RESPONSIBLE CARE® COMMITMENTS

Chemistry Industry Association of Canada

Responsible Care®
Our commitment to sustainability.

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Introduction

Responsible Care was launched in 1985 by the Canadian Chemical Producers' Association (CCPA), as the Chemistry Industry Association of Canada was then called, as a commitment by all its member companies to meet Canadians' expectations for community protection, employee health and safety, environmental protection, product stewardship and social engagement.

The original guiding principles and codes of Responsible Care remained essentially unchanged for the next 20 years, when it became apparent that Canadians' concerns had significantly heightened in such areas as climate change, chemical content of consumer products, resource depletion, business ethics and governmental oversight. While Responsible Care continued to deliver acknowledged improvement, much more was expected of our companies.

At the same time, new business challenges and opportunities were arising in such areas as "sustainable" chemistry, global competitiveness, feedstock supply, energy supply and supply chain management.

From 2006 through 2009, the Chemistry Industry Association of Canada undertook a transformative process, with the engagement of our advisory panel that resulted in a new "Responsible Care Ethic & Principles for Sustainability," an evolved set of codes and enhancements to the other commitments of Responsible Care signatories.

The intent of the new Responsible Care, as captured in this document, is to:

- clearly align Responsible Care with society's expectations and aspirations for sustainability – environmental, economic and social;
- improve the long-term viability and profitability of Canadian companies involved in the business of chemistry;
- provide clarity to companies and stakeholders about the expectations for the responsible life cycle management of the products and processes of chemistry;
- encourage the adoption of Responsible Care by the full range of companies along the chemistry value chain;
- enhance the credibility of Responsible Care with all stakeholders;
- enhance the value of commitment to Responsible Care.

Does the Chemistry Industry Association of Canada have a clear definition of "sustainability" that all companies can use for guidance?

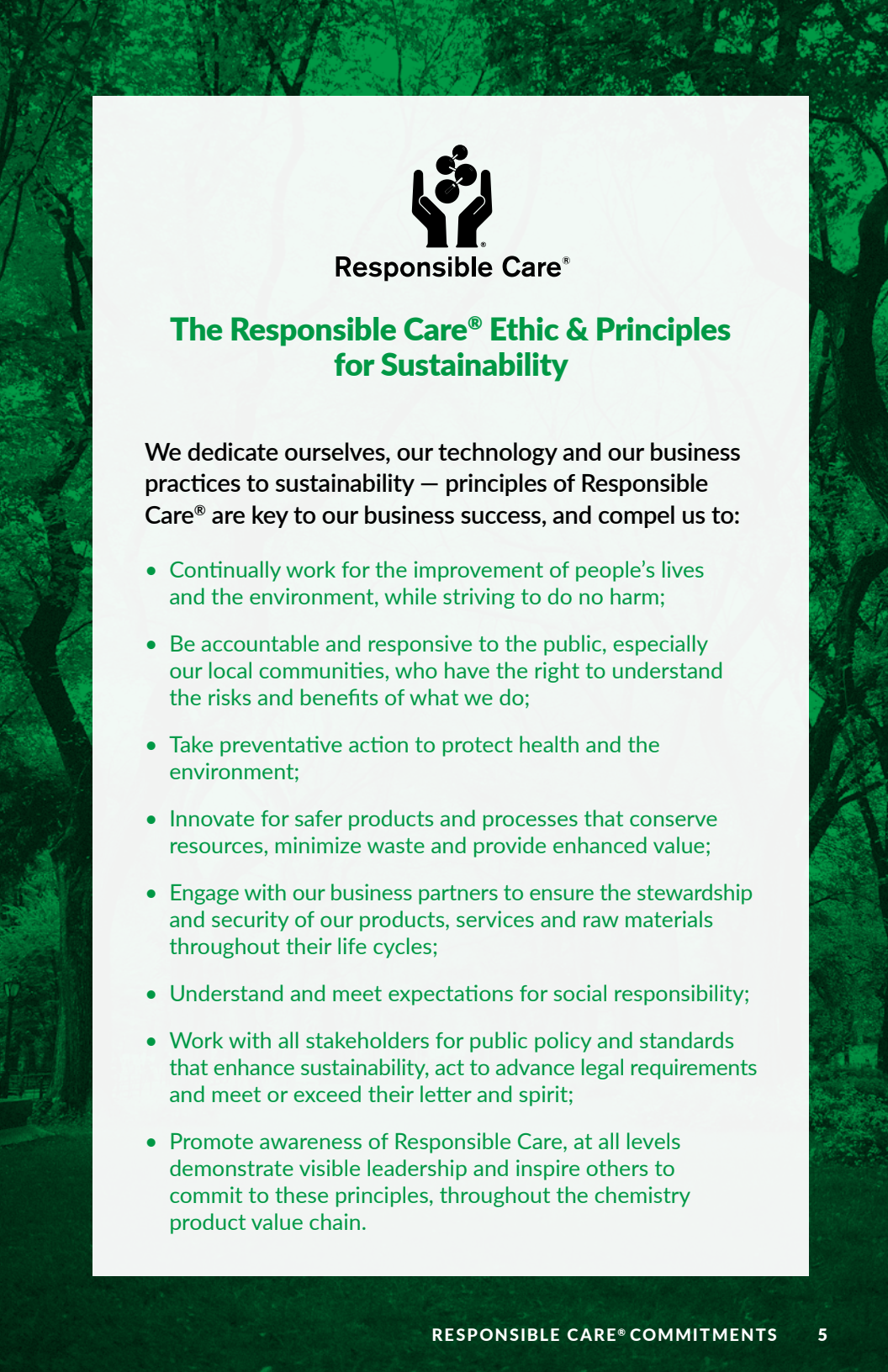
The answer is "no." Various definitions exist, starting with the UN's Brundtland Commission in 1987 which defined sustainable development as ***"...development that meets the needs of the present without compromising the ability of future generations to meet their own needs."***

There are various interpretation of sustainability that have emerged some of which emphasize only environmental aspects and some which interpret this statement to mean development which balances environmental, economic and social objectives. The Chemistry Industry Association of Canada has included this triple bottom line approach in our principles and this is consistent with the approach this is being taken by many global chemical companies.

The following "Responsible Care Ethic & Principles for Sustainability" and Codes are how we have captured the spirit of sustainability as defined by Brundtland and others and applied it to companies along the chemistry value chain. Each company, and perhaps each site and function within a company, must translate those general concepts, and each code selement, into meaningful objectives. What can and should be undertaken by a company producing pharmaceutical ingredients is far different from what a company producing petrochemicals or a company providing a service should undertake. What is feasible for a small site with five employees will greatly differ from what is feasible for a site with 1000 employees. The role of a purchasing agent will be far different from that of an operations manager.

The codes, collective processes and tools of the Chemistry Industry Association of Canada are intended to assist companies and people as they wrestle with the concepts of the Responsible Care approach to sustainability, and work to meaningfully apply them.

The codes, like the principles, are deliberately open to interpretation in order to inspire companies to think more deeply and broadly about the complex issues associated with their Responsible Care commitment. Interpreting any code element or other commitment in this document in a way that provides little or no value to the company and to society has missed the spirit of these codes. Although the codes or other elements challenge the company to do something now rather than postpone it, or to more thoroughly consider the implications of the status quo, every standard of performance or behavior must pass a basic test of reasonableness.



Responsible Care®

The Responsible Care® Ethic & Principles for Sustainability

We dedicate ourselves, our technology and our business practices to sustainability — principles of Responsible Care® are key to our business success, and compel us to:

- Continually 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, minimize waste 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, at all levels demonstrate visible leadership and inspire others to commit to these principles, throughout the chemistry product value chain.

Notes:

The Codes

Preamble

The codes are, in essence, a summary of the aspects of company life that must be addressed with the Responsible Care Ethic and Principles for Sustainability in mind, and a description of the desired outcomes that a comprehensive, robust and self-healing management system must deliver. They are a combination of warnings of what has gone wrong in the past, lessons to prevent harm in the future, and a vision of what needs to be addressed to empower a company to operate profitably over the long term and support society's sustainability needs.

Recognizing the very wide range of companies, products and processes involved in chemistry, the codes are intended to be flexible to these varying circumstances, while providing sufficient clarity to allow companies to abide by the ethic and principles appropriately. Some code elements will be more applicable than others to certain companies.

The code elements are grouped under three headings, starting with those over which the company often has more direct control (Operations Code), through those that involve developmental work or more indirect influence via suppliers, customers, distributors, etc. (Stewardship Code) to those that involve the issues of engagement with stakeholders, both locally and broadly (Accountability Code).

Operations and activities, including business relations, will not be undertaken or maintained if they cannot be done in accordance with the applicable codes.

Each relevant aspect of the codes must be covered by the company's management system and structure to ensure continual improvement in meeting the codes' intent.

Implementation Milestones

Member company Executive Contacts are committed to semi-annual reporting to the Chemistry Industry Association of Canada and the leadership group on implementation progress during the first two years after signing the Code Commitment. In the third year, quarterly reports must be made, indicating the percentage completion and expected completion date of each of the code léments.

The following table identifies the implementation milestones for progress reporting, along with typical (suggested) timeframes for achieving these.

Code Implementation Milestones		Typical Elapsed Time from start
1	Responsible Care Coordinator appointed and aware of code commitments and what these imply for the company	3 months
2	Management aware of code commitments and implications	6 months
3	Management assessment of action and resource needs completed (e.g. gap analysis)	12 months
4	Map company management system to each code element	14 months
5	Assessment and mapping results communicated to those who will be involved in planning and implementing action.	15 months
6	Plans developes to ensure each code element is addressed	18 months
7	Plans implemented	38 months

Summary of Operations Code

This code describes the expectations for the safe and environmentally and socially responsible management of facilities and equipment operated by companies or operated on their behalf.

It addresses the following:

- design and construction of facilities and equipment;
- operations activities, including production, blending, storage, laboratories, transportation, maintenance, contractor management, etc.;

- safety & security, including occupational health & safety, process safety management, emergency management, malicious intent, critical infrastructure, business continuity, incident reporting and investigation, etc.;
- environmental protection and enhancement;
- resource conservation, including energy, raw materials, water and other utilities and supplies;
- promotion of Responsible Care by name in and around operations.

Summary of Stewardship Code

This code describes the expectations of companies to responsibly manage their products beyond their transport to the next entity down the value chain, the supply of raw materials and the sale of services and technologies. It also covers the development of new products and services and their transfer to operations and/or full commercialization. It expects a full understanding and appropriate management of the full life cycle of products, processes and services.

It covers the following aspects of stewardship:

- research and development of new products, applications, services, etc.
- assessment of the hazards, risks and benefits of products and services over their life cycles;
- communication of information to other parties along the value chain;
- assessment, selection and retention of other parties along the value chain;
- waste prevention and management along the value chain;
- assessment and appropriate management of the results of historical practices with respect to products and wastes;
- packaging management;
- security of products and raw materials from deliberate misuse;
- promotion of Responsible Care by name along the value chain.

Summary of Accountability Code

This code addresses the company's relationships with stakeholders beyond those covered by the Operations Code and the Stewardship Code, including the company's role in public policy development. It covers expectations for social responsibility beyond those aspects related to health, safety and environment.

The following stakeholder interactions are covered;

i. Operating Site Communities :
- operating site community awareness and dialogue processes, including proactive and responsive communication and dialogue with neighbours, employees, contractors, visitors, etc.;
- public policy advancement at the local level ;
- closure of facilities or operations;
- promotion of Responsible Care by name.

ii. Other Stakeholders :
- public policy – engagement with officials at the local, regional, provincial and federal levels;
- finance – responsibilities with respect to investors, shareholders, lenders, insurers etc.;
- consumers – right to understand, including substances in consumer products;
- transportation corridor communities – outreach to officials and first responders under the Chemistry Industry Association of Canada's *TRANSCAER® program;
- general public – responsive communication processes;
- non-governmental organizations – identification and engagement with advocacy, public interest and other such groups;
- business – engagement with businesses and organizations not directly covered by the Stewardship Code.

Appendices to Codes

In addition, two appendices to the codes expand on expectations with respect to two cross-cutting subjects:

iii. Social Responsibility – identifying and understanding stakeholders' expectations beyond health, safety and environmental matters, and having processes to appropriate address them

iv. Involvement in Public Policy Processes – ways companies should appropriately engage directly and indirectly in the advancement of public policy (laws, regulations, standards, non-regulatory approaches, etc.) to support sustainability

*TRANSCAER® *is a registered trademark of the Chemistry Industry Association of Canada*

Operations Code

1. PURPOSE AND SCOPE

The Operations Code defines expectations for a company's actions in meeting the Responsible Care Ethic and Principles for Sustainability as they relate to all operational aspects of the company's business including but not limited to manufacturing, transportation, warehousing, laboratories and offices.

Practice of this code is intended to result in:

- the protection of people, property and the environment through the responsible management of the company's operations;
- the assurance that the management systems necessary for responsible operations are in place and are functioning effectively.

Each company shall have controls which govern all operational aspects of its technology and business practices, with particular emphasis on those aspects that directly affect the safety, health and wellbeing of employees and others engaged in the company's operations.

2. DESIGN AND CONSTRUCTION OF FACILITIES AND EQUIPMENT

This section of the code covers the "hardware" or physical assets, including fixed and mobile equipment, pilot or less than commercial scale and experimental operations and also electronic systems, data and coded instructions – i.e., anything permanent or temporary that is designed and constructed or programmed before it is operated.

Each company shall have written policies, standards and procedures for selection, design, construction and commissioning of new or modified facilities and equipment. The company shall:

OP 1 – these numbers correspond to the code element numbers in the Code Summary

i. perform and document appropriate hazard analyses and risk assessments as an integral part of the design process for any new or modified facility or equipment, and act to minimize and control any hazards and hazardous situations;

OP 2

ii. clearly indicate standards for responsible performance in the design, and that it is the overall responsibility of the design team to achieve them; this responsibility includes:
   - competence of the design team;

- adequate supervision of any work contracted out;
- protection of people (employees, construction personnel, the public), property and the environment during construction, commissioning and start up;

OP 3

iii. for fixed facilities, establish site selection and land use criteria which minimize any potential adverse impact on the community, the environment, neighbours, utilities, and transportation routes, including adequate separation between hazardous and sensitive land uses;

OP 4

iv. ensure that the design:
- incorporates the concept of inherent safety;
- identifies and incorporates opportunities for improvement in environmental protection and resource conservation;
- identifies and takes into account potential human error failure modes, and for timely recognition and recovery from error;
- incorporates features which will minimize adverse effects on people, property and the environment which could remain or develop after closure, decommissioning or demolition;

OP 5

v. ensure that design information necessary to support responsible operations is documented, reliable, current and easily accessible by those who need to use it, including documentation transfer and training support for the following sections of this code;

OP 6

vi. apply the above principles also to pilot or less than commercial scale and experimental operations, except that in this case certain standards may be less rigorous (eg. Those for durability of process equipment).

3. OPERATIONS ACTIVITIES

This section covers all the aspects of how the equipment or physical assets are used. This includes intended practice such as operating and maintenance procedures, etc. and also actual work practice and the control of variation from design intent.

i. General Considerations

OP 7

Each company shall periodically review the full range and scope of its business to assess, prioritize and document the rigour of procedural controls needed for responsible operations. This review shall consider:

a. the design intent, desired performance and outcomes;
b. the desired operating conditions and criteria, factors which

can be anticipated to cause deviation from those conditions, the acceptable range of variation from those conditions and criteria, consequences of operating outside defined limits and action to be taken;

c. the required skills basis and operating practice;
d. additional factors which are not anticipated but which nevertheless have the potential to cause significant impact on operations;
e. the nature of hazard analysis and risk assessment appropriate to ensure that potential adverse effects are sufficiently understood for effective procedural controls to be in place.

Based on the above review, the company shall have a system of written operating and maintenance procedures which specify conditions for the responsible operation of any facility or equipment during normal and abnormal circumstances. The system shall cover:

- the relative priority of the key control measures and how they default if the specified conditions cannot be met;
- skills requirements and inventory consistent with the design, with provision for management oversight to cover any temporary shortfall in critical skills;
- management of change to facilities, organization and the control system itself, and management of change shall be integrated with the design section of this code as appropriate.

In addition to covering process operations (ie. Any activity involving chemicals or chemical products including use, storage, manufacturing, formulation, blending, handling, packaging, loading/unloading, on-site movement or combination of these activities), the scope of procedural controls should include the following items for the topics listed below:

ii. Laboratory Practice

This section covers any testing of product, process or application in research and development or operations, whether performed in house or by contract laboratories.

OP 8

a. general laboratory safety and health;

OP 9

b. hazard identification for all chemicals, processes and wastes and appropriate communication, including regular employee training and education;

OP 10

c. proper management of laboratory waste;

OP 11

d. documentation and reporting of results in a scientifically accurate and ethical manner;

iii. Transportation and Physical Distribution

This section covers the transportation and physical distribution cycle.

OP 12

a. establishing criteria for selecting the mode of transport, the specifications for the transportation equipment and container, and inspection and maintenance programs of these during use;

OP 13

b. establishing criteria for selecting carriers which include safety, security and environmental performance and programs, inspection and maintenance procedures for equipment, selection and training of drivers and support staff, together with assistance to carriers in meeting these criteria and periodically auditing and evaluating carrier performance;

OP 14

c. identifying alternate transportation modes, routes and schedule changes which minimize the exposure of people and environmentally sensitive areas to the hazards inherent in the transportation mode;

OP 15

d. establishing standards for siting, operation and security of distribution facilities, whether owned or leased from and operated by other parties;

OP 16

e. establishing standards for bulk and package storage.

iv. Maintenance

This section covers identifying, prioritizing and documenting the organization of maintenance, apart from the maintenance activity itself.

OP 17

a. ensure integrity of all critical systems, facilities and equipment;

OP 18

b. maintain non-critical systems, facilities and equipment at a level consistent with responsible operations;

OP 19

c. protect personnel, including employees, contractors and others both on and offsite during maintenance operations and return to operations;

OP 20

d. manage change that could affect maintenance, including the interface with other functions;

OP 21

e. interface with other functions such as production, design, etc. so that lessons learned from maintenance are taken into consideration in future design and operations.

4. SAFETY AND SECURITY

In addition to the preceding sections of this code that focus on intended operations, companies shall also address those aspects which are not intended but which hazard identification and risk assessment suggest could reasonably occur. Procedural controls shall address, as a minimum:

i. Occupational Health and Safety

Each company shall have a program to provide to its employees and all other involved personnel [eg. Contractors] the necessary knowledge and tools to recognize potential safety, health and environmental hazards. It shall include as a minimum the following;

OP 22

a. a process to evaluate workplace health and safety hazards and implement suitable means to control such hazards, including appropriate use of personal protective equipment;

OP 23

a. safe work procedures and practices are developed where appropriate, understood and implemented;

OP 24

b. a program to ensure regular inspections of the workplace to identify hazards and corrective action plans;

OP 25

c. a contractor safety management process;

OP 26

d. an industrial hygiene program appropriate to the health hazards in the workplace;

OP 27

e. an employee occupational health program, including medical surveillance requirements and health screening.

Each company shall have a program where its employees and all other involved personnel [eg. Contractors] are proactively engaged in managing personal health and safety.

ii. Process Safety Management

Each company shall, for all fixed facilities where hazardous materials are present in more than sample quantities, have a process safety management program to prevent unwanted releases of hazardous substances or energy especially into locations that could expose employees and others to risks.

Companies are also encouraged to apply their process safety management approach to transportation and distribution operations, especially where hazardous substances are involved. This program shall:

OP 28

a. Use a systematic approach to evaluating the whole process wherever significant hazard potential exists, including the process design, process technology, process changes, operational and maintenance activities and procedures, non-routine activities and procedures, surrounding land use including sensitive activities and potential development, emergency preparedness plans and procedures, training programs, and other elements that affect the process;

OP 29

b. Provide sufficient oversight to ensure that the techniques used for the above evaluation are appropriate for the circumstances of the site, and that the evaluation is reviewed:
   - when those circumstances change and;
   - on a defined periodic cycle appropriate for the facility;

OP 30

c. Identify any gaps in comparison with standard industry benchmarks as specified such as that of the Canadian Society for Chemical Engineering (CSChE), assess the implications of those gaps in view of potential hazards and implement an action plan to raise the status to an acceptable level.

iii. Emergency Management

Each company shall have a current, operational emergency management plan for all fixed facilities which:

OP 31

a. is based on a site-specific risk assessment, which identifies and evaluates on a regular basis those situations where, in the event of an emergency:
   - company materials, processes or equipment could have an impact on site and/or on the community;
   - external events from technological, natural or other causes could impact site operations;

OP 32

b. provides information from this assessment on hazards and associated risks to employees, other people on site and those in the community who have an interest;

OP 33

c. is based upon an emergency plan framework developed by site management to both address such emergency situations and to assist authorities in emergency management for neighbouring industry and the community;

OP 34

d. requires active participation, co-operation and co-ordination by company personnel with local officials and the media during development and communication of the plan to the community;

OP 35

e. integrates the company's emergency management plan with those of industrial neighbours and the community into a community emergency management plan;

OP 36

f. is communicated regularly, in its key elements, to the community in a manner which recognizes its right to know, in order to gain its co-operation and support;

OP 37

g. in an emergency, makes available to first responders and the community company expertise and specialized equipment and materials;

OP 38

h. is sensitive to and provide for evaluation with appropriate authorities of the need for immediate and short-term assistance for persons who are dislocated by an emergency as a result of the company's operations;

OP 39

i. ensures on a regular basis that residential and industrial neighbours that could be seriously affected by a site emergency scenario know what action to take should one of these scenarios occur;

OP 40

j. is documented, audited and updated at least annually and field tested on a regular basis as defined by the company, consistent with the assessment of risks.

Each company shall have a current, operational transportation emergency management plan which:

OP 41

k. identifies and describes means for dealing with the hazards, whether to people or the environment, and ways of containing and cleaning up the release;

OP 42

l. identifies and arranges emergency response resources whether in house, through a mutual aid plan or from a contractor (assessed through a program such as TEAP III - Transportation Emergency Assistance Program, Version III), to be deployed in the case of an accident involving the company's chemicals or chemical products;

OP 43

m. provides technical advisors to handle all informational aspects of an accident involving the company's chemical products and services, including media relations;

OP 44

n. provides or arranges for specialized equipment and materials required for responding to an accident;

OP 45

o. provides training and regular performance assessment of company emergency response personnel, and, as appropriate, contractor personnel;

OP 46

p. gives similar consideration to assistance to persons dislocated by a transportation emergency as under iii(h) above;

OP 47

q. periodically audits and evaluates the transportation emergency management plan including any emergency response contractors retained as part of the plan.

iv. Malicious Intent

OP 48

The company shall have a program to address acts of malicious intent by those outside or inside the company. The program shall consider the range of potential threats including terrorism, vandalism, diversion of materials, equipment, etc. for illicit uses, theft and other criminal behaviour. And the aspects of operations that may be targeted, including production and warehousing, product tampering, transportation, office facilities, staff while on-site, travelling or off-duty, cybercrime, etc.

The program shall use a risk-based approach such as an assessment vulnerability methodology, taking into account the potential severity and likelihood of consequences and the selection and implementation of countermeasures. Countermeasures may be organized according to threat level, so that they can be increased or relaxed depending on the situation. The program should also include relevant information exchange with others inside and outside the company.

v. Critical Infrastructure/Business Continuity

Each company shall have a process to identify the goods and services it depends on others to provide and those which it may be called upon to provide to others in the event of a larger-scale emergency.
The process should consider:

OP 49

a. ability to operate under different scenarios;

OP 50

b. ability to cover gaps in resources while maintaining sufficient control;

OP 51

c. knowledge, relationships and accessibility of key data;

OP 52

d. communications;

OP 53

e. staff implications, including cross-training and the potential for operation at lower skill levels;

OP 54

f. staff family support;

OP 55

g. policy and decision-making and how the system defaults, both inside the company and in external organizations providing essential services or supplies.

vi. Incident Reporting and Investigation

OP 56

The company shall have a process to report and investigate those accidents, incidents and undesired situations that occur despite the preventative measures in place. The investigation shall consider broader implications of the incident and the potential for alternative outcomes and similar situations elsewhere.

OP 57

The investigation should focus on finding root causes, identifying latent failures as well as the active failures that led to the particular incident. Findings should identify changes needed in current operations and consider changes in design and/or procedural controls and, where appropriate, human resources, and should be accompanied by an action plan for timely implementation and closure of the changes, including any action under each of the headings elsewhere in the codes. Summary lessons as applicable should be communicated to those inside and outside the company who have a role to play in preventing similar incidents in future.

5. ENVIRONMENTAL PROTECTION

OP 58

This section covers emissions and waste elimination, reduction, recycling, recovery and reuse; including the handling, storage, transportation, treatment, destruction and disposal of wastes. Non-returnable packaging is also considered as waste for the purposes of this section, which applies to company owned treatment and disposal sites and public or private disposal sites used by the company.

The company shall strive for continual improvement in reducing the footprint of its operations with respect to the environment, by monitoring its environmental performance and establishing goals and action plans for continual improvement in the hazardous nature and quantity of emissions and waste and how they are handled. Improvement should aim at emissions and waste elimination or reduction at source, followed by recycling, recovery, or reuse, as preferred options to disposal.

i. Emissions and Waste Reduction

The company shall:

OP 59

a. consider environmental performance during development and design;

OP 60

b. continually identify and monitor sources of emissions and waste and establish a process for appropriate control;

OP 61

c. evaluate opportunities for elimination and reduction, reuse, recycle or recovery, and take appropriate action;

OP 62

d. develop and maintain plans and procedures to minimize the effects of accidental spills or emissions;

OP 63

e. assess the environmental impact when facilities or equipment are removed from service and take appropriate action.

ii. Handling, Treatment and Disposal of Wastes

The company shall:

OP 64

a. identify, classify and monitor waste and treatment/disposal methods, including any necessary control plans;

OP 65

b. require waste either to be destroyed or treated in an environmentally sound manner;

OP 66

c. reject dilution where commercially available treatment exists;

OP 67

d. reject long term storage where commercially available treatment exists;

OP 68

e. require permanently hazardous wastes to be contained safely;

OP 69

f. define criteria for selection and use, and assess waste contractors/facilities;

OP 70

g. require waste contractors/facilities, domestically and internationally, to have permits and comply with the Operations Code on handling, treatment and disposal of wastes;

OP 71

h. maintain an employee and contractor hazard communication program;

OP 72

i. ensure the underground conditions of sites controlled by the company where chemicals and chemical products are handled are not causing off-site impacts;

OP 73

j. continually evaluate improved waste management and disposal technology;

OP 74

k. participate in or support as appropriate the development of improved technology and treatment/disposal facilities;

OP 75

l. require periodic assessment of practices, procedures and waste treatment facilities, including contractors.

6. RESOURCE CONSERVATION

The company shall strive for continual improvement in reducing the footprint of its operations with respect to the consumption of resources. This shall include monitoring its performance and establishing goals and action plans for continual improvement.

This review shall include the areas of raw materials [CCC "including water"], supplies, energy and utilities.

In each of these areas the company shall consider, in its performance, goals and action plans, the:

OP 76

i. impact of raw materials, supplies, energy and utilities, and of potential alternatives;

OP 77

ii. significance of these in the output/consumption balance, and opportunities for improvement;

OP 78

iii. effects that changes may have on the quality and uses of the company's products together with downstream and upstream effects in the value chain;

OP 79

iv. other effects such as associated waste, by-products;

OP 80

v. societal implications, in Canada and elsewhere.

7. PROMOTION OF RESPONSIBLE CARE BY NAME

The company shall promote awareness of Responsible Care, its identity, principles and goals, with its employees, contractors and others engaged in the company's operations, and inspire others to commit to the relevant features of the codes.

This may include encouraging:

OP 81

i. adoption of similar performance goals and continual improvement by others;

OP 82

ii. establishment, where appropriate, of baseline standards that all in a given industry sector or topic area should be expected to meet or exceed;

OP 83

iii. sanctions against those whose performance and ethics are clearly below expectations;

OP 84

iv. sharing of best practices.

Stewardship Code

1. PURPOSE AND SCOPE

The expectations of this code shall be met in the context of sustainability and managing risk for the betterment of society, the environment and the economy.

The Stewardship Code defines expectations for a company's actions to meet the Responsible Care Ethic and Principles for Sustainability as they relate to stewardship of raw materials, products, processes, equipment, technologies, services and applications (hereafter referred to as "Raw materials, products, and services" or simply "products and services" when raw materials are not involved) throughout their lifecycles. "Products" includes "processes, equipment, technologies, and applications."

This code applies in part or in whole to all entities and businesses in the value chain.

The code is applicable to the life cycle of raw materials, products and services provided to or from company-owned or leased operations under both direct and indirect control of the company.

The code is also applicable to the lifecycle of the products, processes and services imported and sold by the company.

The governance, systems, processes and procedural aspects of Stewardship are addressed in the Management Systems Guide of the Chemistry Industry Association of Canada.

Operations and activities, including business relations with relevant stakeholders, will not occur if they cannot be done in accordance with the expectations of the code.

Provision of information to other parties should recognize the need to protect legitimate trade secrets, intellectual property and security, but this shall not impede dissemination of knowledge and understanding of the hazards and risks associated with company products and services.

Practice of this code is intended to result in:

- improvement of people's lives and the environment, while striving to do no harm;
- safer raw materials, products, and services that conserve resources and provide enhanced value;

- preventative action that protects people and the environment;
- cooperation and engagement with other parties for stewardship;
- employees, contractors and other parties understanding the hazards and associated risks associated with company raw materials, products, and services;
- plans and actions that promote stewardship and sustainability;
- enhancement of the Responsible Care brand.

2. EXPECTATIONS OF COMPANIES

i. Research and Development (R&D) Expectations

"Research and development" mean technical work of an investigative nature which occurs at all stages of development of new or modified raw materials, products, processes, equipment, technologies, services, and application. It extends from initial approval of scientific research, through experimental development to the point of transfer to manufacturing and its introduction to the market. It is equally applicable when some of the stages are omitted; for example, experimental process changed or development done on a full-scale plant, which is often not categorized as research. This section of the code applies to both in-house work and that carried out by contract R&D providers.

Prior to initiating a research project and through to transferring new or significantly modified products and services to manufacturing or sales, every company conducting R&D shall:

ST 85

a. Identify and where practicable, develop and introduce new or modified products, processes, and services that are not only economically sound but
   - add value,
   - enhance people's lives,
   - are sustainable and,
   - have lower risk potential throughout their life cycle.

ST 86

b. Identify as early as possible and routinely evaluate throughout the development process human health effects, including reasonably anticipated long-term effects, safety and environment hazards and associated risks.

ST 87

c. Take preventative action to eliminate, reduce or manage hazards and associated risks to people and the environment.

ST 88

d. Evaluate and address during development, the conservation of raw material and energy, elimination and/or reduction and management of wastes, for the life cycle of the new or significantly modified raw materials, products and services.

ST 89

e. Involve suppliers, customers and their customers in the design process where practicable to enhance sustainability throughout the product life cycle. Intellectual property issues must be respected.

ST 90

f. Ensure employees and contractors know and understand the hazards and risks associated with new or significantly modified raw materials, products and services.

ST 91

g. Ensure employees and contractors are trained and competent in the new or revised requirements before startup and/or market introduction.

ST 92

h. Develop risk management information for dissemination to relevant other parties for products and services that pose a risk or hazard to people and the environment.

ii. Expectations beyond R&D

a. Raw Materials, Products and Services Characterization and Evaluation

At planned intervals assess company raw materials, products and services to identify:

ST 93

- where/how they add value and enhance people's lives and,

ST 94

- opportunities to reduce risk and maximize efficiency of energy and/or raw material use.

ST 95

Prior to significant new purchases and on a recurring basis, assess how purchased raw materials, products, and services impact the risk, energy efficiency and/or raw material use efficiency of company operations, and/or their own products and services.

ST 96

A risk characterization and evaluation process shall be conducted for all existing products, and services with respect to their hazards, foreseeable exposure and/or risk profiles.

ST 97
Based on the outcomes of the risk characterization, establish risk management plans to modify or eliminate products, processes and services where the risk is determined to be unacceptable.

ST 98
Empower employees to identify sales related risks and to trigger a process to review them. The review may ultimately lead to ceasing such sales when risks are judged to be too high.

ST 99
The risk characterization shall be updated at planned intervals or upon receipt of new information or new regulatory requirements.

b. Promotion of Responsible Care by Name
ST 100
Encourage employees to act as ambassadors both internally and externally for the company's products, and services, their safe use and their sustainability.

ST 101
Engage with partners to promote awareness of Responsible Care by name and encourage them to commit to the Responsible Care Ethic and Principles for Sustainability.

ST 102
Have discussions through the value chain to build relationships and an understanding of the commitment to stewardship.

c. Security
ST 103
Security planning throughout the chemistry value chain shall include awareness of potential misuse of raw materials, products and services.

d. Communication through the Value Chain
ST 104
Obtain, understand and develop up-to-date safety data sheets (SDS) and/or other important hazard and risk information and distribute through the value chain prior to the initial delivery of products and services.

ST 105
Provide product SDS and comply with legislated product labeling requirements as minimum acceptable practices. Disseminated information will be maintained up-to-date and provided in a timely and understandable manner to other parties.

ST 106
Provide balanced and accurate information on environment health and safety issues to other parties. Be responsive to questions and concerns from other parties.

ST 107
Promote two-way communication and actively seek feedback from other parties on their end uses, applications and risk management experiences;

ST 108
Provide information and advice on acceptable waste management practices to other parties.

ST 109
Develop and disseminate information about the sustainability and contribution to the betterment of society that company raw materials, products and services provide.

ST 110
Require other parties to distribute provided information to all their value chain members handling the products or services.

e. Historical Hazardous Waste Practices
With respect to past hazardous waste management practices, companies shall:

ST 111
- Develop and maintain records which identify previously used waste disposal facilities including, as completely as practicable, the nature and quantity of hazardous wastes sent to those sites.

ST 112
- Conduct reviews of the relevant facilities to ensure an adequate understanding of the potential risks to human health and the environment.

ST 113
- Notify current landowners or the appropriate regulatory agencies of any pertinent information collected, and any pertinent results of the environmental reviews conducted.

ST 114

- Cooperate with appropriate government agencies in any required remedial action.

3. EXPECTATIONS OF COMPANIES WITH RESPECT TO OTHER PARTIES

ST 115

i. Ensure that other parties with whom the company does business are aware of and understand the expectations of Responsible Care and its Ethic and Principles for Sustainability, and the codes. Where practical, establish application of the codes as a contractual obligation.

ST 116

ii. Ensure that parties that provide a service (i.e. warehouse, terminal, toll manufacturer or packager, contract R&D lab, carrier) to the company meet the same applicable expectations of Responsible Care as the company would if it was performing those activities itself.

ST 117

iii. Establish criteria for the selection and retention of other parties with whom the company does business as part of the value chain.

ST 118

iv. Assess other parties' performance against these criteria including their capability and performance with respect to the handling and use of company raw materials, products and services at planned intervals.

ST 119

v. Educate, assist and encourage other parties to improve performance when opportunities are found via the assessments.

ST 120

vi. Take action to address shortcomings in performance of other parties, including, if necessary, termination of the business relationship.

ST 121

vii. Advocate that all other parties apply the waste management expectations of the Operations Code to their operations; however when hazardous wastes that are difficult to manage and/or involve significant risks are associated with the products and services, companies shall require that other parties apply specific hazardous waste management requirements.

ST 122

viii. Exercise reasonable care in the assessment and prevention of sales to other parties by customers, distributors, and resellers of company products, or of products made from company products, for illegitimate purposes.

ST 123

ix. Proactively look for opportunities to share information with all other parties through the value chain that will lead to sustainability and/or quality improvements in the raw materials, products and services.

ST 124

x. Encourage all other parties through the value chain with which the company does not have a direct business relationship to apply the Responsible Care Ethic and Principles for Sustainability to their operations.

Accountability Code

1. PURPOSE AND SCOPE

The Accountability Code defines expectations for a company's actions related to the principles of accountability and the public's right to understand applicable to stakeholders not otherwise covered by the Operations and Stewardship Codes.

Practice of this code, in combination with the Operations and Stewardship Codes, is intended to result in:

- the identification of all internal and external stakeholders;
- the effective flow of information to, and dialogue with, these stakeholders;
- maintenance of needed security and protection of intellectual property;
- the feeling of engagement by stakeholders from their opportunity to provide input and feedback on company decisions and actions;
- the recognition by stakeholders of Responsible Care by name.

The "governance" aspects of accountability (how accountability is managed within the company) are addressed in the Chemistry Industry Association of Canada's Management Systems Guide or other such standards.

2. OPERATING SITE COMMUNITIES

(The communication and dialogue expectations below apply to company-owned or leased sites, including stand-alone distribution, warehouse, terminal and R&D facilities, as well as to the sites of other parties which handle company-owned raw materials or products, or provide services on behalf of the company, such as warehouses, terminals, toll manufacturers and toll packagers):

Companies shall:

i. implement ongoing community awareness and dialogue processes that:

AC 125

a. identify and maintain a definition of the community based on criteria such as risk profile of the facility, environmental or social impact, expressed community concerns, etc.;

AC 126

b. identify and maintain a listing of organizations and people which represent site community stakeholders;

AC 127

c. identify and maintain understanding of site community rights, responsibilities, concerns, needs, aspirations, planning processes and resources;

AC 128

d. identify and maintain understanding of those aspects of social responsibility which are appropriate and applicable to the site, and strive to meet them (see Appendix A);

AC 129

e. develop and maintain information for both responsive and proactive communication and dialogue with the community, covering products, processes, services, on-site historical waste sites, social impacts, benefits and hazards and associated risks, up to and including worst case scenarios;

AC 130

f. include a regular process of communication and dialogue with the community and response to questions, concerns, suggestions, etc.;

AC 131

g. provide timely information about plans to modify operations or facilities, and seek and respond to community feedback;

AC 132

h. promote Responsible Care by name with community stakeholders.

AC 133

ii. develop and maintain processes for both responsive and proactive communication and dialogue with employees and contract employees, as well as with site contractors and visitors, covering as appropriate the site's products, processes, services, economic, social and environmental impacts and all hazards and associated risks, up to and including worst case scenarios;

AC 134

iii. identify and maintain awareness of, and meet or exceed all legal requirements and relevant consensus standards, applicable to each operating site;

AC 135

iv. anticipate, assess and eliminate/reduce health, environmental & social impacts when facilities or operations are closed;

AC 136

v. work for effective public policy development and the advancement of sustainability, both individually and through collective effort, where appropriate and feasible (See Appendix B).

3. OTHER STAKEHOLDERS

For each of the following stakeholders, the company is expected to identify and maintain understanding of those aspects of Responsible Care, including social responsibility, which are appropriate for the size, scope and risk profile of the company, and applicable to the company as a whole, and strive to meet them.

AC 137
As well, the company is expected to have processes to stay abreast of broader public issues and concerns of relevance to the company and factor these into its decision-making processes.

i. Public Policy

This category includes elected and appointed officials at the local, regional, provincial and federal levels who have responsibility for public policy relevant to the company. For these, the company shall implement ongoing processes that:

AC 138
a. identify the key people with whom direct involvement by the company is appropriate, and inform and engage with them;

AC 139
b. identify appropriate organizations to advance public policy consistent with Responsible Care and the company's business needs, and engage in a meaningful way with those organizations;

AC 140
c. promote Responsible Care by name.

ii. Finance

This category includes investors, shareholders, lenders, insurance companies and others with whom the company has a financial relationship. It also includes the parent organizations of subsidiaries or branch operations. For these, the company shall implement ongoing processes that:

AC 141
a. meet its long-term financial goals;

AC 142
b. ensure its fiduciary responsibilities are met in an ethical manner;

AC 143
c. promote Responsible Care by name.

iii. Consumers

This refers to the retail consumers of products that may contain substances produced by the company, but who are not covered by the company's processes under the Stewardship Code.

AC 144

For these consumers, the company shall strive to ensure, directly or through other organizations, that information is provided in an appropriate and timely manner that meets the Responsible Care principle of "right to understand."

iv. Transportation Corridor

This refers to first responders, elected officials and others with the responsibility to ensure appropriate response to incidents involving the transportation of chemicals in communities along transportation corridors that have been identified through the regional TRANSCAER outreach processes established and maintained by the Chemistry Industry Association of Canada and its partners.

AC 145

It is expected that the company will participate in the regional TRANSCAER committee and its outreach processes in the regions where it has operations in a manner that is appropriate to its transportation routes, resources and expertise and which meets its commitments as determined by its regional TRANSCAER committee associates in those regions.

v. General Public

AC 146

The company shall implement an ongoing process that ensures any questions, suggestions or concerns expressed by people with whom the company cannot reasonably engage proactively are addressed in a timely and respectful manner.

The company shall promote Responsible Care by name in its communication processes that reach the general public.

vi. Non-governmental Organizations

This category refers to public interest groups, advocacy groups, or other such groupings of people with a common interest in issues related to the company's operations or products. The company shall implement ongoing processes that:

AC 147

a. seek to identify such groups;

AC 148

b. understand what questions, concerns, suggestions these groups have related to the company;

AC 149

c. provide information to and engage with these groups to appropriately respond;

AC 150

d. promote Responsible Care by name with these groups.

vii. Business

These are organizations with which the company has a business relationship that is not addressed through the company's stewardship processes under the Stewardship Code.

AC 151

For these organizations, the company shall implement an ongoing process that ensures any questions, suggestions or concerns expressed are addressed in a timely and respectful manner.

AC 152

The company shall promote Responsible Care by name in its communication and dialogue processes with these business organizations.

viii. Indigenous Communities

This section refers to indigenous communities that are located in the area near a company-owned or leased production facility. Engagement with such indigenous communities shall be undertaken with respect for their unique history, culture and rights.

The company is expected to identify those aspects of the indigenous code elements that are appropriate for the size, scope and risk profile of the company, including nature, scale and impacts of its operations, activities, products and services.

These indigenous code elements are intended to supplement the requirements of the other sections of the Accountability Code. The company shall implement and maintain an ongoing process that:

AC 153

a. Identifies and seeks to pro-actively engage with such indigenous communities;

AC 154

b. Seeks to develop and maintain a working relationship with such indigenous communities to enable effective communications, dialogue or response to questions, suggestions or concerns expressed so they are addressed in a timely and respectful manner;

AC 155

c. Provides support, as appropriate, to allow such indigenous communities the capacity to engage meaningfully with the Company;

AC 156

d. Periodically reviews the effectiveness of the outreach, communications and engagement process with such indigenous communities;

AC 157

e. Provides indigenous community members equitable access to employment and contracting opportunities, including procurement and supply chain.

Appendices to Code

Appendix A. *Social Responsibility*

Social responsibility is the inclusion of the interest of stakeholders into an individual's or organization's decision-making processes and actions. In the Operations and Stewardship Codes, these stakeholder interests are addressed mainly in the areas of protection and enhancement of safety, health and the environment, while in the Accountability Code, stakeholder interests are addressed that go beyond these areas to cover, as appropriate for a site or company, the full range of concerns, values and aspirations of local communities and broader society.

While Responsible Care addresses corporate social responsibility, this is done in the context of social responsibility that is shared throughout society.

It is clear that social responsibility offers business benefits and makes a positive societal contribution.

Social responsibility cannot be achieved by one-time decisions and activities. A corporation, at the corporate, branch and site level, should identify its stakeholders, and understand their concerns and expectations. A statement should be developed that reflects the corporation's view of social responsibility, recognizing that social concerns and aspirations will be constantly evolving.

As for all aspects of Responsible Care, social responsibility policies, strategies and/or guidelines, once implemented, must be measured, evaluated, reported and improved. No single approach will fit all corporations or even all sites or business units within a corporation. Open, ongoing dialogue with stakeholders is a key factor in integrating social responsibility into business strategies, decisions making, processes and activities. An organization must consider its culture, risk profile, return on investment, and the external environment, among other factors.

Appendix B. *Involvement in Public Policy Processes*

Each company should develop a definition of what sustainability means for that company. Based on that definition, each company should develop principles for public policy engagement in support of sustainability. Based on both of those, each company should follow the plan-do-check-act process to advance public policy issues in support of its principles, appropriate to the corporate and operating-site levels.

While involvement in public policy processes is mainly addressed in the Accountability Code, this type of engagement is important in enabling companies to meet the expectations of the Operations and Stewardship Codes. For example, involvement in municipal planning processes is key to meeting "buffer zone" expectations, and public policy for chemical testing and approval is key to chemical substance or product stewardship.

Notes:

Benchmark and Collective Expectations

1. CEO Commitment
2. A "New Ethic"
3. Code Commitment
4. Leadership Groups
5. Responsible Care Overall Coordinator
6. Milestone Reports
7. Commitment Attained
8. Responsible Care-in-place Verification
9. Re-Commitment
10. Verification
11. Industry Support
12. Emissions & Wastes Metric
13. Health & Safety Metric
14. Transportation Metric
15. Process Safety Metric
16. Energy Use/Climate Change Metric
17. Metrics to be reported to stakeholders
18. Community Dialogue
19. National Advisory Panel
20. Product Stewardship
21. Risk Assessment
22. TRANSCAER
23. Transportation Emergency
24. Carrier Evaluation
25. Waste Contractors
26. Process Safety
27. Site Security
28. Agreements with Governments and Others

The following is a brief summary of what Chemistry Industry Association of Canada member and partner companies expect of each other in support of meeting the ethic, policies, and codes of Responsible Care. These expectations are also increasingly shared by employees, communities, governments, non-government organizations and others who have a stake in the safe management of chemicals. Details of these expectations and tools are covered in a one-day orientation workshop for the management and employees of new member and partner companies and are intended to provide a sense of what Responsible Care companies do, not to prescribe how they do it.

The following commitments consist of collective processes, benchmarks, performance metrics, cooperative programs and tools.

1. CEO Commitment

- commitment by the most senior person responsible for the company's chemical and chemical-related operations in Canada (usually the CEO) to be the person ultimately responsible for ensuring the company meets its Responsible Care obligations and who will be the "executive contact" of the company with the Chemistry Industry Association of Canada.

2. A "New Ethic"

- a company culture from the top down that embraces the "Responsible Care Ethic & Principles for Sustainability", rather than the "other ethic" (see chart on last page);
- it is expected that companies will strive to ensure all employees recognize Responsible Care and understand how the company's management processes support it.

3. Code Commitment

- form signed by the executive contact upon joining the Chemistry Industry Association of Canada committing to the Ethic & Guiding Principles and to implementing to a Responsible Care-in-Place level the elements of the three codes according to a company-set milestone timetable (expected to be complete within 3 years).

4. Leadership Groups

- every company's executive contact is a member of one of four groups of peers which meet regularly to review progress and to provide and receive assistance and peer pressure as needed to advance Responsible Care across the membership;
- these groups also provide input to the Chemistry Industry Association of Canada Board of Directors on a wide range of issues.

5. Responsible Care Overall Coordinator

- appointment by the executive contact of one person who will be the Responsible Care Overall Coordinator for the company.

6. Milestone Reports

- for first two years, semi-annual reporting to the Chemistry Industry Association of Canada and the leadership group by the executive contact of progress against the milestones;

- in the third year, quarterly reporting to the Chemistry Industry Association of Canada and the leadership group of % completion and expected completion date of each of the code elements.

7. Commitment Attained

- a statement signed by the executive contact that the commitment to implement the codes to a Responsible Care-in-Place level has been attained (guidelines have been developed to help companies assess this phase) within three years.

8. Responsible Care-in-Place Verification

- first verification; a visit by a team of peers and the public, usually taking three days, to confirm the executive contact's "commitment attained" statement that the ethic, systems and practices are indeed in place after three years.

9. Re-Commitment

- a statement signed by the executive contact annually following verification that the processes of Responsible Care are still in place.

10. Verification

- also referred as re-verification, a protocol to assess every three years after the Responsible Care-in-Place verification that the ethic and code management systems are still alive and well in each member and partner company.

11. Industry Support

- active participation, appropriate to their circumstances, in the committee work, meetings and outreach activities of the association in support of advancing, managing and continually improving Responsible Care across the industry.

12. Emissions & Wastes Metric

- under the Chemistry Industry Association of Canada's National Emissions Reduction Masterplan (NERM), annual reporting of all emissions and wastes to communities and the Chemistry Industry Association of Canada, including five-year projections, with commitment to continual improvement.

13. Health & Safety Metric

- under the Chemistry Industry Association of Canada's Safety & Health Assessment, Recognition & Exchange (SHARE), regular reporting to the association and peers of occupational injuries and illnesses, with commitment to continual improvement.

- active participation in the work of the SHARE Network is expected by each company.

14. Transportation Metric

- under the Chemistry Industry Association of Canada's Transportation Incident Measurement System (e-TIMS), with commitment to continual improvement.

15. Process Safety Metric

- under the Chemistry Industry Association of Canada's Process Related Incident Measurement (PRIM), annual reporting to the association of the number and nature of significant incidents related to process safety management, with commitment to continual improvement;
- active participation in the work of the Process Safety Network is expected by each company.

16. Climate Change Metric

- the Chemistry Industry Association of Canada collects and publishes data on members' emissions of greenhouse gases under NERM (see item #12), and encourages participation by members in other related initiatives.

17. Metrics to be reported to stakeholders but not aggregated by the Chemistry Industry Association of Canada

- performance in all aspects of Responsible Care important to the company and/or its stakeholders, such as neighbour concerns, environmental incidents, product stewardship, community involvement effectiveness, employee awareness, security, near misses, etc.

18. Community Dialogue Benchmarks and Tools

- in addition to utilizing the processes called for in the Accountability code to dialogue with the community on such items as company processes and products, community concerns, expansions and process changes, companies are expected to follow the Chemistry Industry Association of Canada protocols for:
  - communicating emissions and wastes (via NERM);
  - communicating all other risks presented by the site up to "worst case scenarios" (the association's Site Acute Risk Communication guideline);
  - emergency planning and testing;
  - the System for Community Outreach Planning and Evaluation (SCOPE) tool has been developed to assist companies in this.

19. National Advisory Panel

- this is an advisory panel comprised of a cross-section of interest groups and concerned citizens with interests in health, ethics and the environment;
- the panel meets regularly to discuss and evaluate matters on which the Chemistry Industry Association of Canada seeks comment and advice, and which the panel identifies as requiring a response from the industry.

20. Product Stewardship Tools

- a product stewardship guidebook describes successful practices;
- self-assessment forms have been developed for possible use with 2nd parties such as customers, warehouses, laboratories, terminals, distributors, etc., but it is expected these will be used only after a risk assessment has been carried out to determine where such self-assessment is adequate and where more rigorous evaluation by the company, perhaps involving audits, is required.

21. Risk Assessment Tools

- a family of guidelines is available for carrying out assessment of risks in such areas as transportation, distribution, site acute hazards, chronic (e.g. low exposure health risk) hazards, etc.;
- it is expected these will be used only for general guidance, and companies will utilize more rigorous tools such as HAZOP, quantitative risk assessment, dispersion models, fault tree analysis, etc. as appropriate.

22. TRANSCAER Program

- companies are expected to be actively involved in the TRANSCAER committee for each region where they have facilities;
- TRANSCAER committees coordinate a program of outreach to communities along transportation corridors in their region;
- companies must also ensure appropriate outreach to communities directly affected by their shipments that are not covered by the Chemistry Industry Association of Canada's program;
- TRANSCAER outreach involves ensuring, often through community-based workshops, awareness of chemical risks, emergency planning, first responder training, etc.

23. Transportation Emergency Program

- companies must have a capability for timely response to transportation emergencies anywhere involving all their products;
- CIAC's Transportation Emergency Response Standard sets the minimum criteria that CIAC member-companies must meet for

road and rail emergency preparedness and response, including requirements for planning, administration, training, resource utilization, and assessment;
- The TEAP III Transportation Emergency Response Service Provider (TERSP) Standard outlines the criteria used by TEAP's assessment teams to evaluate a service provider's ability to safely mitigate the impacts of a chemical transportation incident. While TEAP III's assessment program can help, companies are responsible for determining if service providers meet their needs.

24. Carrier Evaluation Benchmark*

- for motor carriers, companies must meet as a minimum a Chemistry Industry Association of Canada protocol for comprehensive carrier management system evaluations and site inspections that can either be carried out by an association-designated contractor or individually by the company;
- for rail carriers, companies should request as a minimum a complete self-assessment report from railways they use, based on a Chemistry Industry Association of Canada-Railway Association of Canada protocol;
- for pipelines, companies should carry out an assessment of owned or contracted-for pipelines following a Chemistry Industry Association of Canada company-developed guideline;
- for marine carriers, until an international chemical industry protocol is fully implemented companies must use their own assessment approaches to meet the code.

**All above do not apply if you are a Responsible Care verified or certified carrier, unless there are specific areas that the verification or certification does not cover that are critical to the shipper.*

25. Waste Contractors Benchmark

- a guideline has been produced for use by companies to ensure a comprehensive evaluation of waste management contractors.
- in Quebec, companies have developed a process for joint effort using a contracted evaluator;
- in Alberta, the oil industry's Waste Facility Environmental Review (WFER) process for waste contractor assessment is accepted as equivalent to the Chemistry Industry Association of Canada guideline.

26. Process Safety Benchmark

- a joint Canadian Society for Chemical Engineering and Chemistry Industry Association of Canada committee has developed a benchmark for guidance based on the US Center for Chemical Process Safety;
- from time to time, companies are expected to complete a survey developed by this committee to assess their understanding and implementation of the key elements of this guidance.

27. Site Security Benchmark

- companies are to report to the Chemistry Industry Association of Canada their status in meeting the association's expectations for site security vulnerability assessment and corrections.

28. Agreements with Governments and Others

- consistent with their commitment under Responsible Care to advance public policy that supports sustainability, companies are expected to support agreements the Chemistry Industry Association of Canada undertakes from time to time with provincial and federal governments and other stakeholders in the non-governmental sector.

Notes:

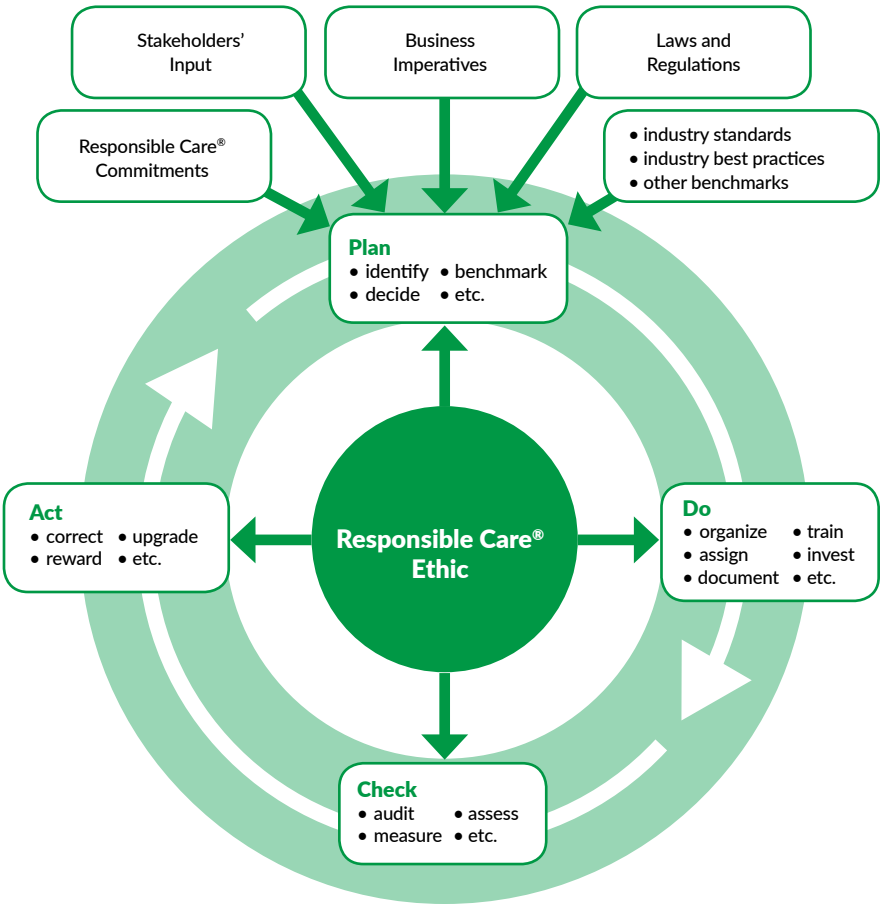
Other Ethic vs. Responsible Care Ethic

"Other Ethic"	Responsible Care Ethic & Principles For Sustainability
Meet the law	Meet/exceed letter & spirit of law–do the right thing
Low profile	Be seen to do the right (and wrong) thing
We know what's best	We operate with public consent
Public is who we think are the public	Public are those affected or think they're affected
Manage risks to level we feel is safe	Strive for no harm while working to improve lives and the environment
Risk to people = risk of death	Risk includes well being, social justice, economic benefit
Advise public about our decisions	Consult with public before deciding
Inform if we think public need to know	Public right to understand hazards, benefits and risks
Silence is assent	Seek informed consent
Downplay public concerns	Seek out, understand and address public concerns
Assume products and processes are safe	Take preventative action to protect health & environment
React to challenges about chemical impacts	Be our own whistle-blowers
Every company for themselves	Mutual aid and peer pressure to improve
Employees know only company programs	Employees link programs to Responsible Care
Limit product obligations	Life cycle stewardship with partners along value chain
Defensive approach to regulations	Be positive contributor to public policy
Ignore or fight advocates	Seek advocates' input
Set standards for where "the bar" is	Innovation & continual improvement to meet expectations
Decisions by laws of science, economics, gov't	Decisions involve all the above

Notes:

Management Systems Guide

Each company shall ensure that its management system and structure, led by senior management, and accountable to all stakeholders, addresses the expectations of the *Responsible Care Ethic and Principles for Sustainability*, and those elements of the three codes that apply to its business. This management system should include all components of the Plan-Do-Check-Act cycle of continual improvement, as described in the Chemistry Industry Association of Canada's *Management System Guide* below.



1. The PLAN-DO-CHECK-ACT Cycle

This approach to managing had its origins in the world of accounting many years ago, and has been adopted by such organizations as the International Organization for Standardization for their management systems registration processes of ISO9000:2001, ISO 14001, etc., and by the American Chemistry Council for their Responsible Care Management System (RCMS) and RC14001 certification processes.

Since the origins of Responsible Care in Canada, CIAC has identified the need for a "management system" as the framework for implementation and continual improvement of Responsible Care expectations guided by the unique Responsible Care Ethic & Principles for Sustainability. Ideally, this should be part of the overall management system used by the company to meet all its goals rather than a separate one focused only on Responsible Care.

Some of the differences between CIAC's approach to Responsible Care and the ISO approach to management systems are:

- the driving force of Responsible Care is its ethic, rather than the management system itself;
- the goal of having the company's overall management system is to meet Responsible Care expectations in addition to the company's other business imperatives, rather than having separate management systems for such things as environmental management, product/service quality, safety management, social responsibility, etc.;
- the scope of the Codes of Practice of Responsible Care provides a far more comprehensive overview of things that must be considered in the company's planning processes rather than the more limited and often more internal assessment of "aspects" called for by other approaches;
- the collective nature of companies' work in Responsible Care rather than the solely individual company decision-making processes approach of ISO registration;
- the all-stakeholder engagement expectations of Responsible Care rather than more limited and focused stakeholder input processes for information dissemination.

The CIAC approach to management systems is very compatible with the American Chemistry Council's RCMS and RC14001 approaches, but some see it as allowing more flexibility. Provided all the CIAC Responsible Care Code elements and other Canadian Responsible Care expectations are covered, the RCMS or RC14001 approach could be used by a Canadian subsidiary of a US company.

Every company HAS a management system. The steps below describe only the Responsible Care aspects of a sound company management system but should be seen as part of the system for meeting all the company's goals.

PLAN

This is the step in the PLAN-DO-CHECK-ACT loop of the management system and sub-systems that involve deciding what are the goals of the company, informed by the interests of its stakeholders, and how they will be met. It is both inward and outward looking (see chart of "self-healing" attributes on page 6), and is repeated as required, either at a predetermined frequency based on the ACT step requirements determined in the CHECK step, or as a result of incident follow-up, verification reports, regulatory changes, complaints, etc.

Things to consider, in addition to the other business imperatives of the company, include:

- develop and document* policies that reflect the Responsible Care Ethic & Principles for sustainability (e.g. environment, health and safety, social responsibility, and/or etc.);
- identify and document* safety, health, environmental and social responsibility aspects, risks and impacts of operations and activities, using the CIAC Responsible Care Codes of Practice as a minimum to ensure those practices are understood in the context of the company's operations;
- identify and document* requirements imposed by laws, regulations, industry standards, etc;
- recognize that the objective is continual improvement rather than merely compliance;
- identify competency, training and skills needs for employees and others working on behalf of the organization [carrying this out is part of the DO step, and assessing its effectiveness is part of the CHECK step];
- benchmark management system, sub-systems and their components against best industry practices NOTE: especially ensure that the company's benchmarking meets or exceeds the CIAC-approved benchmarks. These are:
  - process safety management
  - emissions awareness and reporting
  - risk communications
  - motor carrier evaluation
  - waste contractor evaluation
  - emergency planning with communities
  - site security
  - TRANSCAER outreach;

- get input from stakeholders – employees, customers, community, peers, broader public, etc. NOTE: active participation in the CIAC's Leadership Groups and committee processes of SHARE, Process Safety and TRANSCAER are expectations of Responsible Care.

  **develop a process and schedule to maintain up-to-date documentation with appropriate approvals and elimination of out-of-date documents (eg. ISO approach or equivalent, paper-based and/or electronic).*

- capture lessons from incidents, etc.;
- set objectives, targets and performance indicators that reflect at least the eight bullets above as well as output from the CHECK and ACT components of the management system below. These should be for both personnel and operations;
- establish milestones – interim checkpoints for reviews at pre-determined times towards the achievement of what you have planned to do;
- determine the organizational structure for the overall management system and for any sub-systems.

DO

This is the step in the management system that converts the decisions of the PLAN step into action and ensures awareness and understanding by all involved. Things to consider include:

- implement an organizational structure, formal and/or informal, which ideally should be the same structure that manages all the company functions including Responsible Care but could be one that is more specific to Responsible Care. This structure might involve some or all of the following, but must involve the senior management of the company:
  - Board committee (if applicable);
  - senior management team – corporate and/or site-specific;
  - corporate Responsible Care team;
  - site Responsible Care teams (where more than one site);
  - auditing and performance measurement/reporting regime(s).
- assign responsibility to appropriate people and/or teams for all PLAN-DO-CHECK-ACT aspects of the overall management system and for each sub-system;
- provide resources sufficient to achieve what you have planned to do in the PLAN step (personnel, technical and financial);
- develop and document standards, work processes, procedures and programs, where applicable:
  - manufacturing or operations (e.g. process safety, risk assessment, maintenance, management of change, management of emissions and wastes, construction and decommissioning, etc.);

    - security;
    - emergency planning and response;
    - product stewardship (in CIAC's guidance, this refers to the design [R&D], purchasing, marketing, sales and use phases of the product lifecycle);
    - laboratory management;
    - transportation;
    - community outreach;
    - communications – internal and external;
    - etc.;
- prepare a cross-reference document [spreadsheet, chart or other format] to show how the standards, procedures, programs, processes and/or working instructions cover the 152 elements of the Responsible Care Codes, or in the case of Transportation Partners, the elements of the Model for Transportation Partners;
- establish ongoing training for people (including awareness of Responsible Care and its requirements). This includes the training required for employees, contractors and second parties in the introduction of new and modified facilities, raw materials, equipment, products, processes, applications and services;
- document the management system and its components, including a simple (1-2 page), high-level description of how the management system for "Plan-Do-Check-Act" functions [targeted to verifiers and others who need to understand the overall approach of the company to managing its affairs, including Responsible Care].

CHECK

This step is where the actions carried out in the DO step are assessed to determine if they are actually being carried out according to plan and if they are achieving the desired outcomes and delivering continual improvement. Things to consider include:

- review at a predetermined frequency the overall management system and its components, utilizing the output from the activities described in the bullets below and stakeholder feedback (senior management should be involved in this review process);
- audit at predetermined intervals the management system and its components;
- identify and assess root causes of issues and incidents (including near misses);
- monitor and measure performance of the system – ie. that all specified activities are indeed being carried out;
- monitor and measure performance delivered by the system – ie. outcomes, such as safety performance, emissions reduction, community relationships, customer performance, etc.;

- assess employee competence, both in training programs and in actual practice;
- document and maintain the results of the above.

ACT

In this step the results of the CHECK assessments are translated into corrective actions for improvement, including a re-visit to the PLAN step to decide what changes are needed. Things to consider include:

- design correction action plans to address audit findings, issues, incidents, and deficiencies in performance, including sign-off upon completion;
- communicate performance to stakeholders and assess feedback;
- reward and/or correct employees' performance;
- re-assess the PLAN decisions and adjust as needed;
- implement the outcomes of the periodic management system reviews.

2. Cross-Referencing Code/Model Requirements to the Management System

One of the key expectations of Responsible Care - one that is carefully reviewed in verifications and re-verifications - is that each of the elements of the Responsible Care Codes (often referred to as the "152 elements") or each of the elements of the Model for Transportation Partners is cross-referenced to the appropriate company policy(ies), standard(s) and/or operating procedure(s) in the company's management system which addresses that code requirement (if a corporate standard itself references operating procedures within it, then cross-referencing a code requirement to the corporate standard is sufficient).

For the company, this enables the overall Responsible Care coordinator, and the code coordinators where these are in place, to ensure that all code or model requirements have been addressed in the management system. A number of CIAC companies use the cross-reference system to do their periodic assessments or audits of Responsible Care compliance. It also provides an oversight mechanism to ensure that any CIAC benchmarks are identified in the cross-reference system and implemented in the management system (e.g. directives from the CIAC on issues such as security and product stewardship, CIAC performance measure reporting requirements, etc. – aspects that are included in the Responsible Care Commitments document 2010 or the Model for Transportation Partners.

For verifiers, the cross-reference system demonstrates that all code or model requirements are addressed in the management system. It also allows them to identify the policies, standards and operating procedures that they need to examine as part of the verification/re-verification process.

3. Key Success Factors

- senior management must show leadership by visibly supporting the implementation and maintenance of the management system;
- senior management must be involved and be seen to be involved in the PDCA process;
- input from and involvement of employees from all functions of the organization that are governed by the management system are critical – all employees must be "owners";
- the management system must be driven by a passion for continual improvement;
- accountability at all levels is fundamental;
- the management system needs to be visibly underpinned by the Responsible Care Ethic & Principles for Sustainability, so that it does not become and is not seen to be just another program – the culture of the organization must support the management system.

Attributes of a Self-healing Management System

Non-self-healing Overall Management System	Self-healing Overall Management System
PLAN	
Looks inward for best practices.	Looks outward for best practices.
Overall management system has allowed major gaps in key aspects of Responsible Care (e.g. no component for ongoing community involvement, no component for ongoing process risk assessment, etc.).	Documented overall management system ensures comprehensive set of management systems for all aspects of Responsible Care.
Is unaware of and/or uninterested in benchmarks of CIAC or other organizations.	Is well aware of benchmarks and has applied them with Responsible Care judgment.
DO	
Is indifferent to ensuring documentation of practices is kept up to date.	Is driven to ensure documentation is practical, up to date, available and accessed by those who need to follow them.
Has little competence to investigate, adopt and implement successful practices.	Has internal expertise in all aspects of Responsible Care, or the means of accessing it.
Has inadequate resources to sustain the practices of Responsible Care and has no plans to acquire them.	Is aware of the needed resourcing to sustain the practices of Responsible Care and is driven to ensure that level of resourcing is in place.
Does not demonstrate a continual learning ethic.	Assigns resources to ensure all employees receive on-going training aimed at continual improvement.
The re-verification team identified a large number of findings requiring action that surprised the company.	The re-verification team found only a few opportunities for improvement.

Non-self-healing Overall Management System	Self-healing Overall Management System
CHECK	
Makes little effort to find out if expected practices are actually being carried out.	Driven to ensure that all expected practices are carried out constantly.
Makes little effort to find out if expected outcomes are actually being achieved.	Strives to measure and communicate all key performance aspects.
Seeks no external, and limited internal, input into performance targets.	Constantly seeks external and internal input into performance targets.
No ongoing processes for assessing employee performance against Responsible Care expectations.	Assessment of Responsible Care performance is a key part of each employee's performance evaluation.
ACT	
No overall process to ensure deficiencies are corrected in a timely manner.	At all levels processes are followed to ensure all deficiencies are corrected within acceptable timelines.
No process to capture learnings from incidents, audits, etc., and to implement corrective action. Little effort to explore the whys and identify root causes.	Living processes in place for capturing all learnings, down to root causes, from incidents, audits, etc., resulting in needed changes to practices.
Changes in processes and procedures are limited to must do situations.	Constant improvement of all processes and procedures is expected and evident.
Reward and discipline processes are only in place for the exceptional.	Reward and discipline processes are integral to all aspects of company operations.
Little effort to communicate performance in any but mandated areas.	Very apparent processes for communicating performance to all stakeholders.

Notes:

Verification or Certification

As a result of a Memorandum of Understanding developed with the American Chemistry Council (ACC), CIAC member and partner companies may now meet their CIAC Responsible Care Commitments by implementing and being certified to the ACC Responsible Care Management System (RCMS) Standard or the RC14001 Standard. Additional details follow:

Responsible Care Partner Companies – Partner companies that implement and are successfully certified to the ACC RCMS standard within their Canadian operations will be deemed to have fully met CIAC Responsible Care requirements. Such partner companies must provide CIAC a copy of RCMS Certification certificate for positing on the CIAC website.

Member Companies with Resale (import) only operations in Canada – where such companies can demonstrate that they are fully in conformance with ACC Responsible Care requirements, including the ACC Product Safety Code, they will be deemed to have met their Responsible Care requirements in Canada.

Member Companies with Operations in Canada – may choose to implement and be certified to the RCMS or RC14001 standards for their Canadian operations. Materially important Canadian facilities must be included in the scope of the certification process covering both US-based HQ and other operations. The certification must make a clear conclusion that the Canadian operations are being conducted in a manner consistent with those implemented at the company's US-based sites that are likewise part of the certification process.

- Under an agreement with the ACC, such Canadian sites will be 'counted' within the pool of facilities required to meet RCMS / RC14001 certification requirements as imposed by ACC;
- As part of their individual auditor-client relationship, Canadian operations of the CIAC member and partner companies must request auditors to include "other (Canadian-specific) Responsible Care commitments" for review under the RCMS/RC14001 audit. These other commitments, defined by CIAC and its members, include, but are not limited to:
  - Participation by leadership in Responsible Care activities, committees and annual RC recommitment letter;
  - Provision to CIAC of benchmarking environment and safety performance data and other reporting and subcontractor evaluation requirements;
  - Review of Responsible Care Principles and Ethics and position on sustainability and corporate responsibility;
  - Participation in TRANSCAER® activities in Canada;
  - Development and communication of the worst-case scenario and other community engagement requirements;
  - Promoting Responsible Care by name;
  - Stakeholder/community dialogue, including interviews by auditors with local community representatives;
  - Indigenous communities engagement, where appropriate and consistent with CIAC Responsible Care Commitments; and
  - Development of a report suitable for communication to CIAC and other relevant stakeholders and posting on CIAC website.

Additional details on how to meet Responsible Care requirements in Canada through the ACC RCMS/RC14001 standards and certification processes can be obtained by contacting CIAC.

Glossary

Accountability
The quality or state of being accountable; especially an obligation or willingness to accept responsibility or to account for one's actions.

Accountable
Subject to giving an account for defined areas of responsibility; answerable; held responsible for results achieved against defined objectives. [CIAC Management Systems Guide].

Action Plan
A specific method or work process to achieve the results called for by one or more objectives.

Aspects
[*ISO 14001/RC 14001*] element of an organization's activities or products or services that can interact with the environment.

Assessment
A systematic work process of collecting and analyzing data to determine the current, historical or projected status of an organization in the pursuit of its mission.

Audit
The formal inspection and examination of one [or more] work process[es] [*including quality and other management systems*] to ensure compliance to requirements. An audit can apply to an entire organization or may be specific to a function, work process or production step.

Benchmarking
An improvement process in which a company measures its performance against that of the best in class companies, determines how these companies achieve their performance levels and then uses the information to improve its own performance. The subjects that can be benchmarked include strategies, operations, processes and procedures. [CIAC Management Systems Guide]

Best Practice
A superior method or innovative work practice that contributes to the improved performance of an organization, and usually recognized as "best" by other peer organizations – within CIAC we refer to "successful practices" (see below) since across our broad spectrum of companies what is "best" in one situation may not be "best" in another.

Branding
Promoting a product or service by identifying it with a particular identity or "brand."

Breakthrough Improvement
A dynamic, decisive movement to a new, higher level of performance.

Business continuity
The ability to deliver critical services or products to ensure survival, avoid causing injury, and meet legal or other obligations of an organization. Planning for business continuity is a proactive process. [Public Safety Canada]

Capability
The degree or level of competency to perform the prescribed work.

Carriers
Organizations who provide the service of transporting member company products – modes used by these organizations include road, rail, marine, air and pipeline.

Cause
An identified reason for the presence of a defect or problem.

CEO
Chief Executive Officer – usually the highest-ranking operational position within an organization.

Chemistry Value Chain
The chemistry value chain includes the full range of activities that are required to bring a chemistry-related output from its conception to its end use and beyond (e.g. design, procurement, production, distribution). Value chain activities can be contained within a single firm or divided among different firms and can be contained within a single geographical location or spread over wider areas. (Includes products, processes, technology etc.)

Codes
Prescribed methodologies for developing and setting standards, designing work processes and accomplishing work.

Competence
Having the requisite [necessary and minimum] skills/abilities to perform the prescribed work.

Compliance
Conformance to prescribed policies, standards, regulations, specifications and contracts.

Component
A constituent part or portion of the whole [*such as a managing sub-system*].

Consumer
One that consumes or one that utilizes economic goods.

Continual
Happening at periodic intervals (as opposed to continuous, which is uninterrupted).

Continual Improvement
The drive to examine and implement systemic and operational improvements as a means to achieve superior performance, rather than remaining at a fixed level of performance for an extended period of time.

Coordinator (Responsible Care)
The person within a member company who has been assigned overall responsibility for Responsible Care management systems within that organization.

Corporate Social Responsibility
A framework used by an organization as a means to define and integrate the economic, social, and environmental imperatives of their activities that could impact its internal and external stakeholders. [CSR does not have a universal definition.] [Industry Canada]

Corrective Action
Implementation of solutions resulting in the reduction or elimination of an identified problem.

Critical
a) of, relating to, or being a turning point or especially important juncture or, b) relating to or being a state or a measurement point at which some quality, property, or phenomenon suffers a definite change.

Critical Infrastructure
Critical infrastructure refers to processes, systems, facilities, technologies, networks, assets and services essential to the health, safety, security or economic well-being of people and the effective functioning of an organization. Critical infrastructure can be stand-alone or interconnected and interdependent within and across jurisdictions and geographies. Disruptions of critical infrastructure could result in catastrophic loss of life, adverse economic effects and significant harm. [Public Safety Canada]

Critical Processes
Work processes that present serious potential dangers to human life, health and the environment, or that risk the loss of very large sums of money or customers.

Culture [organizational]
A common set of values, beliefs, attitudes, perceptions and accepted behaviors shared by individuals within an organization. To optimize business performance, top management must define and create the necessary culture.

Decision
The act or process of selecting from a choice of options to achieve a desired future state. [goal, objective, vision]

Dispersion Model(s)
A series of equations that mathematically describes the behaviour of one substance as it mixes with or diffuses through another. Dispersion models have been used in many different applications but have traditionally been applied to ambient air. [BC Environment]

Distribution Network
Channels by which a company distributes its products, processes, equipment, technologies, services and applications.

Document
Disciplined preparation and storage of descriptive materials suitable for future reference and use.

Due Diligence
The level of judgement, care, prudence, determination, and activity that a person would reasonably be expected to do under particular circumstances. [CCOHS]

EH&S
Acronym for Environmental, Health and Safety – used in many companies. May also be referred to as SHE (Safety, Health and Environment).

Ethic
Based on a set of moral principles, the discipline dealing with what is good and bad, with moral duty and obligation.

e-TIMS
Electronic Transportation Incident Measurement System – CIAC reporting program. [CIAC]

Executive Contact
The CEO or a senior executive of every member of CIAC who commits to implementing the ethic and codes of Responsible Care® within three years of joining the association and to be publicly verified as having done so. [CIAC]

Fault Tree Analysis
A risk analysis technique using a fault tree which is a logical diagram which shows the relation between system failure, i.e. a specific undesirable event in the system, and resultant failures of the components of the system.

Goal
A broad statement describing a desired future condition or achievement without being specific about how much and when. Goals are broader than objectives. [Note: in some organizations these terms a used interchangeably or even in reverse order of broadness]

Green Chemistry
Green chemistry, also known as sustainable chemistry, is the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances. Green chemistry applies across the life cycle, including the design, manufacture, and use of a chemical product. (US EPA) (Also refers to resource and energy conservation)

Hazard
Inherent property of an agent or situation having the potential to cause adverse effects when an organism, system, or (sub) population is exposed to that agent. [International Program on Chemical Safety (IPCS)]

Hazard Analysis
The qualitative and, wherever possible, quantitative description of the inherent property of an agent or situation having the potential to cause adverse effects. Hazard analysis (or characterization) is the second stage in the process of hazard assessment and the second of four steps in risk assessment. [IPCS]

Hazard Identification
The identification of the type and nature of adverse effects that an agent has an inherent capacity to cause in an organism, system, or (sub) population. Hazard identification is the first stage in hazard assessment and the first of four steps in risk assessment. [IPCS]

HAZOP
Hazard and Operability Study (HAZOP) – A structured and systematic examination, using a multi-disciplinary team, of a planned or existing process or operation in order to identify and evaluate problems that may represent risks to personnel and equipment or lead to defective operation.

Impacts
[from ISO14001/RC14001] any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects.

Incident
Occurrence of an undesirable or unintended action or result.

Inherent Safety
A concept particularly used in the chemical and process industries to describe a process having a low(er) level of danger even if things go wrong. It is used in contrast to safe systems where a high degree of hazard is controlled by protective systems. As perfect safety cannot be achieved, common practice is to talk about inherently safer design.

***Inputs**
Products, services, materials, and so forth obtained from suppliers and used as work process inputs to produce the outputs delivered to customers.

Leadership Groups
CIAC networks comprised of Executive Contacts of each CCPA member company.

Malicious Intent
A deliberate decision to do harm or perform unlawful actions.

Manage
Activities done to direct others in the achievement of the organization's mission and goals.

Management of Change
A structured process to recognize, evaluate and control risks associated with changes in organization, personnel, processes, technology, equipment, materials or facilities. An effective management of change process ensures that an action plan to address the change is fully implemented and that such changes do not result in unacceptable risks to people, property or the environment.

Management Review
A periodic meeting of management at which it reviews the status and effectiveness of the organization's managing system.

Management System(s)
System(s) primarily used by managers, comprised of a work process designed to provide governance to the organization in the pursuit of an organization's mission. Outputs include organizational values, goals, policies, rules, standards, controls, resource needs, plans/programs and strategies, work process designs, measurements, benchmarks, and stewardship, corrective actions, and review, with the goal of continual improvement of both the management system and the activity it manages. [CIAC management systems guide]

Measure
The criteria, metric or means to which a comparison is made with outputs (including how the management itself is performing).

Measurement
The act or process of quantitatively comparing results against requirements or objectives.

Metric
A prescribed measurement for what is being measured.

Milestone
A significant point in a development or implementation process.

Mission
The purpose for why an organization exists.

Model for Transportation Partners
A document that converts the expectations in the Responsible Care Codes into a format and terminology that is appropriate for transportation companies – truckers, railroads, railcar leasing companies, etc.

Monitor
To watch, observe, check, keep track of a component of a work process, managing system, or human behavior for a specified purpose.

National Advisory Panel
A panel of twelve to sixteen volunteer individuals who assist CIAC in obtaining a broader understanding of the needs and concerns of the general public at the national, regional and local levels. Panel members represent themselves but may also be involved with the community, the academic world, business, consumer, environmental, and other special interest organizations. [CIAC]

NERM
National Emissions Reduction Masterplan, a CIAC requirement for the annual reporting of facility emissions and wastes, with 5-year projections. Data is collected, analyzed and used to product an annual Reducing Emissions report.

Non-governmental Organizations
Various organizations that are not part of government, often focusing on development, environment and human rights issues. The term is generally used relative to civil society organizations not corporate enterprise or religious institutions.

Objective
A specific statement of a desired short-term condition or achievement [*outcomes and/or outputs*]; includes measurable end results to be accomplished by specific teams or individuals within prescribed time limits (objectives are narrower than goals but broader that targets. ISO 14001 states that both objectives and targets should be "measurable where practicable" which means that the distinction between them is one of specificity).

Operations
a) performance of practical work or something involving the practical application of principles or processes or b) the quality or state of being functional or operative. [In the case of the Code it refers to the sum of all activities that comprise a member company's business.]

Other Parties
All organizations with whom the member company has a business relationship. Other parties who have business relationships with member companies are referred to in the codes. This includes suppliers, contractors, carriers, toll manufacturers, packagers, distributors, waste management companies. For the accountability code, employees and communities or parties who may have an advocacy or regulatory relationship with member companies are referred to as stakeholders.

Outcomes
The end state that occurs as a result of the outputs of a work process [*such as customer satisfaction, repeat orders etc.*].

***Outputs**
Outputs of a work process or set of work process such as products, materials, services or information provided to customers [internal or external], Outputs include organizational values, goals, policies, rules, standards, controls, resource needs, plans/programs and strategies, work process designs, measurements, benchmarks, stewardship.

Performance
The quality and effectiveness of work execution in the prescribed manner to produce outputs that meet a pre-defined standard, specification or objective.

Performance Indicators
Established measures used to determine how well an organization is meeting its customer's needs as well as other operational and financial performance expectations.

***Plan-Do-Check-Act [PDCA] Cycle**
A four-step process for quality and management systems improvement. In the first step [plan], a plan to effect improvement is developed. In the second step [do], the plan is carried out. In the third step [check], the effects of the plan are observed. In the last step [act], the results are studied to determine what was learned and what can be predicted and acted upon. The PDCA cycle is often referred to as the Shewhart cycle, because Walter A. Shewhart discussed the concept in his book *Statistical Method From The Viewpoint of Quality Control*, and as the Deming cycle because W. Edwards Deming introduced the concept in Japan. It is also referred to as the plan-do-study-act [PDSA] cycle.

Planned Intervals
Pre-determined periods of time between the completion of certain activities. The duration of intervals is set according to risk, outcomes of previous events or other relevant and/or appropriate variables.

Practicable
"Capable of being put into practice or of being done or accomplished" – the intent is if an action is practicable, it should be done. In other words if an activity is "theoretically and technically achievable, environmentally sustainable and economically feasible." Action can be practiced and has value.

Practice
The actual steps of a work process and how these steps are done.

Preventative Action
Any action taken to remove a hazard or reduce the level of its risk by adding precautions or control measures before an incident or accident occurs. [CCOHS]

PRIM
Process Related Incident Measurement – a CIAC reporting requirement.

Procedure
The prescribed steps of a [work] process and how these steps are to be done for the work process to fulfill customer requirements.

Process Safety Management
The application of management principles and systems to the identification, understanding and control of process hazards to prevent process-related injuries and accidents. [CSChE PSM Guide or CSA 767 Standard]

Product Life Cycle (where "product" refers to products, processes, equipment, technologies, services and applications)
Life cycle refers to the stages through which a product retains its identity. Typically, this would include product concept, design and development (even though a commercial product may not yet exist), manufacture, transport and handling in the chain of commerce, use and disposition (reuse, recycle, conversion to energy or disposal). Should not be confused with Life Cycle Assessment (LCA). [CIAC Product Stewardship Guide]

Products and Service
A phrase used for simplicity's sake within the Codes and which is intended to cover outputs of member companies including products, processes, equipment, technologies, services and applications.

Product Stewardship
A subset of stewardship (see below).

Program
A course of activities or actions undertaken to achieve a certain result. In ISO14001, programs are implemented to achieve objectives and targets.

Public Policy
The broad framework of ideas and values within which decisions are taken and action, or inaction, is pursued by governments in relation to some issue or problem. [Health Canada]

Quantitative Risk Assessment
A structured methodology that provides a numerical rating of the estimate of the risks posed (risk analysis) as well as an evaluation of risk mitigation methods so that risk can be reduced to sacceptable levels.

Re-engineering
A breakthrough disciplined approach involving the restructuring of an entire organization by examination and redesigning its work processes. [*also referred to as business process re-engineering – or BPR*] This focuses primarily on the elimination and/or fundamental redesign of work processes, without regard to organizational structure.

Research & Development
Technical work of an investigative nature which occurs at all stages of development of new or modified chemicals, chemical products, processes, equipment and uses. It extends from initial approval of scientific research, through experimental development to the point of transfer to manufacturing (the first full scale operation of the process, or production of the chemical or chemical product is addressed in Operations Code) and its introduction to the market. It is equally applicable when some of the stages are omitted; for example, experimental process change or development done on a full-scale plant, which is often not categorized as research. [CIAC]

Resources
Necessary work inputs to accomplish prescribed work (includes $, human effort, knowledge/technology, capability, raw materials, etc.) [CIAC Management Systems Guide]

Responsibility
Predefined elements of work assigned to a worker for which the worker will be held accountable for results. [*includes managers and their work*]

Results
The effects that relate to what is obtained [or accomplished] by an organization at the conclusion of a time period.

Re-verification
A process undertaken by all Responsible Care companies to verify every three years. See "verification." [CIAC]

Review
To go over, study, or examine critically and deliberately.

Risk
The chance or probability of loss or injury to a person or object if exposed to a hazard. [CCOHS] Risk calculation is generally: risk = frequency x hazard.

Risk Assessment (qualitative)
A thorough review of a workplace to identify those things, situations, processes, etc. that may cause harm, particularly to people and take action to mitigate. [CCOHS]

Root Cause
A factor that caused a nonconformance and should be permanently eliminated through work process improvement.

Safer Products/Processes
See "inherent safety."

SCOPE
System for Community Outreach Planning and Evaluation. [CIAC]

Second/Third Parties
Second parties are those companies with whom member companies have a direct commercial relationship. [CIAC Product Stewardship Guide] Third parties are business associates of organization with whom member companies have a direct commercial relationship. These both are now collectively referred to as "other parties."

Security Vulnerability Assessment (SVA)
A vulnerability assessment is the process of identifying, quantifying, and prioritizing (or ranking) the vulnerabilities in a system. An SVA focuses on security vulnerabilities unique to a facility. [CIAC]

Self-Healing
Management systems that have all of the needed elements of Plan, Do, Check, Act, functioning at a level of effectiveness such that they are unlikely to fail, will be internally corrected, and are responsive to changing expectations over time. [CIAC Verification protocol – refer to this document for further explanations]

Senior Management
Usually means the company's Executive Contact with CIAC (the most senior executive in Canada who commits the organization to Responsible Care) and that person's management team, but may also include executives at or above this level who may reside within a parent company elsewhere.

Services
Completion of duties or provision of space and/or equipment and/or expertise that facilitate the business of a company.

SHARE
Safety and Health Analysis Recognition & Exchange network, a CIAC occupational health & safety experience-sharing and performance reporting requirement.

Social Responsibility
See "corporate social responsibility."

Specification
A document that states the requirements to which a given product or service must conform.

Stakeholders
Any individual, group or organization that will have a significant impact on or will be significantly impacted by the quality of the product or service [and/or how the product was made] that an organization provides. [CIAC Management Systems Guide]

Standard
The metric, specification, gage, statement, category, segment, grouping, behavior, event, or physical product sample against which the outputs of a work process, including the management system itself, are compared and declared acceptable or unacceptable.

Stewardship
The responsible management of "Raw materials, products, processes, equipment, technologies, services and applications" which describes the output from member company operations and Code requirements are applicable to all, even when the full phrase is not used. The Stewardship code often refers to this as "raw materials, products, and services," or even more simply, "products and services".

Successful Practice
In CIAC this refers to a company practice that has been judged by verification teams or others as being worthy of consideration by other companies. It does not imply it is a "best practice", transferable to others.

Sustainable/Sustainability
The concept of living and working in ways that meet and integrate existing environmental, economic and social needs without compromising the well-being of future generations. [based on Brundtland definition]

***System**
A group of interdependent [work] processes and people that together perform a common mission.

Target
[from ISO14001] detailed performance requirement applicable to the organization or parts thereof, that arises from the environmental objectives and that needs to be sent and met in order to achieve those objectives (ISO 14001 states that both objectives and targets should be "measurable where practicable" which means that the distinction between them is one of specificity).

Task
A specific, definable activity [*i.e. a work step*] to perform an assigned piece of work in a work process, often finished within a certain time.

TEAP III
Transportaton Emergency Assistance Program III.

TERSP
Transportation Emergency Response Service Provider.

TRANSCAER
Transportation Community Awareness and Emergency Response.

Transportation Corridor Communities
Communities that exist along and near to transportation routes selected by member companies for delivery of products to customers. This includes all modes of transport.

Values
The fundamental beliefs that drive organizational behavior and decision making.

Verification
A process undertaken by all new CIAC companies to show, three years after joining CIAC, (for credibility with peers and the public and for continual improvement of the implementation of the Responsible Care ethic and codes across the membership) that each company's management processes are in place and are producing performance improvement, in areas important to itself and its various stakeholders, that is acceptable to these stakeholders. The company planning and action is guided by the ethic. [CIAC]

VOCs
Volatile Organic Compounds (VOCs) are organic substances containing one or more carbon atoms that have high vapour pressures and therefore can evaporate readily to the atmosphere. (Environment Canada) In general, substances are classed as VOCs if they have boiling points roughly in the range of 50 to 250 °C (122 to 482 °F). (Health Canada)

WFER
The Waste Facility Environmental Review Process (WFER) is a method of ascertaining information on waste facilities and transporters that may be used by each waste generator as the basis for their risk assessment and eventual use of a waste facility or transporter. The development of the Waste Facility Environmental Review Process has been sponsored by the Western Canadian Auditing Roundtable (WCAR). WCAR is composed of internal Health, Safety and Environmental Auditors from major Western Canadian companies.

***[Work] Process**
A set of interrelated work activities characterized by a set of specific inputs and value-added tasks that make up a procedure to produce a set of specific outputs – this includes the management system itself.

** = very important specific term used in the Management System Guide*

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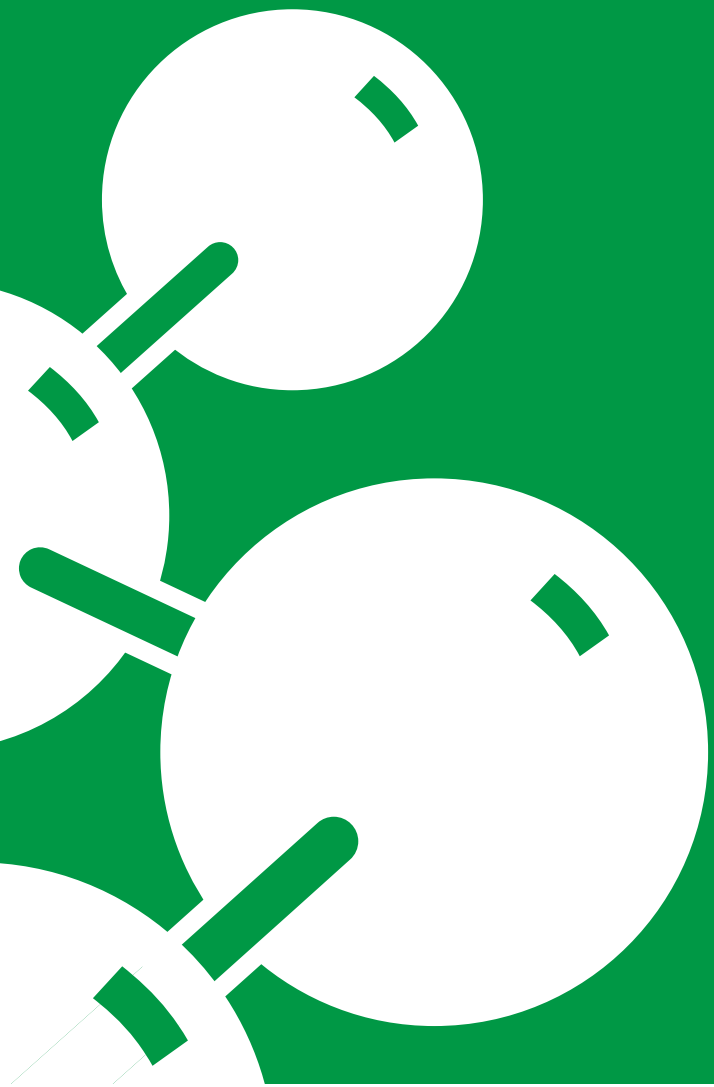

CHEMISTRY INDUSTRY
ASSOCIATION OF CANADA

Responsible Care®
Our commitment to sustainability.