



RESPONSIBLE CARE[®] Verification Report

LANXESS Inc.

October 21-24, 2013



Chemistry Industry
Association of Canada



Responsible Care[®]
Our commitment to sustainability.

Disclaimer

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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 LANXESS Inc. (LANXESS). The verification was undertaken on Oct 21 to Oct 24, 2013 and included team visits to Sarnia (ON) and London (ON). This was the first Responsible Care verification completed for LANXESS.

During the verification of LANXESS, 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).

The team considered all aspects of the Responsible Care Commitments during the verification and because this was the company's first verification the team spent more time in detailing specific code elements.

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: _____

Date: October 27, 2013

Gerry Whitcombe

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:

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Summary of Verification Team Observations

Findings Requiring Action

1. It is a finding requiring action that the company integrate hazard threats from neighbours into site emergency management plans
2. It is a finding requiring action that there is no corporate policy to guide practitioners should an incident occur resulting in the dislocation of people.

Works in Progress

3. The engineering solution to the Olefins loading rack ergonomic issues is a work in progress.
4. The mapping of company infrastructure and piping connections is a work in progress.
5. Including Responsible Care as a review section to the company's Management of Change process is a work in progress.
6. The modification of the company's Incident Cause and Review process to ensure action is effective is a work in progress.
7. The implementation of programs in support of energy management is a work in progress.
8. The current plan for the business unit to conduct inspections/audits on Canadian warehouses (with team encouragement to include a RC assessment component) is a work in progress.
9. Updating existing contract language to include a Responsible Care component for all contracts specifically identifying expectations related to Responsible Care is a Work in Progress.
10. The company's development of a documented community dialogue / communication process is a work in progress. Each of the codes as well as the items presented in the lead-in to this work-in-progress must be considered in developing this standard/system. At this point in the company's implementation of Responsible Care it would be beneficial for the company to benchmark best practice Community Dialogue implementation with its peers.

Improvement Opportunities

11. There is an improvement opportunity to develop a buffer zone policy, which can be used to guide the company in future expansions, as well as in dealing consistently with local planning authorities.
12. There is an improvement opportunity at the Butyl plant where the housekeeping in some manufacturing areas is lacking.
13. There is an improvement opportunity to review pipeline inspection and spill protection measures for the two locations crossing public thoroughfare.
14. There is an improvement opportunity to develop an overarching Responsible Care Management System.
15. There is an improvement opportunity to develop corporate standards/direction for code areas where there are none.
16. There is an improvement opportunity to conduct an annual review of the Responsible Care gap analysis

Successful Practices

17. The company's efforts to enhance the grounds near the entrance to the Butyl plant is a successful practice.
18. The purchased 'Blitz' precision training tool from Aubrey Daniels focusing on Butyl operating procedures is a successful practice.
19. The use of foldable reusable containers for the company's rubber product and the subsequent reduction in liner thickness is a successful practice.
20. Asset care through a 'Do it Now' approach and the company's 'Bad Actor' program are successful practices.
21. The daily Check Tour (20 minute multi-functional safety audit) and a company KPI requiring management to perform a minimum of one monthly JSO are examples of building a strong safety culture and is a successful practice.
22. The company's 'IM Hurt' avatar, demonstrating cumulative location and type of injury is a successful practice.
23. The company's approach to the development and implementation of a Business Continuity Plan is a successful practice.
24. The parent company's global 30% VOC reduction target and 25% carbon footprint reduction, both driving local reduction plans, is a successful practice.
25. The site energy team and focus on energy reduction opportunities is a successful practice.
26. The company's Jeopardy-style game for improving employee awareness about Responsible Care is a successful practice.
27. London Labs 10 minute rule and open house concept resulting in the lab's outstanding cleanliness and organization are a successful practice.
28. The use of Challenger, a socially responsible carrier promoting a green business approach is a successful practice.
29. The company's Team Room Database which provides a knowledge base for the public affairs steering team is a successful practice.

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 LANXESS' 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 the Responsible Care Ethic and Principles for Sustainability.

The Responsible Care® Ethic and Principles for Sustainability

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, LANXESS must, every three years, participate in an external verification intended to:

- 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;
- Identify opportunities for assisting the company when benchmarking its own practices and performance against those of its peers, thus supporting continual improvement;
- Contribute to the credibility of Responsible Care amongst company personnel and stakeholders, as well as the stakeholders of the broader industry;
- Identify successful company practices that can be promoted to peers in the CIAC membership; and
- 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). LANXESS 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)292-8663 extension 233.

1.2 About LANXESS

LANXESS Inc. (LANXESS), located in Sarnia, Ontario, is the Canadian subsidiary of LANXESS AG, headquartered in Cologne, Germany. The LANXESS Sarnia site manufactures synthetic butyl rubber (regular butyl, chlorobutyl and bromobutyl rubber) and petrochemicals, and has about 500 employees. Chlorobutyl and bromobutyl rubber are known collectively as halobutyl rubber. The primary market for butyl rubber is the tire industry; halobutyl rubbers also find use in pharmaceutical applications. Food grade butyl rubber is the basis of chewing gum.

The Butyl Rubber business operates a research facility at the Convergence Center in the Western Discovery Park located at the University of Western Ontario in London, Ontario employing approximately 35 persons. The building was opened in 2010 and has achieved the LEED (Leadership in Energy and Environmental Design) Gold standard of the Canada Green Building Council.

1.3 About This Verification

The verification of LANXESS Inc. (LANXESS) was conducted on Oct 21 to Oct 24, 2013 and included team visits to Sarnia (ON) and London (ON). 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 first Responsible Care verification completed for LANXESS. The verification team was comprised of the following individuals.

Name	Affiliation	Representing
Gerry Whitcombe	CIAC Verifier	Industry (team leader)
Gerry Moss	CIAC Verifier	Industry
Jim Wakefield	CIAC Verifier	Public-At-Large
Debbie Krukowski	LANXESS CAP	Local Community

2. Team Observations Concerning the Responsible Care Commitments (Codes and benchmark and Collective Expectations)

During the verification of LANXESS, 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).

The team considered all aspects of the Responsible Care Commitments during the verification and because this was the company's first verification the team spent more time in detailing specific code elements.

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 judgement, 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

2.1.1 Design and Construction of Facilities and Equipment

It is the team's opinion that the company sufficiently meets Responsible Care code implementation expectations for Design and Construction of Facilities and Equipment area.

LANXESS has a documented capital project management process governed by a Project Engineering Workflow standard (ENG SOP 1010). All projects are initiated by Management of Change (HES SOP 0077). Engineering standards exist to guide practitioners and ensure design uniformity. The list of standards covering this area is comprehensive covering project safety reviews, contractor programs, purchasing requirements, pre-start health and safety reviews, pre-start-up safety reviews, facility sitting and layout, etc.

However, the company does not have a documented buffer zone policy aligned with CIAC direction for this area. The company's facilities are located in long established industrial areas and the company has no immediate plans for land acquisition for expansion. Nevertheless, all member companies are encouraged to include buffer zone considerations in future planning and to establish a basis with which to deal with local planning authorities.

There is an improvement opportunity to develop a buffer zone policy, which can be used to guide the company in future expansions, as well as in dealing consistently with local planning authorities.

2.1.2 Operations Activities

In considering the four subsections of the Operations Activities area the team agrees that the company sufficiently meets Responsible Care code implementation expectations.

During the team's tour of the Butyl plant the team was generally impressed with the level of housekeeping particularly in light of open product handling and conveyance processes. However, there were some areas that were not being kept clean. The team recognized that the nature of the product (in this circumstance an intermediate rubber solution) makes this a challenge, however, the company should address timely cleanup after completion of maintenance projects. In addition, some cement walkways were littered with loose gravel and, in fact, represented a potential safety hazard.

There is an improvement opportunity at the Butyl plant where the housekeeping in some manufacturing areas is lacking.

The team acknowledges the difficult nature of the company achieving its housekeeping standards in situations such as those presented above and commends the company for its efforts to enhance the grounds at the entrance to and around the administrative areas of the Butyl plant. This not only presents a pleasant visitor experience but also provides a source of pride and encouragement for plant employees.

The company's efforts to enhance the grounds near the entrance to the Butyl plant is a successful practice.

a. General Considerations

The company's production and process units have process hazard analysis (PHA) done on all processes with a five year re-validation cycle. A key component of such reviews is operating procedures and, in addition, PHA (Process Hazard Analysis) methodology covers code requirements for this area.

The company has purchased and implemented the “BLITZ Precision Learning[®]” training tool that ensures all process operators are trained to achieve 100 percent competence in operations procedures (approximately 700 Standard Operating Procedures are used as input), ensuring that all plant processes and any unexpected process upsets are handled by a competent, skilled workforce.

The purchased 'Blitz' precision training tool from Aubrey Daniels focusing on Butyl operating procedures is a successful practice.

b. Laboratory Practice

The company is well served with laboratory procedures covering all code areas and has document management processes governing the frequency of reviews.

The team toured the Butyl/Olefins production and Biox wastewater laboratories and was generally impressed with the way the company has routed the Biox process stream sample lines to the laboratory facility thus minimizing the need for grab samples.

c. Transportation and Physical Distribution

The company has a full suite of standards and procedures covering all appropriate aspects of this code area.

Distribution of product has been enhanced through the introduction of foldable, re-useable, stainless steel containers. This has resulted in reducing waste through the elimination of most of the traditional wood containers and related packing material. In addition, plastic liner material for the foldable containers has been significantly reduced, eliminating more waste.

The use of foldable reusable containers for the company’s rubber product and the subsequent reduction in liner thickness is a successful practice.

d. Maintenance

Overall, the company is guided by its “Mechanical and PCS (Process Control Systems) Equipment Integrity” standard (HES SOP 127), and its Risk-Based Maintenance & Inspection (RBMI), and Vessel and Pressure Safety Valve (PSV) inspection and preventive maintenance programs.

Each unit has equipment specific procedures for start-up, shutdown and preparation for maintenance. Inspection and maintenance is scheduled in a number of ways. Inspection, testing and calibration of safety critical equipment is governed by HSE SOP 127; vessel and piping inspection by RBMI; and pressure safety valve inspection and testing by the PSV inspection and testing program. Maintenance is triggered by SAP work orders that are primarily generated through inspection findings, preventive maintenance requirements, and equipment breakdowns.

All maintenance is begun with a Management of Change and any maintenance related incident will be reported and reviewed and may be investigated depending on severity.

The Butyl plant maintenance program has changed from a time based approach to an intelligence based approach, addressing value-added, criticality and repetitive failure considerations, resulting in its 'Do it Now (DIN) approach and its 'Bad Actor' program that aims to address and eliminate high impact (repeat) offenders. The DIN work was reduced from 30% to 15% of hours as a result.

Asset care through a 'Do it Now' approach and the company's 'Bad Actor' program are successful practices.

The team viewed the two locations where overhead pipe racks cross public thoroughfares and observed that these are locations where an incident would have very high public visibility and potential public impact from road closures.

There is an improvement opportunity to review pipeline inspection and spill protection measures for the two locations crossing public thoroughfare.

2.1.3 Safety and Security

The team reviewed all six subsections in this area and concludes that Responsible Care code implementation expectations are being met.

a. Occupational Health and Safety

The company has standards, safe operating procedures (SOP) and work practices that adequately cover the six codes in this area.

It participates, along with other companies in the area, in the Sarnia-Lambton IEC (Industrial Education Co-operative) who provides standardized training on common (that is, standardized at all participant locations) work procedures for all construction workers in the valley. This ensures that training for this mobile workforce is consistent. In addition, IEC compiles injury statistics for all companies in Lambton County.

The team was informed of a daily, twenty minute safety audit (Check Tour) that is completed by a multi-functional team including representatives of the JHSC, plant supervision, maintenance, quality and the site head of HSE. Although team members are increasingly seeing similar programs at other CIAC members' sites this is a high visibility illustration of the priority placed on employee safety by management and worthy of being highlighted.

LANXESS utilizes Key Performance Indicators (KPIs), one of which requires a minimum of one Job Safety Observation (JSO) per month, involving all levels of management. This has created an environment of "safety first" and encouragement of peer corrective action.

The daily Check Tour (20 minute multi-functional safety audit) and a company KPI requiring management to perform a minimum of one monthly JSO are examples of building a strong safety culture and is a successful practice.

Ergonomic issues around an outdated loading facility, combined with an ageing workforce have been exacerbated by a recent workplace injury. The company is in the process of developing a long term

capital plan to address the process and have attempted to implement short term solutions in the interim. These solutions have not had the desired effect and the team saw some frustration with the delays in implementing a long term solution. The team encourages a timely resolution to this issue.

The engineering solution to the Olefins loading rack ergonomic issues is a work in progress.

The company has developed a presentation that provides a unique graphic visualization (IM Hurt) of cumulative injury reporting via the company intranet. The presentation is based on a human body graphic showing location and type of injury.

The company's 'IM Hurt' avatar, demonstrating cumulative location and type of injury is a successful practice.

b. Process Safety Management

The company has based its process safety management system on the CCPS (Center for Chemical Process Safety) original 12 element model. The guiding document is 'Process Safety and Risk Management Program' (HES SOP 0211) and it is supported by 'Process Hazard Analysis' (HES SOP 0062), 'PHA Methodology – Work Instructions' (HES SOP 0083) and 'Project Safety Reviews' (HES SOP 0081).

Accountability for applying the program has been assigned and overall accountability for the program belongs to site management. All production units and processes are required to complete an initial process hazard analysis which must be revalidated every five years.

The company had initiated a project to undertake a mapping of its infrastructure and piping connections. This project was given added urgency by the recent pipeline release by a neighbouring company. The team encourages the prompt completion of this activity to ensure the integrity of company owned infrastructure.

The mapping of company infrastructure and piping connections is a work in progress. The company plans to include Responsible Care considerations into its Management of Change process. This will ensure that Responsible Care becomes more entrenched in company day-to-day operations.

Including Responsible Care as a review section to the company's Management of Change process is a work in progress.

The team is of the opinion that the company's implementation of processes in support of Process Safety Management codes meets all Responsible Care code implementation expectations.

c. Emergency Management

For its fixed facilities the company is guided by an HES Site Emergency Response Manual (based on NFPA 472 'Standard for Competence of Responders to Hazardous Materials Incidents') which is supported by unit emergency response procedures. It does not have a documented management system that specifically guides the company in implementing the codes. In the interests of sustainability and to ensure conformity with the codes of practice the company should develop a

corporate standard. There is an improvement opportunity in the Plan portion of the Management System section of this report.

The company has full time emergency responders Pro Board certified and has established response time standards. Company responders regularly train with colleagues from surrounding municipalities.

(The Pro Board is an organization that has established an internationally recognized means of acknowledging professional achievement in the fire service and related fields. It accredits organizations that use the U.S. National Fire Protection Association's (NFPA's) professional qualification standards and any entity that is accredited by the Pro Board makes certification available to its members.)

For transportation emergency response the company is covered by a required ERAP (Emergency Response Action Plan – ERAP 2-1589) supported by a qualified transportation emergency response contractor and an in-house group named ALERT (Amalgamated LANXESS Emergency Response Team).

The team is of the opinion that the company has implemented all codes associated with Emergency Management to meet Responsible Care code expectations. Specific comments are given below.

The company should consider inviting members of the LANXESS Community Advisory Panel and the local press to watch site emergency response exercises. This has been done successfully with other companies and can provide the community with some insight as to the capability and state of readiness the company can bring to deal with process incidents as well as potentially valuable community input into the exercise itself. (Included as a suggestion in the Operating Site Community section later in this report.)

The company must engage with its close industrial neighbours to ascertain the hazards that its operations present to LANXESS (OP31) and incorporate those threats into its Emergency Response Plan (perhaps by using the CAER fire subcommittee to explore sharing of hazard information between neighbouring companies).

It is a finding requiring action that the company integrate hazard threats from neighbours into site emergency management plans

Although company management recognizes its responsibility to accommodate displaced persons in the event of a transportation emergency (Alert manual, section 1.13 – Dislocation Policy), there should be a documented policy/process in place to provide guidance should these situations arise.

It is a finding requiring action that there is no corporate policy to guide practitioners should an incident occur resulting in the dislocation of people.

d. Malicious Intent

The company requires a documented process around Operations Code 48 to address acts of malicious intent originating from either outside or inside the company. This requirement may be satisfied by

inclusion of the relevant considerations within the company's security management system. There is an improvement opportunity in the Plan portion of the Management System section of this report.

e. Critical Infrastructure/Business Continuity

The company has fully embraced the CIAC guidelines for implementation of a comprehensive Business Continuity plan. It is hoped that other CIAC members will be encouraged to follow this lead to develop or review their own plans.

The company's approach to the development and implementation of a Business Continuity Plan is a successful practice.

f. Incident Reporting and Investigation

The company has an incident reporting and investigation process (Incident Cause and Review – HES SOP 0005) and an electronic tool (Corrective Action Request – CAR) to enter, investigate, assign actions, report and follow up on incidents. It uses one of several root-cause analysis tools depending on the complexity of the incident

Some incidents are reported globally via "safety telegrams" to ensure learning throughout the organization.

As part of a local initiative, a standardized root cause system for contractors has been developed throughout local industry so that all reporting by companies is consistent.

Although the company's systems are comprehensive, (including a post-closeout 90 day review capability that is not being used), management has recognized the need for a final step in the process to evaluate the effectiveness of actions taken to ensure that they have been successful in addressing the system deficiency. The modification of the company's Incident Cause and Review process to ensure action is effective is a work in progress.

2.1.4 Environmental Protection

In consideration of the two main topics in this area the team concludes that Responsible Care code implementation expectations are being met.

a. Emissions and Waste Reduction

The codes in this area are well served by corporate requirements. In addition, the parent company has set rigorous sustainability goals around emission reduction, energy usage and its overall carbon footprint to be achieved into the near future. Site goals are driven by a global 30% VOC (volatile organic compound) reduction target by 2015, and a global 10% carbon footprint reduction by 2020 based on a 2010 benchmark.

The parent company's global 30% VOC reduction target and 10% carbon footprint reduction, both driving local reduction plans, is a successful practice.

Also of note is the company's intention of implementing a new Energy Management System standard (continual improvement of energy performance, including energy efficiency, energy security, energy

use and consumption). Implementation will additionally assist the company in achieving reduced greenhouse gas targets.

b. Handling, Treatment and Disposal of Wastes

The company has effective waste management and disposal policies and processes in place. However, it needs to have an ongoing plan to review and evaluate emerging technology in this area (OP73). This review process can be triggered through its periodic waste treatment and waste carrier audits. There is an improvement opportunity in the Plan portion of the Management System section of this report.

2.1.5 Resource Conservation

Resource use and conservation has become a significant sustainability issue. The company currently manages this area utilizing the 'Aspects and Impacts' requirements of its ISO 14001 management system. The team would advise the company to develop a process around its goals and efforts for resource conservation. There is an improvement opportunity in the Plan portion of the Management System section of this report.

The team was encouraged to see that the company had formed a site based team to address, on an ongoing basis, the use of energy, and to actively pursue improvement opportunities to reduce energy consumption.

The site energy team and focus on energy reduction opportunities is a successful practice. As mentioned previously, the company has committed to the implementation of a new international standard for energy management that will become an ongoing tool to help reduce energy consumption.

The implementation of programs in support of energy management is a work in progress.

2.1.6 Promotion of Responsible Care by Name

The company needs to focus some effort in promoting Responsible Care on all stakeholder fronts. It is recommended that this be built into its ongoing communication plan. The team has provided some general guidance in this endeavour, recognizing that some excellent work has already been started (i.e. mouse pads and wall plaques). However, the team toured the Butyl plant and did not find evidence of Responsible Care signage and discussions with shop floor employees displayed, in most cases, a general lack of familiarity with responsible Care. The team feels that the following areas should be considered in efforts to promote Responsible Care:

- business cards and letterhead
- Canadian internet page
- LANXESS Safety and Health policy (business unit and site)
- community newsletter and employee communication vehicles ('RC Corner')
- contractor training and visitor site videos
- IEC training (recognition of the Responsible Care initiative)
- RC badges on coveralls
- RC site flags and banners
- Inclusion of the RC logo on e-mail correspondence

- The posting of an executive contact signed “Ethic and Principles of Sustainability” document on both the company’s Canadian website and the employee intranet as well as at prominent locations throughout the site.

There is an opportunity presented in the Management System section of this report related to Promotion of Responsible Care by Name. Review the recommendations in that section with reference to the recently released CIAC “RC Visibility – Guidance Document’ and its contained ‘Self-Assessment Guide’ on page 16.

The team commends the company for a unique approach in developing employee awareness through an interactive, popular ‘Jeopardy’ style game. The company’s Jeopardy-style game for improving employee awareness about Responsible Care is a successful practice.

2.2 Team Observations Concerning Stewardship Code

2.2.1 Expectations of Companies

a. Research and Development (R&D) Expectations (85-92)

The company’s global Stage Gate Process (R&D SOP 0684), Hazard Assessment Process for Butyl Rubber (R&D SOP 0492) and Management of Change process (HES SOP 0077) cover all code requirements for this area.

A tour of the Research and Development laboratory in London impressed the team with the cleanliness and organization displayed throughout the facility. This was in no small part due to the lab’s “10 minute rule”, whereby it is standard practice to set aside the final 10 minutes of the workday to ensure that all work areas were cleaned and organized for the start of the following workday as well as its “open house” concept to be prepared for guests/visitors at any time. London Labs 10 minute rule and open house concept resulting in the lab’s outstanding cleanliness and organization are a successful practice.

b. Expectations Beyond R&D (93-114)

The team reviewed various aspects of the codes related to the five areas of this code section and is of the opinion that Responsible Care code implementation expectations are being met.

a. Raw materials, Products and Services Characterization and Evaluation (93-99)

At planned intervals, the company assesses its raw materials, products and services. Raw materials reviews are mainly driven by regulatory change and products are assessed using a process to determine global megatrends (customer mobility, water, and urbanization). Since butyl rubber is used as the inner liner of tires the company undertakes global exercises determining how rubber enhances customers’ lives.

The company is to be commended for its proactive packaging of rubber, specifically in the use of reusable, foldable metal crates, in increasing the number of bales per crate from 30 to 36 and to reducing the thickness of liner bags by 33%.

b. Promotion of Responsible Care by Name (100-102)

There is little specific activity in this area with the exception of a general effort to update contract language with customers and service providers to include the company's commitment to Responsible Care. This area is included in a general opportunity in the Management System section of the report.

c. Security (103)

The company is C-TPAT (Customs-Trade Partnership Against Terrorism) approved. C-TPAT is a voluntary supply chain security program led by U.S. Customs and Border Protection (CBP) and focused on improving the security of private companies' supply chains with respect to terrorism.

d. Communication Through Value Chain (104-110)

Up to date material safety data sheets (MSDS) and Product Safety Assessments (PSA) are developed and maintained by the company's corporate Product Safety & Regulatory Affairs department covering the four products manufactured in Canada.

e. Historical Hazardous Waste Practices (111-114)

The company has a process to accrue funds for the eventual environmental clean-up of shut down facilities. The company maintains waste reports and waste manifests in long term storage. Waste handlers must be approved and subject to continual assessment.

2.2.2 Expectations with Respect to Other Parties

The company has planned to follow-up on warehouse self-assessments with audits conducted by personnel from the applicable business unit. The team recommends that such audits incorporate a review (consideration) of the "Responsible Care Ethic and Principles For Sustainability" in warehouse operations. The extent of the review should reflect on any specific Responsible Care wording planned for the supplier contract.

The current plan for the business unit to conduct inspections/audits on Canadian warehouses (with team encouragement to include a RC assessment component) is a work in progress. The company is working towards ensuring that Responsible Care and its Ethic and Principles of Sustainability are being delivered throughout the value chain including inclusion of the codes, where appropriate, as part of contract wording. The team was encouraged by the company's intention to include this wording in all supplier and customer contracts.

Updating existing contract language to include a Responsible Care component for all contracts specifically identifying expectations related to Responsible Care is a Work in Progress.

The distribution operation has begun to consider a sustainability component in its selection of product carriers and have approved one such carrier (Challenger). The team recommends that this be incorporated into the documented procedure. Challenger is a SmartWaySM (US Environmental Protection Agency) Transport Partner. This agency works with over 500 shippers, carriers, and logistics companies across North America to actively reduce fuel consumption, greenhouse gases and other air emissions.

The use of Challenger, a socially responsible carrier promoting a green business approach is a successful practice.

2.3 Team Observations Concerning Accountability Code

Generally the company does a good job in meeting code requirements for the Accountability Code. However, some of the more critical processes are embedded within other systems and the team encourages the company to split these processes out and make them stand-alone. Specifics are given below.

2.3.1 Operating Site Communities

The company has a variety of processes and activities which define its community dialogue/communication process including a well-organized and functioning community advisory panel (CAP) that recently celebrated its 100 meeting milestone, after 20 years of existence. Nevertheless, the following describes some team observations that result in a work-in-progress related to this area's management system.

- The company has some elements of a communication process included in its Environmental Management System. Efforts are underway to build upon this base to comply with the CIAC codes of practice. The company needs to develop a stand-alone Community Dialogue/ Communications Management System that will cover all stakeholders, provide for an annual plan and be able to evaluate the effectiveness of its efforts. The company is encouraged to make use of the CIAC tool 'System for Community Outreach Planning and Evaluation (SCOPE) as appropriate to its communication needs.
- The Community Advisory Panel has been an integral part of the company's Outreach Program for over 20 years. To ensure continued success and engagement, the company could consider new ways to engage their Community Advisory Panel members. The members are a great resource from which to seek input and advice on the company's efforts to engage the larger community, both in content and methodology. In addition, major projects could be reviewed with the CAP, including regular updates on progress. As well the company could invite CAP members to attend appropriate site emergency response exercises.
- The company must ensure that information regarding company operations, as outlined in codes OP32, OP36, OP39 and AC129-AC136, is shared with its immediate neighbours (both residential and commercial) and any other stakeholders that may be affected by site operations. The company should consider preparation of a site brochure providing the relevant information and outlining what action to take in the event of an emergency. In addition it is incumbent upon the company to understand whether near residential neighbours understand the concept of shelter in place. The company's development of a documented community dialogue / communication process is a work in progress. Each of the codes as well as the items presented in the lead-in to this work-in-progress must be considered in developing this standard/system. At this point in the company's implementation of Responsible Care it would be beneficial for the company to benchmark best practice Community Dialogue implementation with its peers.

2.3.2 Other Stakeholders

The company has established a Public Affairs Steering Team, the focus of which is to influence public policy. One of the team's major tools is the Team Room Database, a repository of team members' public contacts and activities, providing a single source of information upon which to plan team strategy.

The company's Team Room Database which provides a knowledge base for the public affairs steering team is a successful practice.

1. Public Policy

The company has a planned and effective process to communicate with key people at all levels of government.

- It is proactive in Provincial initiatives such as the Environmental Registry alerts, part of the Environmental Bill of Rights (EBR).
- The company interacts directly and indirectly with employees at the Ministry of the Environment (MoE) both the District and Approvals branches as well as with Environment Canada officials. Federal initiatives are promoted through the CIAC and regular meetings with the local MP.

6. Non-governmental Organizations

The company has identified community-based organizations germane to its facility and have communicated with them as required.

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 the company'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:

The company recognizes the need for a Responsible Care Management System (RCMS) to provide a high level document that outlines the company's commitment to the ethic and principles of Responsible Care and adherence to the codes of practice. This management system serves to provide structure and context around company policies, processes and practices as they link Responsible Care to health, safety, the environment and dialogue with stakeholders. Items such as the aforementioned signed commitment to the "Ethic and Principles for Sustainability" (see §2.1.6) could be effectively managed by this system. As an appendix to the Management System, the recently completed Gap Analysis, will provide the linkage between the codes of practice and specific company operations and will help provide the executive contact with some confidence that the company is fulfilling its

Responsible Care obligations. The RCMS will also serve to define the Responsible Care organization structure with accountabilities and responsibilities and define how the Responsible Care Steering Team will ensure that all company operations are conducted in accordance with the requirements of Responsible Care. The company should consider benchmarking with its peers on this topic.

The organizational entity charged with ensuring implementation and subsequent performance of the Responsible Care Management System (in the team's opinion this would be the Responsible Care Steering Team) is also well placed to guide the organization in certain code areas where focused management may be synergistic. For example:

- Promotion of Responsible Care by name is required in 8 specific areas covering all three major codes. An overall management system approach, consistent with best practice guidance recently developed by CIAC, to increase brand awareness of Responsible Care, internally and externally, should be considered. (Please see section 2.1.6 for additional information about Promotion of Responsible Care by Name.)
- Work is underway to upgrade contract wording to include Responsible Care references. It may be beneficial to develop standard wording for all 2nd and 3rd party contracts

There is an improvement opportunity to develop an overarching Responsible Care Management System.

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 LANXESS' management system, the verification team observed the following:

The company takes its overall direction from its parent in Germany. Corporate maintains directives that provide high level policy guidance in HSEQ and other key business aspects. Corporate also issues annual goals and objectives, collects and maintains Key Performance Indicators (KPI's) and provides overall guidance on major company initiatives. The directives, goals and objectives are implemented in accordance with jurisdictional laws and regulations and outside of this LANXESS Canada has a fair amount of autonomy. Senior management meet annually to evaluate corporate directives as well as local business needs to establish goals and determine the following year's activities required to meet those goals.

Responsible Care implementation requires that companies develop documented direction for its processes/systems to support long term code sustainability (the Plan part of Plan-Do-Check-Act). During the course of the verification the team observed several areas where there are no management systems covering some code areas and the links to code elements are tenuous. These areas are managed using operating manuals, tools from other systems (e.g. ISO 14001) and other

processes (e.g. waste handling procedures). The team is of the opinion that corporate direction, guidance and checks for these areas would enhance the company's overall Responsible Care Management System and help confirm code conformance. Some areas (identified previously in the report, but there may be others that the team did not discover) are:

- Emergency Management where an ER Manual based on NFPA 472 governs activity but no specific checks are done against the codes.
- Malicious Intent where a Security Manual governs activity but no specific check are done against the codes
- Resource Conservation where activities are guided by the Aspects and Impacts analysis of ISO 14001 but no specific checks are done against the codes and
- The 'Evaluating new waste handling technologies' portion of Handling, Treatment and Disposal of Wastes code area where there is no guidance.

There is an improvement opportunity to develop corporate standards/direction for code areas where there are none.

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. The team observed that the company has implemented an effective organizational structure, has assigned responsibilities to appropriate personnel, supplies sufficient training and resources to execute planned actions and has developed and documented standards, procedures and programs generally covering all aspects of Responsible Care.

In considering the DO Step of LANXESS' management system, the verification team observed management system implementation expectations had been met.

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 LANXESS' management system, the verification team observed the following:

The gap analysis should be reviewed on a periodic basis to ensure that changing practices and processes remain true to the codes of practice. This requirement should be documented in the RCMS. There is also an opportunity to link the proposed Responsible Care step in the MOC process to ensuring the gap analysis remains 'evergreen'.

There is an improvement opportunity to conduct an annual review of the Responsible Care gap analysis

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 needed 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 LANXESS' management system, the verification team observed management system implementation expectations had been met.

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 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 LANXESS' 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:

- *work for the improvement of people's lives and the environment, while striving to do no harm;*
The Company has recently joined the Chemistry Industry Association of Canada at significant cost, and committed itself to the ethic and principles of Responsible Care.
- *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;*
The Company continues to remain fully committed to community engagement, having recently celebrated a 20 year, 100 meeting anniversary for its Community Advisory Panel involvement.
- *take preventative action to protect health and the environment ;*
The Company has recently commissioned a Regenerative Thermal Oxidizer designed to significantly reduce methyl chloride and VOC emissions into the community. This is expected to reduce overall VOC emissions by an estimated 500 tonnes annually.

- *innovate for safer products and processes that conserve resources and provide enhanced value;*
The Company has developed, and produces high performance rubber allowing for safer, energy saving tires in the automotive market. In its food based product, the Company has moved from animal fatty acids to vegetable acids.
- *engage with our business partners to ensure the stewardship and security of our products, services and raw materials throughout their life-cycles;*
The company has recently undertaken to contractually require that business partners operate responsibly, in the spirit, if not the letter, of the Responsible Care ethic and principles for sustainability.
- *understand and meet expectations for social responsibility;*
The company has recently provided valuable assistance to a neighbouring company to address and mitigate a significant spill into the local watershed.

In addition, the company has provided strong support to the United Way, Lambton College, Inn of the Good Shepherd, PAIRS (partnership with SCITS, a local high school) and Women's Silver Stick hockey for many years

- *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 has set rigorous sustainability goals around emission reduction, energy usage and its overall carbon footprint, to be achieved into the near future.

The company is an active participant in various local industry initiatives such as the Sarnia Lambton Environmental Association (SLEA), Community Awareness and Emergency Response (CAER) and the Industrial Education Co-op (IEC).

- *promote awareness of Responsible Care, and inspire others to commit to these principles.*
This is an area of weakness in the company's management systems around planning and execution and will require some effort to improve. We have noted some efforts are already underway.

5 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 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.

Attachment 1: Company Response to Verification Team Report

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

I would like to commend the verification team on a fair and balanced report. You have identified several areas in which we need to improve while also providing positive feedback where you felt it was appropriate. The value of this process is obvious to me. It is a great opportunity for LANXESS to gain feedback from experienced, independent observers with diverse backgrounds and interests to help LANXESS improve. It is also a benchmarking opportunity to compare our business activities with other Responsible Care companies because the verification team members observe many different practices in their travels. I would like to thank the verification team on LANXESS's behalf.

LANXESS 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.

LANXESS remains committed to do the right thing, and be seen to do the right thing.

Sincerely

Ubiratan Sa
Site Manager & President
LANXESS Inc.
March 31, 2014

Attachment 2: Interview Lists

A: Company Personnel Contacted During Verification Process

NAME	POSITION	LOCATION
Ubiratan Sa	President & Site Manager	Sarnia
Tony Wheeler	Head of Engineering & Procurement	Sarnia
Kevin Bourke	Manager of Project Engineering	Sarnia
Chris Basdeo	Mechanical Specialties Lead	Sarnia
Mike Voyce	Safety Engineer	Sarnia
Chris Drope	HSE Advisor/Responsible Care Coordinator	Sarnia
Tim Knapp	Manager HESQ	Sarnia
Jeff Murray	HSE Operations Supervisor	Sarnia
B Morrison	Chief Emergency Services/Security	Sarnia
Karen Genoway	Manager, BPS	Sarnia
Teresa Morris	Plant Engineer	Sarnia
Wayne Jackson	Butyl Operations Technician	Sarnia
Dennis Loucks	Quality Manager, Butyl	Sarnia
Tracy McCormack	IT Infrastructure	Sarnia
Marlene Rizkallah-Gardner	HR	Sarnia
Terry Richardson	Environmental Specialist	Sarnia
Heather Michelin	Environmental Specialist	Sarnia
Bernie Taylor	PR	Sarnia
Kandarp Joshi	Procurement	Sarnia
Matt Hill	Laboratory Supervisor	Sarnia
Lucy Shen	Technical Lead, Waste Operations	Sarnia
Peter West	Manufacturing Manager	Sarnia
Joanne Sigurdson	Reliability Manager, Butyl	Sarnia
Lisa Knight	Production Manger, Butyl	Sarnia
Darcy Kohut	Training & Manpower Manager, Butyl	Sarnia
Rob Pakvis	Maintenance Manager	Sarnia
John Strampel	Maintenance Engineer, Maintenance &	Sarnia
Ron Hollins	TSE Specialist	Sarnia
Monique DesChenes	Logistics Manager, Distribution	Sarnia
Susan Busby Citt	Transportation Advisor, Logistics	Sarnia
Deborah Mac Dougall	Customs Trade & Compliance Supply Chain	Sarnia
Susan VanVolkenburg	Head of Regulatory Affairs	Pittsburg

Steve Leblanc	Account Manager C4 Business	Sarnia
Stephane Thiffault	Legal Counsel	Sarnia
Greg Davidson	Manager, Product Research	London
Treena Crockett	Scientist	London
Dr. Sharon Guo	Head of Global Research & Development	London
Dr. Gilles Arsenault	Manager, Process Chemistry	London

B: External Stakeholders Contacted During Verification Process

Name	Company / Organization	Location
Jim Clatworthy	LANXESS CAP	Sarnia
Art Di Costa		
Bob Freehan		
Jeremy Gower		
Lindsay Grey		
Marc Guilbeault		
Dwayne Joleun		
Debbie Krukowski		
Phil Luppke		
Ruth Mattingley		
Allan McKeown		
Anna Moscardelli		
Barbara Rogers		
Frank Smith		
Randy Tate		
Thomas, Dave		
Phil Brown	LANXESS CAP Facilitation Team	Sarnia
Judy Brown		



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