes.

Additional information on Responsible Care and / or the verification process can be found at the CIAC website www.canadianchemistry.ca, or by CIAC at glaurin@canadianchemistry.ca or (613) 237-6215 extension 233.

1.2   About Nouryon

Nouryon sold its Specialty Chemical business to a private equity fund in April of 2018. The transition is planned to take until the end of 2018. The new company has been renamed as "Nouryon".

Nouryon is a world leading chemicals producer. A division dedicated to Specialty Chemicals had units dealing with Functional Chemicals, Industrial Chemicals, Pulp and Performance Chemicals and Surface Chemistry. These were operated at many facilities around the world, with main offices in Chicago, and Amsterdam. The Saskatoon facility in Saskatchewan belonged to the Surface Chemistry division. This was the only Nouryon facility in Canada that supported the Surface Chemistry segment of the company's Specialty Chemicals division. The Saskatoon facility curtailed its manufacturing operations at the beginning of 2016. Since then, the facility operations only consist of blending or flaking materials receives by rail from other Nouryon sites. This material is then shipped by road as bulk and in drums or boxes. Most of the company's business is with the potash industry with some to oil and gas. It is now only operated Monday through Friday from 6am to 6pm. During the off hours there are security personnel on site at all times. Staffing now consists of 3 management personnel, 5 operators and 3 maintenance contractors.

1.3   About This Verification

This verification of Nouryon was conducted on August 16, 2018 and October 9 and 10, 2018, and included team visits to the sole Canadian facility in Saskatoon, Saskatchewan. During the course of the verification, the team had the opportunity to interact with almost all of the site personnel, as well as stakeholders external to the company. Attachment 2 contains a list of those individuals interviewed and their affiliations.

This was the sixth Responsible Care verification completed for Nouryon at this location. The last verification was completed on October 15 and 16, 2015.

The verification team was comprised of the following individuals.

Name	Affiliation	Representing
Dave Mack	CIAC	*Team Leader*
Phil Byer	CIAC	*Public-At-Large Verifier*
Om Kochar	Local Resident	*Community Representative*

2. TEAM OBSERVATIONS CONCERNING THE RESPONSIBLE CARE COMMITMENTS (CODES AND BENCHMARK AND COLLECTIVE EXPECTATIONS)

During the verification of Nouryon the verification team looked for evidence that the company was addressing the expectations documented in the Responsible Care Commitments (152 code elements plus 28 benchmark and collective expectations). While considering all aspects of the Responsible Care Commitments during this verification, the team placed an emphasis on conducting an in-depth examination of company aspects related to the effects of its reduction in the scope of facility operations and new ownership.

In communicating its observations, the verification team will make repeated reference to the following categories of observations:

1. **Findings Requiring Action;** document instances where the verification team observes specific company actions (or the absence of company actions) which are inconsistent with the detailed codes and benchmark and collective expectations contained in the Responsible Care Commitments. Where possible, the team will communicate, based on their experience and judgment, why it is inconsistent and how the observation relates back to a possible gap in the expected management system and / or the ethic and principles underpinning company actions. The team may also provide advice on how the situation might be responded to.

2. **Works in Progress;** document instances where the team has observed the company self-initiating actions in response to identified gaps and deficiency arising from other internal or external audit and review activities, or where the company has self-initiated important improvement opportunities.

3. **Successful Practices;** document instances where the team believes the company has taken actions that strongly support sustained excellence in performance, and which should be communicated throughout the CIAC membership.

4. **Improvement Opportunities;** identify instances where the team has observed company actions and decision making as being largely consistent with the expectations detailed in the Responsible Care Commitments, but for which the team is of the opinion that the company could support further improvement by considering alternate or additional benchmarks when undertaking its planning and decision making.

The verification team's observations of how the company has addressed the Responsible Care Commitments are as follows:

2.1   Team Observations Concerning Operations Code

The Operations Code defines environment, health and safety expectations regarding all company operational aspects including product manufacturing, transportation and distribution.

2.1.1   Design and Construction of Facilities and Equipment

Given the downsizing and recent change from manufacturing to blending, most of the activities at the site have related to removal, maintenance and some upgrading of equipment. With limited engineering capacity on site, projects of any significance are handled by qualified service providers or corporate resources who can address the aspects of design, procurement, construction and project management. A defined management of change process is applied to additions or modifications to all infrastructure, operations and equipment, irrespective of scope, with a view to maintaining operational integrity and ensuring that non-acceptable risks are not introduced as a result of the changes.

Work in Progress
i.   Implementing the revised management of change process which will be included in a new corporate package referred to as "HSE Suite" currently being rolled out.

Improvement Opportunity
i.   Establish a guideline to define who needs to sign off on management of change documentation.

2.1.2   Operations Activities
An annual self-assessment review, referred to as SAQ, is applied to the full scope of facility activities to ensure that the necessary controls are in place for safe and environmentally responsible operations. Standard operating and maintenance procedures are in place. Operating procedures are reviewed annually on roll through basis. There is an on-site laboratory for product quality control, with some work being contracted out. Standard operating procedures are in place for the laboratory. All product is shipped by road and there is a defined corporate process in place for carrier selection with respect Responsible Care related requirements. A defined preventive and repair maintenance program is in place that addresses reliability and integrity aspects of operating equipment.

Work in Progress
i.   Implementing the CIAC protocol for regular motor carrier Responsible Care related performance evaluations.

2.1.3   Safety and Security
There is a defined occupational health and safety program in place with an objective to continually improve health and safety through engagement, training and awareness. Workplace health and safety hazards are generally addressed through planned inspections and an industry recognized behavior based safety observation program. Specific hazards are also addressed through a safe work permitting process. There is also a slate of specific safe work procedures in place. A defined hygiene monitoring plan is in place with an objective to ensure that employees are not put at risk of unacceptable physical, chemical and environmental exposures. All of the above also applies to contractors working on site. An occupational hygienist is contracted to carry out and assess the monitoring. New employees receive a pre-employment medical examination, which is also offered at periods throughout employment for all employees. A defined facility process management program calls for a process hazard assessment validation to be carried out on existing operations on a five year cycle. A worst case incident scenario has been established using data from the regulated facility Environmental Emergency (E2) Plan. A Process Safety Manual is in place supplemented by corporate asset integrity and process safety requirements. There is a defined facility emergency preparedness and response plan in place as well as a transportation emergency plan. A recognised service provider has been retained to respond to transportation emergencies. Security vulnerabilities have been assessed by the company and also by Public Safety Canada. Means have been implemented to address identified vulnerabilities and a security plan has been defined for the facility. A defined incident investigation process is in place with root cause analysis being carried out using a recognized industry process referred to as TapRoot. A dedicated spreadsheet is used to track follow up actions from investigations with a view to ensuring they are timely and effectively addressed.

Findings Requiring Action
i.   The process safety management program has not been benchmarked against the CIAC/Canadian Society of Chemical Engineering guideline. [OP 30]
ii.   The CIAC survey to assess understanding and implementation of the key elements of process safety has not recently been completed and submitted. [CIAC Responsible Care Commitments – Appendix 'F' – item 26]
iii.   There no program in place to regularly carry out transportation emergency plan drills or exercises. [OP 45]
iv.   There is no program in place to address critical infrastructure and business continuity. [OP 49 – 55]

v. A report has not recently been submitted to the CIAC regarding the company's status in meeting expectations for site security and vulnerability assessment and correction. [CIAC Responsible Care Commitments – Appendix 'F' – item 27]

Works in Progress
i. Establishing a schedule to carry out a process hazard revalidation every 5 years.
ii. Working with the municipality to establish a program of regular integrated emergency exercises.
iii. Clarifying company policy with respect to legalized use of cannabis in Canada.

Improvement Opportunities
i. Benchmark the facility emergency plan against Canadian Standard CAN/CSA-Z731-03-Emergecy Preparedness and Response, latest edition.
ii. Utilize the CIAC Business Continuity Implementation Guide for assistance in program development.
iii. Review the credentials of the contracted occupational hygienist to ensure they are adequate and up to date.
iv. Work with the site's industrial neighbours on mutual issues related to emergency response and how each other may affect their critical infrastructure and business continuity.

2.1.4 Environmental Protection
Emissions, wastes and effluents are routinely tracked and reported into the CIAC National Emissions Master Plan data base. Three contracted waste management operations have been retained to handle hazardous and non-hazardous wastes. They were selected through an industry wide assessment process referred to as ISN.

Work in Progress
i. Auditing waste handlers with respect to their Responsible Care related performance. Plan is to do this every two years.

Improvement Opportunities
i. Establish targets for emissions, effluent and waste reduction based upon on-going data collection.
ii. Benchmark the company waste handler audit protocol against the CIAC guideline.

2.1.5 Resource Conservation
Conservation of resources (e.g., materials, energy, water etc.) is done on an opportunistic basis as opposed to being done on a forward looking planned basis. Steam and water use is a typical area of focus for the site.

2.1.6 Promotion of Responsible Care by Name
Employees and Community Advisory Panel members are generally aware of Responsible Care by name and how it relates to company operations. Responsible Care was also featured in a recent brochure distributed to the community.

Improvement Opportunities
i. Add a specific Responsible Care by name reference into new employee orientations and during annual training, with a brief review of the Ethic & Principles for Sustainability, Management System Expectations and the Codes, and how these apply to day to day operations
ii. Display the official Responsible Care flag at the entrance to the facility.

2.2 Team Observations Concerning Stewardship Code
The Stewardship Code addresses all company raw materials, products and services and defines expectations for the care and control of same throughout their life cycle.

2.2.1 Expectations of Companies

Product research and development activity is managed at the corporate level using a defined workflow system for introducing new products and initiating changes to existing products. The system is referred to as "Product Implementation and Change", and addresses Responsible Care related implications. A corporate group referred to as "Product Safety and Regulatory Affairs" develops product safety data sheets which are posted on the company's web site for access by users, and regularly updated in accordance with regulatory requirements. Historically, waste from the manufacturing facility was disposed of on company property. A Phase II Environmental Assessment was carried out on land recently sold to the municipality for development of a new roadway and bridge.

2.2.2 Expectations with Respect to Other Parties

Other parties in this section include product warehousing, chemical product suppliers, site contractors, laboratory services and customers. Contract carriers and waste contractors are addressed in the Operations Code. A single long-standing business relationship is in place with a local warehousing operation for product storage and distribution. There are no foreseeable plans to change or add warehousing capacity. There is a process in place for chemical supplier approval and monitoring of on-going Responsible Care related performance. Contractors are selected with respect to their Responsible Care related requirements through an industry wide assessment process referred to as ISN. Their performance is monitored by company personnel while on site. There is a long-standing business relationship in place with a local contract laboratory to support on-site operations. There are no foreseeable plans to change or add contract laboratory services. Long standing business relationships exist with current customers, and marketing activity generally takes place for new customer opportunities. Responsible Care is mentioned by name in customer contracts.

Findings Requiring Action
i.   There is no formalized process in place to regularly monitor the Responsible Care related performance of the local contracted product distribution warehouse. [ST 118]
ii.   There is no formalized process in place to assess the Responsible Care related performance of new customers and their pick-up carriers, prior to the placement of supply contracts. [ST 117]
iii. There is no formalized process in place to regularly monitor the Responsible Care related performance of existing customers and their pick-up carriers. [ST 118]
iv.   There is no formalized process in place to regularly monitor the Responsible Care related performance of contract laboratories. [ST 118]

Work in Progress
i.   Planning to carry out a Phase II Environmental Assessment on the Saskatoon operating facility.
ii.   Planning an audit of the local contracted product distribution warehouse.
iii. Developing a plan to visit existing customers to provide updates on product health, safety and environmental aspects.

Improvement Opportunity
i.   Include references and descriptions of Responsible Care by name in supply and service contracts.
ii.   Review the CIAC Stewardship Guide for help on meeting each of the Stewardship code elements.

2.3   Team Observations Concerning Accountability Code

The Accountability Code defines expectations for communication and dialogue with communities local to company manufacturing and distribution operations and transportation corridors, as well as other stakeholders with an interest in company activities.

2.3.1 Operating Site Communities

The community surrounding the site is a combination of residential and industrial areas. The residential area is called Silverwood. There is an active facilitated Community Advisory Panel in place which covers Nouryon and two others adjacent CIAC member facilities. The three CIAC member companies jointly distributed a two-page information sheet to neighbours in 2017. Panel membership includes representatives from the residential and industrial communities, and the municipal emergency planning organization. A positive relationship exists between the Panel and the company and there are no significant outstanding issues of concern on the agenda.

Findings Requiring Action
i.   A documented management system has not been established to address the plan-do-check-act continual performance improvement cycle for all elements of the Accountability Code [AC125 – 136].
ii.   The site's worst-case incident scenario for the current scope of operations has yet to communicated to those in the community who may be affected, including the Community Advisory Panel. [AC129]
iii. A statement that reflects the company's view of Social Responsibility has not been defined. [AC128 and Responsible Care Commitments – Appendix 'A']

Work in Progress
i.   Participating in the development of a written Community Advisory Panel terms of reference.

Improvement Opportunities
i.   Share the Responsible Care verification report with other appropriate stakeholders in addition to the Community Advisory Panel (e.g., municipality, non-government organizations, etc.)
ii.   Establish a standard Responsible Care performance report which can be distributed to the Community Advisory Panel and other appropriate stakeholders.
iii. Consult the Community Advisory Panel in meeting the Accountability Code elements, how to measure their impacts and continual improvement on them.
iv. Consult the Community Advisory Panel about its operations for continual improvement.
v.   Communicate incidents to the Community Advisory Panel as they occur rather than waiting till the next scheduled meeting.

2.3.2 Other Stakeholders

Interface with local government officials, non-government organizations and the general public occurs on an opportune ad hoc basis. The company is represented on the CIAC Regional TRANSCAER committee and participates in related public events.

Improvement Opportunity
i.   Explore the benefits of relationships with local government officials, non-government organizations and the general public, and establish an approach to interfacing where appropriate.

3. TEAM OBSERVATIONS ON THE COMPANY MANAGEMENT SYSTEM

It is a requirement of Responsible Care that companies have a documented, self-healing management system or systems capable of identifying and responding to deficiencies and otherwise supporting continual improvement across all company business units, functions, and sites and as a framework for implementing the Responsible Care Commitments.

The verification team studied Nouryon's management system(s) and compared and contrasted the attributes of that system(s) to those of a self-healing overall management system as discussed in the CIAC Management System Guide. The verification team's related observations to the company management system(s) are as follows:

3.1   Observations on the PLAN Step

During the 'PLAN' Step of the management system, the company is required to decide what the goals of the company are and how they will be met. In determining those goals, it is expected the company will look inward, across its operations, but will also look outward, considering the expectations of: stakeholders; regulatory requirements; relevant CIAC Responsible Care Commitments and supporting tools; and other industry benchmarks.

Company goals are established annually, based on business unit priorities, regulatory requirements, audit results and Responsible Care related performance data from the previous 12 month. There is also a slate of corporate expectations referred to as "Health, Safety and Environment Directives" that are referred to during the goal setting process. A process referred to as "Personal Development and Dialogue" is used to establish personal goals which are mainly based upon the company goals.

Finding Requiring Action
i.   The CIAC Responsible Care® Commitments are not completely embedded in the company's planning processes.

3.2   Observations on the DO Step

During the 'DO' Step in the management system, the company is required to convert the decisions of the 'PLAN' Step into action and ensure awareness and understanding by all involved. It is expected that the company will implement an organizational structure, assign responsibilities to appropriate personnel, supply sufficient training and resources to execute planned actions and develop and document standards, procedures and programs, as applicable.

Shared accountability for Responsible Care related activity at the Saskatoon facility rests with a Site Manager, who is located at a company facility in the United States but has responsibility for both locations, together with an Operations Manager, Logistics Supervisor and Health Safety and Environment Supervisor who are located on site. Corporate services are available to address such aspects as research and development, transport and distribution, and product stewardship. There is a training data base in place for all site employees including contracted maintenance personnel, which identifies training requirements and frequency of retraining where appropriate. A skills progression system is in place for plant operators. With some exceptions, as identified throughout this report, defined Responsible Care related processes and procedures are in place.

Findings Requiring Action
i.   The knowledge level of the Saskatoon facility management team, on the Responsible Care program content, appears to be insufficient to ensure on-going conformance with the expected commitments as defined by the CIAC, which include the Responsible Care Ethic & Principles for Sustainability, Management System Expectations and Codes. [Management System Guide]
ii.   The existing document cross referencing the Responsible Care code elements to company programs, which was prepared for former manufacturing operations, has not been reviewed and updated to reflect the company's policies, standards, processes and procedures applicable to the current reduced scope of operations. [Management System Guide]
iii.   The existing document entitled "Saskatoon Plant Management System" has not been reviewed and updated to address the system and its components, and how the system functions for the current scope of operations. [Management System Guide]

i.   To help and encourage employees on ethical behaviour, the company has a confidential "Speak Up" program that can be used by whistle blowers, and recently held a "Harassment Prevention and Response Training" workshop.

ii.   The comprehensive on-line document management system which pulls Responsible Care related information together, and makes this readily available for reference.

3.3   Observations on the CHECK Step

During the 'CHECK' Step in the management system, actions carried out in the 'DO' Step are required to be assessed to determine if they are actually being carried out according to plan, and whether they are achieving the desired outcomes and delivering continual improvement. Here, the overall management system and components should be reviewed along with employee competences for assigned responsibilities, internal and external audits should be undertaken, incidents should be assessed to identify root causes, and performance measurement should be conducted and reviewed.

Performance against site objectives is monitored and recorded monthly. The previously mentioned SAQ review, annually applied to facility operations, is audited every three to five years by corporate personnel. Previously mentioned planned inspections and a behaviour-based safety observation program also contribute to this step. Incident reporting and investigation is included in the Operation Code. Employee competences are monitored through the previously mentioned Personal Development and Dialogue process. The existing document cross referencing the Responsible Care code elements to company programs, which requires review and update to reflect the current scope of operations, includes questionable conclusions that every code element is in compliance.

Finding Requiring Action

i.   There is no formalized process to regularly assess the effectiveness of the overall Responsible Care management system in delivering continual performance improvement in the code elements. [Management System Guide]

ii.   While the company's SAQ review and corporate auditing of same covers a number of Responsible Care related activities, there is no audit which ties into each of the Responsible Care codes.

Improvement Opportunity

i.   In the document cross referencing the Responsible Care code elements to company programs, include brief information on how each code element is monitored for compliance (e.g. through audits, reviews, etc.) the degree to which each code requirement is being met and plans to address any identified gaps. (Note: The CIAC is preparing a new template entitled "RC Codes & Commitments Implementation Tracking" that may be useful.)

3.4   Observations on the ACT Step

During the 'ACT' Step in the management system, the company is required to translate the results of the 'CHECK' Step into corrective actions for improvement. This includes revisiting the 'PLAN' Step to decide whether changes are need to the company's stated goals or action plans, policies and procedures for achieving those goals. Considerations when examining the 'ACT' Step should include whether and how: audit and review findings are responded to; performance is communicated internally and externally; employee and contractor performance is rewarded or corrected, etc.

The site changes since the last verification in 2015 resulted in significant downsizing and changes in personnel responsible for code implementation. The fact that some of the Findings Requiring Action from the 2015 verification, some of which were also repeated findings from earlier verifications, were not understood or have

been acted upon is of concern to the verifiers, with respect to ongoing conformance with CIAC Responsible Care expectations. Notwithstanding the above, performance against objectives and results from self-assessments are used to provide inputs to the planning steps, and various ad hoc processes are used to address follow-up to identified corrective actions from audits, incident investigations and the like. A performance reward program tied to the Personal Development and Dialogue process is in place for management personnel.

Finding Requiring Action
i. There is no formalized process to follow-up and take corrective action on the findings from Responsible Care verifications. [Management System Guide]

Work in Progress
i. Implementing the new corporate package referred to as "HSE Suite" currently being rolled out, which will include a standard integrated process to ensure appropriate follow-up to identified corrective actions from audits, incident investigations and the like.

4. TEAM OBSERVATIONS ON THE RESPONSIBLE CARE ETHIC AND PRINCIPLES FOR SUSTAINABILITY

Each CIAC member company is formally committed to the ethic of "*Doing the right thing, and being seen to do the right thing.*" This ethic, along with the principles for sustainability is expected to guide the company's decision making and practices. In conducting the verification, the team is looking to understand how well the ethic is understood and adopted within the company, and the degree to which the principles inform the manner in which the company does its business.

The verification team carefully observed Nouryon's decision making processes and actions and compared and contrasted the attributes of those with the attributes of a company guided by the Responsible Care Ethic and Principles for Sustainability as discussed in the Responsible Care Commitments (Appendix E). The verification team's related observations on the company's application of the *Responsible Care Ethic and Principles for Sustainability* are as follows:

Through observation and analysis, and subject to effectively dealing with the 'Findings Requiring Action' and 'Works in Progress', as identified in this report, the following are the verification team's general findings on how the company's decision making and practices are guided by the eight elements of the Responsible *Care Ethic and Principles for Sustainability.* Refer to the explanatory notes following each element:

- *Work for the improvement of people's lives and the environment, while striving to do no harm.*

   [Supported by commitment to Responsible Care.]

- *Be accountable and responsive to the public especially our local communities, who have the right to know the risks and benefits of what we do.*

   [Supported by meaningful community outreach efforts, however effectiveness could be enhanced by having a defined management system for community awareness and dialogue.]

- *Take preventive action to protect health and the environment.*

   [Supported by a slate of environmental, health and safety processes and procedures, however some gaps exist in the overall program.]

- *Innovate for safer products and processes that conserve resources and provide enhanced value.*

  [There appears to be limited opportunities in this aspect since the site does not manufacture product, but rather blends and distributes material from other Nouryon facilities. Research and development is carried out at the corporate level.]

- *Engage with our business partners to ensure the stewardship and security of our products, services and raw materials throughout their life cycles.*

  [Some work being done with customers and contracted services, however gaps exist in monitoring their on-going Responsible Care related performance.]

- *Understand and meet expectations for social responsibility.*

  [Some work being done with respect to charitable donations, but an overall approach to this aspect has not been defined.]

- *Work with all stakeholders for public policy and standards that enhance sustainability, act to advance legal requirement and meet or exceed their letter and spirit.*

  [No activity on this aspect. The company needs to understand where it might be of influence and establish an approach as appropriate.]

- *Promote awareness of Responsible Care, and inspire others to commit to the principles.*

  [Limited activity in this area. The company needs to understand where it might be of influence and establish an approach as appropriate.]

5.   VERIFICATION TEAM CONCLUSION

As a result of the examination conducted, the verification team is not yet able to conclude that the company is presently capable of self-responding to the range of Findings Requiring Action identified during the verification. The rationale for the above was discussed with the company management team who accepted the conclusion.

A number of the concerns raised may be attributed to the recent downsizing and change in management personnel who currently have limited knowledge of the CIAC Responsible Care Commitments expectations. With the appropriate education and support the management team should be able to fully implement the changes needed.

The verification team therefore advises the company to inform its peers, seek assistance as necessary and invite the team to return within one year to conclude the verification process. Given the number of actions required, a plan in place to address all of these together with completion of the most important findings should suffice for verification team review within this time period.

COMPANY RESPONSE TO VERIFICATION TEAM REPORT

On behalf of Nouryon I have reviewed this verification report. The observations and conclusions contained in the report have been discussed with the verification team.

We found the re-verification helped in identifying gaps at site due to curtailment and helped in providing resources for these. However, we found that the re-verification felt more like an audit to us, and at certain points focused on items we have no control of on site. We have started to work at the findings as a site however it will be a slow process due to the limited resources at site and the number of findings to be actioned

Nouryon will communicate the results of the verification exercise with its CIAC peers at their next meeting, and will discuss the verification results with our stakeholders, including those representing communities near our operating site.

We will give consideration to the Improvement Opportunities identified by the verification team and will assist the CIAC in communicating and sharing the identified Successful Practices to other CIAC members. Plans will be developed and implemented to respond to the Findings Requiring Action and those Works in Progress where completion of such action is required to close gaps with respect to requirements, as identified by the verification team. Our progress in implementing those plans will be discussed when preparing our Annual Statement of Re-Commitment to Responsible Care, and communicated to the verification team at the time of our next verification.

Name: Barry Blanchard
Position: HSE Supervisor
Company Name: Nouryon
Date: December 4, 2018

INTERVIEW LISTS

A: Company Personnel

Name	Position	Location
Donna Luketic	Site Manager	Chattanooga
Louis Knaus	Operations Manager	Saskatoon
Cheryl Lariviere	Logistics Supervisor	Saskatoon
Barry Blanchard	HSE Supervisor	Saskatoon
Doug Lucas	Customer Account Manager	Chicago
Peter Zhou	Group Manager of Mining Technical service and development?	Brewster NY
Employee & Contract Representatives (5)	Operations & Maintenance	Saskatoon

B: External Stakeholders

Name	Company / Organization	Position	Location
Community Advisory Panel Representatives (12)	Local residents and businesses	Members	Saskatoon

Responsible Care®
Our commitment to sustainability.

CHEMISTRY INDUSTRY ASSOCIATION OF CANADA
Suite 805, 350 Sparks Street
Ottawa (ON) K1R 7S8
T: 613 237-6215 F: 613 237-4061
www.canadianchemistry.ca