



RESPONSIBLE CARE[®] Verification Report

CCC

November 18 to 23, 2015



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.

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EXECUTIVE SUMMARY

This report documents the observations and conclusions of the independent verification team tasked with conducting a Responsible Care Verification of Canada Colors and Chemicals Limited (CCC). The verification was undertaken and included team visits to Brampton, ON, November 18 - 20, 2015 and Leduc, AB November 23, 2015. The verification team also conducted interviews with other company personnel and external stakeholders at locations where the team was unable to visit. This was the seventh Responsible Care verification completed for CCC. The last verification was completed on November 13 – 15, 2012.

CCC is one of the largest independent distributors in Canada, and the 12th largest distributor in North America. Chemical and Plastics Distribution services span Canada with warehousing services, both owned and leased, blending and distribution services, manufacturing of sulphur products and colour concentrates. The company is divided into four business units, Chemicals, Plastics, Ingredients (food grade, personal care and pharmaceutical) and Sulphur Products.

David Emerson, President & COO Canada Colors & Chemicals Ltd., is the signing officer for the Responsible Care® annual attestation commitment. The Code Co-coordinators and the Overall Co-coordinator meet annually with the President COO to present site manager re-commitment sign-offs, senior management support sign-offs, review program improvements and challenges and set annual targets through a formal process.

Dave Emerson's involvement (with CIAC board, the 2015 selection committee of CIAC president, CACD/CIAC council, Chair of Ontario East Leadership Group) is exemplary. As well, Mr. Emerson is extremely knowledgeable about the day to day operations of CCC, in part, due to the effective structure of the management system. The team was very impressed with the Sustainability Report 2014 which is referenced below in this report.

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 in place to drive continual improvement. The team believes that the company is capable of responding to the range of Findings Requiring Action identified during the verification - summarized below and discussed in detail in the report. The verification is complete and no further involvement is required by the verification team.

Signed:



Kris Lee
Verification Team Leader

Date: December 16, 2015

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:

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SUMMARY OF VERIFICATION TEAM OBSERVATIONS

Findings Requiring Action

1. There is a finding requiring action to identify adjacent risks posed by industrial/commercial neighbours and rail lines, and their incorporation of the risks into site emergency response plans, for all sites except for Leduc and Elmira, which have this in place. In addition, documentation should be added into the Implementation Guide, *Emergency Response/Fire Safety/Media Response* under C7: (OP31 – 33/PLAN/DO)
2. For Brampton: There is a finding requiring action to communicate to residential, commercial and industrial neighbours.
 - Create a comprehensive list of organizations and people which represents site community stakeholders. (AC125,126/DO)
 - Ensure that the annual community letter is sent to all who may be impacted by company operations. (AC130/DO)
 - Annually ensure that all those who may be impacted by company operations receive information and know what to do in an emergency (OP39/CHECK)

Works in Progress

1. The Company has purchased a software based maintenance management system to improve their predictive maintenance management capabilities, but is not fully implemented in Elmira, Leduc and Delta. (OP7/DO)
2. The Company has plans to upgrade the visitor and contractor approval sign in and safety indoctrination process to a software based system. (OP7, AC133/DO)
3. The Company has plans to change its Risk Assessment Management System from the MIACC process risk assessment methodology to the Occupational Safety & Health Act (U.S.) Process Safety Management criteria for new and existing manufacturing processes. (OP28 – 30/DO)
4. The Company has plans to benchmark the performance of their in-house transportation fleet against leaders in the transportation industry. CIAC Benchmark & Collective Expectations (OP24/CHECK/ACT)
5. In the past the Company had arbitrarily chosen a worst case scenario (WCS) impingement circle for all sites (excluding Elmira) based on the WCS at the site with the highest risk profile. The Company has plans to review the (WCS) impingement circle assigned to each site with the objective of improving the dissemination of site risk information to the appropriate community members. (AC125, 133/PLAN/DO)
6. For all sites: The company is in process of revising the risk communication management system to ensure that the community stakeholders at each site, who are at risk from the site worst case scenario, know and understand the concept of shelter in place. This can be accomplished via the annual community letter and community feedback, either in the letter itself, or by including information provided by local emergency responders. (OP39, 40/CHECK/ACT)
7. The Elmira CAER group should continue to include in their planned annual activities emergency response education and training for retail business owners and those in the community that may be in charge of community special events. (OP36, 39, 40/PLAN)

Improvement Opportunities

1. There is an improvement opportunity to implement a social media management system to proactively improve and track the effectiveness of communications with internal and external stakeholders during normal daily operations and during upset conditions. (PDCA). (Appendix A)
2. There is an improvement opportunity to identify and quantify the social and economic benefits that CCC brings to its facility communities and utilize this information in the various contact opportunities in the community. (AC128/PLAN)
3. There is an improvement opportunity to develop a management system that is proactive in identifying emerging risks associated with new and existing products and processes in the distribution business (e.g. monitoring emerging scientific information on risk). (AC151, 152/PLAN)

4. There is an improvement opportunity to further participate in educational initiatives. Although Specialist High Skills Major (SHSM) has been challenging to implement, we urge the company to continue to search for interested educators. (AC147-149/PLAN/DO)
5. There is an improvement opportunity to modify policy C25 to require periodic physical audits of waste contractors as part of the management system supporting the Ethic of assessing other parties at planned intervals.
6. There is an improvement opportunity at the Brampton site to develop a management system to address the issue of tank farm diking being compromised after abnormal weather events or a freeze thaw cycle in the winter months. (OP7/PLAN)
7. There is no CAER group in the commercial/industrial area around the Leduc facility. CCC tried unsuccessfully to implement one a few years ago. There is an improvement opportunity for CCC to try to implement this again, as the number of facilities in the area has grown – at least when there is sufficient interest. (OP36, 39, 40/PLAN)

Successful Practices

1. The planned reciprocal agreement to retrieve condensate, which is a byproduct of steam energy conversion, from a neighbouring industry to reduce the virgin water requirements of the Elmira site is a successful practice.
2. It is a successful practice that the Company is very proactive in adopting the latest safety technology for both their in-house highway transportation fleet and warehouse forklift trucks.
3. The Company proactively developed a management system and purchased truck to rail trailers to be utilized in the frequently utilized Toronto Montreal highway corridor. This innovation which reduces their carbon footprint, and greatly reduced the risk exposure for the company and their employees is a successful practice.
4. It is a successful practice that as a result of the Company's sustainability objectives, the Sulco facility developed from a process waste, a more environmentally friendly alternative to industrial and municipal water and wastewater de-chlorination.
5. Implementation of the "*Committed to Safety Program*" which rewards proactive safety activities and focuses on safety management leading indicators as a methodology to improve the safety performance of the company is a successful practice.
6. CCC's influence in the promotion of Responsible Care in "*Responsible Care, A Case Study*" publication is a successful practice.
7. The verification team judges the CCC 2014 Sustainability report to be concise and informative. Please reference this report at <http://www.ccc-group.com/> to view the numerous initiatives in the Company to reduce their carbon footprint and promote sustainability.
8. *You be the Chemist* and *Let's Talk Science* promotes science education in elementary, secondary and post-secondary institutions.
9. CCC has implemented a number of energy and conservation initiatives. For example, in 2013, CCC installed a new membrane roof with skylights, heat and energy savings at the Vancouver and Montreal facilities.
10. In Leduc several water and energy conservation practices are implemented.
 - a) A closed loop coolant systems is used for cooling and warming of storage tanks. (The blend tanks will be included in a project currently underway to be completed in 2016.)
 - b) Condensed water from steaming rail cars is recycled to the boiler
 - c) The mechanical room is partially heated in the winter through waste heat from air compressors.
11. The COO has successful interaction with CCC Corporate Board in the orientation of Responsible Care. The team sees potential in this type of modeling within the Leadership Group in sharing of best practices for other member companies. (OP84)

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 **Canada Colors and Chemicals Limited (CCC)** 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, Canada Colors and Chemicals Limited (CCC) 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 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). Canada Colors and Chemicals Limited (CCC) is also 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 contacting the Responsible Care staff at CIAC at glaurin@canadianchemistry.ca or (613) 237-6215 extension 233.

1.2 About Canada Colors and Chemicals Limited (CCC)

Canada Colors and Chemicals Limited is one of the largest independent distributors in Canada, and the 12th largest distributor in North America. Distribution and blending facilities span Canada with warehouses located in Montreal QC, Brampton ON, Windsor ON, Leduc AB and Delta BC with a leased warehouse in Leduc, AB. In addition, there is a sulphuric acid manufacturing plant in Elmira ON, plastics manufacturing and blending colour concentrate plant in Colborne, ON. The administrative sites are located in Toronto and Mississauga, ON. The company currently employs 301 employees including drivers for its fleet of trucks and 11 contract workers

Since the last verification, CCC acquired the solvent distribution business from APCO Industries Company Ltd. in Toronto, ON. CCC has four third-party warehouses in the west – Winnipeg, Calgary, Saskatoon and Edmonton. The company is no longer using the leased Calgary, AB, warehouse. An environmental assessment and sealing off monitoring wells, was completed as part of the decommissioning process. Both Leduc AB and Brampton ON have expanded tank farm capacities and rail car loading areas.

The company had one leased historical operating site which was decommissioned and subsequently purchased by a new proprietor and redeveloped.

The Corporate Responsible Care Implementation Guide (27 sections covering all 3 codes) and procedure manuals (SOP's and Quality) ensure that CCC Corporate Guiding Principles, Mission Statement, Management Policies, Programs and Procedures reflect the Responsible Care ethic. All four divisions of CCC are under Responsible Care. In addition, the Chemicals and Ingredients divisions adhere to (CACD) Canadian Association of Chemical Distributors. The Plastics division is a member of Canadian Plastics Industry Association. CCC Sulphur Products in Elmira is a wholly owned division of CCC and the only division that manufactures chemicals. The plant is certified under ISO14001:2004. CCC Sulphur Products has its own Board of Directors.

David Emerson, President & COO Canada Colors & Chemicals Ltd. is the signing officer for the Responsible Care annual attestation commitment. The Code Co-coordinators and the Overall Co-coordinator meet annually with the President COO to present site manager re-commitment and senior management support sign-offs; to review program improvements and challenges and to set annual targets through a formal process.

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:

- Expansion at Leduc, Alberta and Brampton, Ontario
- Injury Management
- Critical Infrastructure, Malicious Intent
- Employee Security
- Expectations of Companies Beyond R&D

1.3 About This Verification

The verification of Canada Colors and Chemicals Limited (CCC) was conducted on November 18 – 20, 2015 and included team visits to Brampton, Ontario and Leduc, Alberta, November 23, 2015. The verification team also conducted interviews with other company personnel and external stakeholders at locations the team was unable

to visit. During the course of the verification, the team had the opportunity to interact with a wide range of company personnel, as well as stakeholders external to the company. Attachment 2 contains a list of those individuals interviewed and their affiliations.

This was the seventh verification exercise completed for CCC. The last verification was completed on November 13 – 15, 2012.

The verification team was comprised of the following individuals.

Name	Affiliation	Representing
Kris Lee	CIAC	<i>Team Lead Verifier</i>
Cam Dillabough	CIAC	<i>Industry Verifier</i>
David Powell	CIAC	<i>Public Verifier</i>
Tom Wilson	Windsor, ON	<i>Corporate Community Representative Site Community Representatives</i>
Alain Normand	Brampton, ON	
Rick Bernard	Brampton, ON	
Brandon Northrup	Colborne, ON	
Sophie Mainville	Montreal, QC	
Jim Germann	Elmira, ON	
Dan Holt	Elmira, ON	
Rick Sereda	Leduc, AB	
Robert Saito	Delta, BC	

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

During the verification of CCC, 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 the verification, the team placed an emphasis on conducting a more in-depth examination of certain company aspects identified by the company or the team. These were related to:

- Expansion at Leduc, AB and Brampton, ON
- Injury Management
- Critical Infrastructure, Malicious Intent
- Employee Security
- Expectations of Companies Beyond R&D

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 verification 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 verification 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 verification 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

Please note that the numbering of Findings Requiring Action, Works in Progress, Improvement Opportunities and Successful Practices below correspond to the numbers in the summary above.

2.1.1 Design and Construction of Facilities and Equipment

The Company has management systems in place to meet or exceed expectations in these code areas. The Company does not maintain a dedicated project engineering function and large projects are contracted to third party engineering groups. Design and Construction Responsible Care® code related expectations are addressed during the new project appropriation and design stage. During the verification the team reviewed these various management systems in relation to the Leduc Alberta expansion.

Improvement Opportunity (#6)

6. There is an improvement opportunity at the Brampton site to develop a management system to address the issue of the tank farm diking being compromised after abnormal weather events or a freeze thaw cycle in the winter months. (OP7/PLAN)

2.1.2 Operations Activities

The team reviewed the CCC Responsible Care/Responsible Distribution Implementation Guide Edition 3. It is the team consensus that the CIAC Responsible Care® Operations Code expectations are being met by Canada Colors & Chemicals.

Transportation and Physical Distribution (OP12 – 16)

Logistics is managed through the Distribution Operations Organization in the Brampton office for Western , Central and Eastern region sites. Continual improvement is an integral part of the transportation and physical distribution activities, as demonstrated by the following examples.

The Safety Training Tank Car Management Committee meets regularly to discuss topics such as tours / participation through TransCAER, safety training, equipment integrity and CIAC updates.

Logistics 101, a series of training sessions offered to employees of sales and marketing, includes inventory management, regulatory affairs, inbound transportation, customs, warehousing, customer service and outbound transportation (usually involving the CCC fleet).

In order to more effectively implement a PLAN/DO/CHECK/ACT management system for CCC's logistics, the Road Committee will implement the CIAC marine carrier self-assessment and change from QRC motor carrier evaluation to the new CIAC motor carrier evaluation.

Works In Progress (#4)

4. The Company has plans to benchmark the performance of their in-house transportation fleet against leaders in the transportation industry. CIAC Benchmark & Collective Expectations (OP24/CHECK/ACT)

Successful Practice (#2)

2. The Company is very proactive in adopting the latest safety technology for both their in-house highway transportation fleet and warehouse forklift trucks.

Successful Practice (#3)

3. The Company proactively developed a management system and purchased truck to rail trailers to be utilized in the frequently travelled Toronto Montreal highway corridor. This innovation reduced their carbon footprint, and greatly reduced the risk exposure to the company and their employees and their products.

2.1.3 Safety and Security

There is a comprehensive management system in place that complies with the expectations of this code element. As an area of verification focus, the company had requested that the verification team provide information on injury management practices they had viewed during other verifications.

Occupational Health and Safety (OP22 – 27)

During the site tour in Brampton, ON, the team met with employees who lived in the neighbourhood, felt safe and were very proud to work for the company. "*Committed to Safety*" is an employee recognition management system which promotes proactive and individual employee engagement at all levels of worker, supervisor and management.

Using the Leading indicators of Near Miss Incidents and "First Time Safe", CCC plans to obtain more information and complete regular risk assessments using a multi-party approach and leveraging the skills and experience throughout the organization.

After the first 6 months, CCC has seen a 2500% improvement in near miss incident reporting when compared to year to year average over the past 4 years. The benefits from employee engagement and increased safety focus have initiated a shift in culture of open and honest communication. This communication is visible throughout all levels of the organization from worker to President.

While injury management system components were discussed, the verification team also presented recommendations for a safety management system that would focus on leading indicators such as those promoted by the C.I.A.C. The team also provided online references to safety management theory that supports these recommendations.

Successful Practice (#5)

5. Implementation of the "*Committed to Safety Program*" which rewards proactive safety activities and focuses on safety management leading indicators as a methodology to improve the safety performance of the company.

Process Safety (OP28 – 30)

There are management systems in place to meet the expectations normally ascribed as Process Safety Management (PSM). Environmental, health and safety controls are part of the new project appropriation process as are HAZOP and managerial review and sign-off. Management of Change principles are applied to new system projects as well as maintenance and repair processes. The company has modified the appropriate PSM documentation to include periodic equipment integrity reviews.

Works in Progress(#1)

1. The Company has purchased a software based maintenance management system to improve their predictive maintenance management capabilities, but is not fully implemented in Elmira, Leduc and Delta. (OP7/DO)

Works in Progress (#3)

3. The Company has plans to change its Risk Assessment Management System from the MIACC process risk assessment methodology to the Occupational Safety & Health Act (U.S.) Process Safety Management criteria for new and existing manufacturing processes.
(OP28 – 30/DO)

Emergency Management (OP31-47)

As a company, CCC is an eclectic mix of manufacturing and blending facilities, distribution warehouses and an in-house transportation fleet. The Company has in place the appropriate Emergency Management systems that have been integrated with those of local emergency responders. Externally for transportation incidents, the transportation fleet has in place an emergency response capability based on a transportation emergency response company certified by the C.I.A.C. TEAP III cooperative response plan. However, the team found some variance for PLAN/DO/CHECK/ACT in the degree of completion for emergency response with respect to the notification process to neighbours at the sites.

Finding Requiring Action(#1)

1. There is a finding requiring action to identify adjacent risks posed by industrial/commercial neighbours and rail lines, and their incorporation of the risks into site emergency response plans, for all sites except for Leduc and Elmira, which have this in place. In addition, documentation should be added into the Implementation Guide, *Emergency Response/Fire Safety/Media Response* under C7: (OP31 – 33/PLAN/DO)

During the verification, the company was developing its community letter for emergency response. The completion of this Works in Progress will require that for all sites, the company will follow up with some verification to ensure the recipients had received the letter, read the letter and that there were no outstanding questions. The sample, frequency and method for the verification process is at the discretion of the company and commensurate to the risk.

Works in Progress(#6)

6. For all sites: The company is in process of revising the risk communication management system to ensure that the community stakeholders at each site, who are at risk from the site worst case scenario, know and understand the concept of shelter in place. This can be accomplished via the annual community letter, either in the letter itself, or by including information provided by local emergency responders. (OP39, 40/CHECK/ACT)

At the last emergency exercise Sulco staff were in the community during a siren exercise and engaged the general public about the event and how to respond. This type of education and awareness is part of Responsible Care and should be repeated in partnership with the local CAER group.

Works in Progress(#7)

7. The Elmira CAER group should continue to include in their planned annual activities emergency response education and training for retail business owners and those in the community who may be in charge of community special events. (OP36, 39,40/PLAN)

2.1.4 Environmental Protection

Emissions and Waste Reduction (OP59 – 63)

Environmental policies and procedures are under the responsibilities of the Director of Product Stewardship / Risk Management and Site Managers. In addition, operations concerning environmental impacts are

directly linked to the Stewardship and Accountability Codes. Semi-annual ground testing and environmental compliance audits are conducted annually.

Since 2008 Sulphur Dioxide emissions in Elmira, ON have been reduced by 96% due to the installation of a tail gas scrubber unit in 2009. Sodium Bisulphite, byproduct of scrubber technology, is used in de-chlorination processes in municipal drinking water systems and bleaching in pulp and paper industry.

Successful Practice(#4)

4. As a result of the Company's sustainability objectives, the Sulco facility developed from a process waste, a more environmentally friendly alternative to industrial and municipal water and wastewater de-chlorination.

Handling Treatment & Disposal of Waste (OP64 -75)

The company has a comprehensive Hazardous Waste Management System but the criteria for physical audits of waste contractor facilities, whether transfer stations or third party treatment facilities, is not included in the management system documents. It is an expectation of Responsible Care® that physical audits of these facilities be carried out, by the company or a third party, on a frequency appropriate for the risk of the related waste. This expectation is outlined below under the Stewardship Code.

2.1.5 Resource Conservation (OP76 – 80)

Canada Colors and Chemicals Ltd. has adopted an overarching philosophy of Sustainability which embraces every aspect of the company. They "walk the talk" from coffee machines to energy reduction initiatives to vehicle technology. This is further evidenced by their public commitment in the 2014 Sustainability Report; a 2015 target requires that there is a corporate reduction of chemical waste by 25%. Since 2011 electrical consumption is reduced by 49% in Brampton due to energy efficient lighting and water and power reductions.

Electric powered forklifts with advanced software technology reduce energy, emissions and improve safety in the warehouses. Their philosophy in Sustainability is linked to Social Responsibility and reduction of Carbon Footprint.

Sulco and a neighbouring facility in Elmira, ON are working on a new plan for energy conservation. Sulco's steam is used by its neighbour. There is a plan to investigate the reuse of condensate returned to Sulco by the neighboring plant.

Successful Practice(#1)

1. The planned reciprocal agreement to retrieve condensate, which is a byproduct of steam energy, from a neighbouring industry to reduce the virgin water requirements of the Elmira site is a successful practice.

Successful Practice(#9)

9. CCC has implemented a number of energy and conservation initiatives. For example, in 2013, CCC installed a new membrane roof with skylights, heat and energy savings at the Vancouver and Montreal facilities.

In Leduc several water and energy conservation practices are implemented.

- a) A closed loop coolant systems is used for cooling and warming of storage tanks. (The blend tanks will be included in a project currently underway to be completed in 2016.)
- b) Condensed water from steaming rail cars is recycled to the boiler
- c) A mechanical room is partially heated in the winter through waste heat from air compressors.

2.1.6 Promotion of Responsible Care by Name (OP81 – 84)

The company has well established policies and procedures 2.2 and C27 which outline how the company interacts with suppliers, customers and their value chain on Responsible Care/Responsible Distribution. Sales and marketing have presentations about both initiatives, which are used for new suppliers and customers. To provide more options for its members CIAC has drafted the *CIAC Guidance on Promotion of Responsible Care*. During the verification the company was re-evaluating its performance against the CIAC guidance document for both non-visible outcomes such as interacting with suppliers and customers and visible outcomes such as branding and use of the Responsible Care logo. The team has concluded that the company meets the expectations of this aspect of Responsible Care. The next verification team may wish to gage the company further on future direction.

2.2 Team Observations Concerning Stewardship Code

The team reviewed the CCC Responsible Care/Responsible Distribution Implementation Guide Edition 3. It is the team consensus that the CIAC Responsible Care® Stewardship Code expectations are being met by Canada Colors & Chemicals.

Stewardship Committee is designated to guide and help implement initiatives with respect to suppliers and customers. The company's 2014 Sustainability Report, directed by the President & COO, clearly outlines short term targets and long term goals, with examples of energy savings, reduction in emissions and carbon footprint and site responsibilities at every location where the company operates.

The team also observed that policy C25.3 has been developed utilizing the C.I.A.C. Waste Management Guideline. In doing so the Company has interpreted the terminology used in ST118, “assess other parties’ performance at planned intervals”, as a process not requiring a physical audit component. The expectation of the C.I.A.C. is that periodic assessments would include a physical audit as part of the management system to assess third party performance.

Improvement Opportunity (#5)

There is an improvement opportunity to modify policy C25 to require periodic physical audits of waste contractors as part of the management system supporting the Ethic of assessing other parties at planned intervals. (OP64, 69, OP73, OP75, ST116, 118, ST121/CHECK)

2.2.1 Expectations of Companies

CCC has a comprehensive management system in place to address Responsible Care stewardship expectations. For example, the company's decision to distribute their fleet of over 4000 returnable tote tanks of liquid products to customers across Canada sets an example in the marketplace and speaks to their stewardship commitment. The team did not find a process which proactively attempts to identify emerging issues with respect to products that the company sells.

Improvement Opportunity (#3)

3. There is an improvement opportunity to develop a management system that is proactive in identifying emerging risks associated with new and existing products and processes in the distribution business (e.g. monitoring emerging scientific information on risk). (AC151, 152/PLAN)

Improvement Opportunity(#7)

7. There is no CAER group in the commercial/industrial area around the Leduc facility. CCC tried unsuccessfully to implement one a few years ago. There is an improvement opportunity for CCC to try to implement this again, as the number of facilities in the area has grown – at least when there is sufficient interest. (OP36, 39,40/PLAN)

2.2.2 Expectations with Respect to Other Parties

CCC does self-assessments and site visits/assessments of third party warehouses, and of chemical suppliers, including those in Asia. Initial inspections are done of customers for bulk TDG products, and a phone assessment, and sometimes a site visit for customers purchasing non-TDG products. Sales staff visit customers and report any concerns observed with respect to Responsible Care expectations.

2.3 Team Observations Concerning Accountability Code

The team reviewed the CCC Responsible Care/Responsible Distribution Implementation Guide Edition 3. It is the team consensus that the CIAC Responsible Care® Accountability Code expectations are being met by Canada Colors & Chemicals.

2.3.1 Operating Site Communities

The company maintains an excellent on-going dialogue with specific individuals at each of the sites where it operates. These persons are very knowledgeable about their community, emergency management and municipal affairs. It is a requirement to include risk information and communicate this information to those surrounding areas, including neighbours most affected by unplanned events.

Finding Requiring Action (#2)

For Brampton: There is a finding requiring action to communicate to residential, commercial and industrial neighbours.

- Create a comprehensive list of organizations and people which represent site community stakeholders. (AC125,126/DO)
- Ensure that the annual community letter is sent to all who may be impacted by company operations. (AC130/DO)
- Annually ensure that all those who may be impacted by company operations receive information and know what to do in an emergency (OP39/CHECK)

Works in Progress(#2)

2. The Company has plans to upgrade the visitor and the contractor approval sign in and safety indoctrination process to a software based system. (OP7, AC133/DO)

Works in Progress(#5)

5. In the past the Company had arbitrarily chosen a worst case scenario (WCS) impingement circle for all sites based on the WCS at the site with the highest risk profile. The Company has plans to review the (WCS) impingement circle assigned to each site with the objective of improving the dissemination of site risk information to the appropriate community members. (AC125, 133/PLAN/DO)

Improvement Opportunity(#2)

2. There is an improvement opportunity to identify and quantify the social and economic benefits that CCC brings to its facility communities and utilize this information in the various contact opportunities in the community. (AC128/PLAN)

2.3.2 Other Stakeholders

A past President of Canada Colors was invited to participate on a global initiative under International Union of Pure and Applied Chemistry (IUPAC) to develop understanding of Responsible Care and safe handling of chemicals in the value chain. *Responsible Care, A Case Study* (2013) is the first book of its kind to provide insight into the development and evolution of Responsible Care and its influence of societal outcomes on the basis of case studies. In this way, CCC's management system principles and ethic of Responsible Care were transformed from local examples to a global scale.

Successful Practice(#6)

CCC's influence in the promotion of Responsible Care in "*Responsible Care, A Case Study*" publication is a successful practice.

Locally the company has decided to focus its efforts on science education for this section of Responsible Care. "*Let's Talk Science*", "*You Be the Chemist*" and "*Specialist High Skills Major*" programs are sponsored activities for K-12 and post-secondary levels which can achieve the diverse facets of the Accountability Code. Engagement of other science/environmental groups beyond sponsorship of the educational scope may be a further viable option.

Successful Practice (#8)

8. *You be the Chemist* and *Let's Talk Science* promotes science education in elementary, secondary and post-secondary institutions.

Improvement Opportunities(#1)

1. There is an improvement opportunity to implement a social media program for communicating information to internal and external stakeholders to be utilized during both normal and abnormal operating conditions, which can be tracked and measured for its effectiveness (PDCA). (Appendix A) (AC125-136)

Improvement Opportunity(#4)

4. There is an improvement opportunity to further participate in educational initiatives. Although Specialist High Skills Major (SHSM) has been challenging to implement, we urge the company to continue to search for interested educators. (AC147-149/PLAN/DO)

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 CCC 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 decides 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. In considering the PLAN Step of CCC management system, the verification team observed the following:

- Management Policies, Programs, Procedures and Standards address the Responsible Care requirements under 'Plan'. Management of the 'plan' is executed by various committees, Executive Committee, Corporate Compliance Management Committee, Environmental, H&S, Ethics, Human Resources, Pension, Privacy and Training Resource Committees.

Oversight through committees is covered under this plan:

1. Accountability includes EH&S aspect risks and impacts of operations as well as input from stakeholders (employees, customers, community peers and the broader public).
2. Operations include critical importance, risk assessment and management, training, skills needs and annual

target setting for employees and contractors.

3. Stewardship includes environmental responsibility and resource conservation.

3.2 Observations on the DO Step

During the Do Step in the management system, the company converts the decisions of the PLAN Step into action and ensures 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.

In considering the DO Step of CCC management system, the verification team observed the following:

- The Responsible Care & Responsible Distribution Organization defines clearly the roles and responsibilities.

The Reverification Committee, comprising of code coordinators, sits permanently and convenes to act upon findings and opportunities for improvement as a result of CIAC triennial verifications. As well, on a continual basis, Code Co-coordinators report to the overall coordinator, Mark Landry, throughout the year.

Examples covered under 'Do' overseen by the code coordinators:

1. Assignment of responsibilities.
2. Submission of budgets and resource needs for personnel, technical and financial.
3. Submission of targets for the following calendar year.
4. Maintenance, review and update of procedure manuals and guides.
5. On-going training of personnel.

3.3 Observations on the CHECK Step

During the CHECK Step in the management system, actions carried out in the DO Step are 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 will be reviewed along with employee competences for assigned responsibilities, internal and external audits will be undertaken, incidents will be assessed to identify root causes, and performance measurement will be conducted and reviewed.

In considering the Check Step of CCC management system, the verification team observed the following:

Internal & external audits conducted annually to confirm that mgmt. systems are in place and adequate. Elmira site is certified under ISO14001/2004. Expansion of ISO14001 or OHSAS18001 to other sites is under discussion. Other sites are CACD verified.

Examples covered under 'check':

1. EH&S Scorecard to track site performance & measure key EH&S safety areas in a report on a monthly basis to Board of Directors.
2. Customer/supplier audits.
3. Target performance measurements evaluated annually in performance reviews.
4. Capture lessons from Impacts and Aspects, audits, verifications to use as input in the planning process.
5. Management of Change – engineering review.

3.4 Observations on the ACT Step

During the ACT Step in the management system, the company translates 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 include whether and how: audit and review findings are responded to; performance is communicated internally and externally; employee and contractor performance is rewarded and corrected, etc.

In considering the Act Step of CCC management system, the verification team observed the following: Relevant managers act upon findings/non-conformances arising from both internal/external audits. Findings are tracked via the QUIPs system to ensure continuance. The Director, Product Stewardship and Risk Management reviews all audit reports and compiles a summary of the audit reports on an annual basis. The assessment of these reports is the basis for annual sign off. Results of any high risk findings will be acted upon by the Executive Management Committee which reports to both CCC board and Sulphur Products board of directors.

5. 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 are 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 **Canada Colors and Chemicals Limited** 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 to the company management system(s) are as follows:

THE RESPONSIBLE CARE ETHIC AND PRINCIPLES FOR SUSTAINABILITY

1. WORK FOR THE IMPROVEMENT OF PEOPLE’S LIVES AND THE ENVIRONMENT, WHILE STRIVING TO DO NO HARM.

The company's management system has an excellent approach to new customers and new products for integration of sustainability. For example, in the business distribution unit, they are finding alternatives to phthalate plasticizers and reduction of chlorine bleaching agent. A complete listing of the products, their applications and alternatives are found on the website www.ccc-group.com.

2. 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.

Each of the sites have an excellent on-going process with first responders. The company is an active participant in municipal emergency exercises on a regular frequency, including TransCAER. Although CCC is generally responsive to its local communities, the team does have a finding about risk communication in Brampton, and a Work In Progress about risk communication for all sites.

TAKE PREVENTATIVE ACTION TO PROTECT HEALTH AND THE ENVIRONMENT.

In 2015 the company is implementing a tracking mechanism that will report on all eco-friendly/sustainable products transactions. CCC has refused the sale of products to customers when warranted. On one occasion the customer was finally persuaded to join a local CAER group.

INNOVATE FOR SAFER PRODUCTS AND PROCESSES THAT CONSERVE RESOURCES AND PROVIDE ENHANCED VALUE. Energy and water conservation are a priority function at all locations, including the setting of specific targets and responsibilities. This is outlined in the *Sustainability Report 2014*.

ENGAGE WITH OUR BUSINESS PARTNERS TO ENSURE THE STEWARDSHIP AND SECURITY OF OUR PRODUCTS, SERVICES AND RAW MATERIALS THROUGHOUT THEIR LIFE CYCLES.

The company interacts with business partners through Canadian Association of Chemical Distributors and Canadian Plastics Industry Association. A complete list of their sustainable association memberships in North America can be found in the *Sustainability Report 2014*.

UNDERSTAND AND MEET EXPECTATIONS FOR SOCIAL RESPONSIBILITY.

Social Responsibility issues are referenced in the *Sustainability Report 2014*. The team has requested that the company consider using metrics to benchmark their contribution to communities where they operate. The team feels that this will allow their communities to discover the diverse benefits that the company provides both environmental, social and economic.

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.

The Company is very active in these areas through participation in the CIAC and through membership and participation in the Canadian Association of Chemical Distributors (CACD) and Canadian Plastics Industry Association (CPIA).

CCC is a member of the Council of Great Lakes Industries, which is an industry driven task force providing scientific and technical input to the various levels of government regarding water quality regulations for the Great Lakes basin.

Dave Emerson is participating in a process facilitated by the CACD with the Directors of Environment Canada and Health Canada regarding the promotion of the Chemical Management Plan (CMP) internationally. The intent is to provide countries that are developing their own chemical management programs to use the Canadian CMP as a model. CCC will communicate with all of its global suppliers to promote CMP.

A key Canadian plastics pigment producer, approached CCC for help on an ongoing issue to persuade the government to change upcoming government legislation, banning a specific pigment. CCC was able to bridge conversations between the supplier and the CPIA for submission of scientific data.

PROMOTE AWARENESS OF RESPONSIBLE CARE, AND INSPIRE OTHERS TO COMMIT TO THESE PRINCIPLES.

Responsible Care orientation is provided to employees, suppliers and customers. Through the President & COO, the company is very engaged in all aspects of Chemistry Industry Association of Canada and Responsible Care. The team feels that there is opportunity for the company to share its successful practices with the CIAC Leadership Groups.

Successful Practice(#7)

7. The verification team judges the CCC 2014 Sustainability report to be concise and informative. Please reference this report at <http://www.ccc-group.com/> to view the numerous initiatives in the Company to reduce their carbon footprint and promote sustainability.

Successful Practice(#10)

10. The COO has successful interaction with CCC Corporate Board in the orientation of Responsible Care. The team sees potential in this type of modeling within the Leadership Group in sharing of best practices for other member companies. (OP84)

6. VERIFICATION TEAM CONCLUSION

As a result of the examination conducted, and in consideration of the observations communicated within this report, 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 in place to drive continual improvement. The team believes that the company is capable of responding to the range of Findings Requiring Action identified during the verification, as summarized in the Executive Summary and discussed in detail in the report. The verification is complete and no further involvement is required by the verification team.

COMPANY RESPONSE TO VERIFICATION TEAM REPORT

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

We would like to thank the team for their examination of the CCC requested areas of focus:

- Expansion at Leduc and Brampton site
- Injury Management
- Critical Infrastructure, Malicious Intent
- Employee Security
- Expectations of Companies beyond R&D

CCC found this verification process to be valuable in helping establish our benchmarks relative to the balance of the Chemistry Industry and looks forward to continuing progress on all facets of our Responsible Care program. From a verification standpoint, the verification protocol is a useful tool in order to assist us in our processes.

CCC 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 sites.

We will give consideration to the Improvement Opportunities identified by 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 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.

Mark Landry
Manager, Responsible Care, Process Improvement
Canada Colors & Chemicals Ltd.
December 16, 2015

INTERVIEW LISTS

A: Company Personnel Contacted During Verification Process

Name	Position	Location
Dave Emerson	President & COO	Mississauga, ON
Ursula Bagnato	Manager, National Transportation	Brampton, ON
Randy Book	Project Manager, Western Region	Leduc, AB
Colin Cardinall	Joint H&S Committee	Leduc, AB
Michael Chamberlain	National Sales Manager, Industrial Solutions	Mississauga, ON
Rick Companion	National Manager, Fleet Operations & Third Party Logistics	Mississauga, ON
Sandy Curr	Senior Quality Control Technician	Leduc, AB
Ryan Draper	Corporate H&S Coordinator	Elmira, ON
Frank Fane	Joint H&S Committee	Leduc, AB
Mark Gerard	Director, Supplier Relations	Mississauga, ON
Brett Hamm	Joint H&S Committee	Leduc, AB
Melanie Jones	Manager, Regulatory Affairs	Brampton, ON
Ron Koniuch	Vice President, Sulphur Products, Corporate Compliance	Elmira, ON
Ken Kshyk	Manager, Leduc Operations	Leduc, AB
Mark Landry	Manager, Responsible Care/Process Improvement	St.-Laurent, QC
Bruno Pelletier	Manager, Eastern Region Operations	St.-Laurent, QC
Rick Rundle	Vice President, Logistics	Mississauga, ON
Alex Csondes	Joint H&S Committee	Brampton, ON
Steve Madders	Joint H&S Committee	Brampton, ON
Ajay Gulati	Joint H&S Committee	Brampton, ON

B: External Stakeholders Contacted During Verification Process

Name	Company / Organization	Position	Location
Tom Wilson		Community Rep	Windsor, ON
Rick Bernard		Site Community Rep	Brampton, ON
Jim Germann		Site Community Rep	Elmira, ON
Dan Holt		Site Community Rep	Elmira, ON
Sophie Mainville		Site Community Rep	Montreal, QC
Alain Normand		Site Community Rep	Brampton, ON
Brandon Northrup		Site Community Rep	Colborne, ON
Robert Saito		Site Community Rep	Delta, BC
Rick Sereda		Site Community Rep	Leduc, AB



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