

Responsible Care® Verification Report

ERCO Worldwide

May 22-23 - 30-31, 2019



**CHEMISTRY INDUSTRY
ASSOCIATION OF CANADA**



Responsible Care®
Our commitment to sustainability.

Disclaimer

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

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

EXECUTIVE SUMMARY

This report documents the observations and conclusions of the independent verification team tasked with conducting a Responsible Care Verification of ERCO Worldwide (ERCO). The verification was carried out on May 22-23 and 30-31, 2019, at the Canadian head office, and the research and development facility in Toronto, Ontario, and the Grande Prairie, Alberta site. This was the eighth Responsible Care verification completed for ERCO Worldwide. The last verification was completed on April 12-14, 2016.

While considering all aspects of the Responsible Care Commitments during this verification the team placed an emphasis on conducting an in-depth examination of company aspects related to:

- Determining the impact (if any) of significant changes since the last verification
- Community outreach and communications
- Promotion of Responsible Care by name.

As a result of the examination conducted, the verification team is of the opinion that the Responsible Care Ethic and Principles for Sustainability are guiding company decisions and actions, and that a self-healing management system is in place to drive continual improvement. The team believes that the company is capable of responding to the range of Findings Requiring Action identified during the verification – summarized below and discussed in detail in the report. The verification is completed, and no further involvement is required by the verification team.



Signed: _____

Date: December 04, 2019

Gerry Moss
Verification Team Leader

For more information on this or a previous Responsible Care Verification Report, please contact your local company site or the company's overall Responsible Care coordinator:

Emily Fattore

Director, Environmental Affairs

ERCO Worldwide <http://www.ercoworldwide.com>

302 The East Mall, Suite 200, Toronto, ON M9B 6C7

phone: [416-234-7556](tel:416-234-7556) cell: [416-527-2514](tel:416-527-2514) email: efattore@ercoworldwide.com

SUMMARY OF VERIFICATION TEAM OBSERVATIONS

Findings Requiring Action:

1. It is a Finding Requiring Action to revise the current “Product Stewardship Reviews – Customers” management system element to ensure that a review of customer pipeline maintenance and inspection policies and procedures are part of the customer Responsible Care performance evaluation process. (ST118-119)

Works in Progress:

1. It is a Work in Progress that the company continue to develop a plan to address the gaps identified on the CIAC Business Continuity Planning Implementation Aid). (OP49-55)

Improvement Opportunities

1. It is an Improvement Opportunity that the company periodically review the Emergency Response Plan to identify any changes to external risk assessments and their impact on the plant. (OP40)
2. It is an Improvement Opportunity that the Company better define “Planned Interval” on Supply Contracts. It is defined as “regular basis”. Verbally told that it is approximately 1 year prior to expiry of supply contract. Should be better defined. (ST94)
3. It is an Improvement Opportunity for the Company to share their best practices with other companies; i.e. share SP of this report to industrial neighbours. (OP84)
4. It is an Improvement Opportunity for the Company to develop the Community Outreach Plan to link the stakeholder list and contacts (with phone numbers and email addresses) (AC125 & AC126)
5. It is an Improvement Opportunity for the Company to link Responsible Care to Health and Safety – i.e. change the Safety Moment to a Responsible Care Moment and also make Responsible Care Commitment Code book available to employees.
6. It is an Improvement Opportunity for the company to place inspection tags on eye wash stations for visible certification of function. (OP24)
7. It is an Improvement Opportunity for the Company to develop a timeline and communication plan on completion of the catwalk improvements in Cell Line area for fall protection. (JHSC issue). More broadly need better communication between corporate and local JHSC
8. It is an Improvement Opportunity for the Company to provide insect repellent to employees to combat spread of illness (i.e. West Nile, Zika etc.).
9. It is an Improvement Opportunity for the company to adopt the most stringent standard with respect to safe work procedures; i.e. fall protection in the US is 4 feet, greater than the specified distance in Canada. (OP22)
10. It is an Improvement Opportunity to develop a corporate management system to list contractors who have not met the Responsible Care standards. i.e. a blacklist (OP25)

Successful Practices:

1. The Third-Party Terminals and Warehouse Document is very impressive and considered a Successful Practice. (OP15)
2. It is considered a Successful Practice that when a recordable incident occurs, senior management will visit the affected site (within a short time), review the root cause(s) and related corrective action(s). (OP57)
3. It is considered a Success Practice that the company has generated an Environmental Critical Equipment list to give priority preventative maintenance to prevent releases and violations. (OP62)
4. It is considered a Successful Practice that the company has developed a Warning Ribbon Use procedure in areas of concern. Yellow tape is cautionary; red tape is danger keep out (do not cross). (OP23)
5. It is considered a Successful Practice that the company Safety Record at Grand Prairie is 10,008 days since last Lost Time Accident; 7440 days since last Recordable Incident, as well as exceeding 1 million exposure hours on January 2018. (OP22-27)

About Responsible Care Verification

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

The Responsible Care® Ethic and Principles for Sustainability

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

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

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

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

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

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

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

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

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

About ERCO Worldwide

ERCO Worldwide is a Canadian based company and a wholly owned subsidiary of Superior Plus LP located in Toronto, Ontario. The ERCO Worldwide head office and Research and Development laboratories are located in Toronto, Ontario.

ERCO Worldwide produces sodium chlorate, sodium chlorite and chlor-alkali products. The sodium chlorate is used mainly to make chlorine dioxide for the bleaching of pulp. The sodium chlorite is mainly used in water treatment. The company also designs and licenses large-scale, proprietary chlorine dioxide generators. Those are used to produce chlorine dioxide at pulp mills for the elemental chlorine-free bleaching process. The chlor-alkali business serves a variety of industries including municipal and industrial water treatment, food processing, fertilizers, agricultural intermediates and oil and gas. The company employs approximately five hundred employees worldwide and operates nine manufacturing facilities, six of which are located in Canada, two in the United States and one in Chile.

The present verification covers only the Canadian operations. The company is a member of the Canadian Industry Association of Canada (CIAC) and manages its business with the Responsible Care® approach. The company is also a member of the Responsible Care® governing body in the United States and Chile and the respective locations are certified or verified by that association.

For additional information about ERCO Worldwide visit: <http://ercoworldwide.com>

About This Verification

The verification of ERCO Worldwide was conducted on May 22-23, and 30-31, 2019 and included team visits to the Toronto head office, and the Grande Prairie site. During the course of the verification, the team had the opportunity to interact with a wide range of company personnel, as well as stakeholders external to the company. Attachment 2 contains a list of those individuals interviewed and their affiliations. This is the eighth verification exercise completed for ERCO Worldwide. The previous verification was completed on April 12-14, 2016.

The verification team was comprised of the following individuals.

Name	Affiliation	Representing
Gerry Moss	CIAC	Team Leader
Debbie Krukowski	CIAC	Public-At-Large Verifier
Bart Johnson	Deputy Chief, Regional Fire Services	Community Representative, Grande Prairie

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

During the verification of ERCO, the verification team looked for evidence that the company was addressing the expectations documented in the Responsible Care Commitments. A sampling of the 152 code elements, a review of the 28 benchmark and collective expectations and the company response to the Ethic and Principles for Sustainability was undertaken. While considering all aspects of the Responsible Care Commitments during the verification, the team placed an emphasis on conducting a more in-depth examination of certain company aspects identified by the company or the team. These were related to specific aspects of the company's community initiatives and Responsible Care branding. The ERCO Worldwide has in place an extensive and comprehensive global management system (see Team Observations on Company Management System).

Overall, the team was impressed by the dedication and commitment of the site management team, and corporate senior management to the ethic and principles of Responsible Care and their application to all aspects of the Canadian company operations.

TEAM OBSERVATIONS CONCERNING OPERATIONS CODE

The team is of the opinion that the company meets Responsible Care expectations for all reviewed Operations Code elements. There were no Findings Requiring Action in this section and the listed below Works in Progress and Improvement Opportunities are presented for the company's consideration.

Design and Construction of Facilities and Equipment (OP1-6)

The ERCO Research & Development, Engineering and Technical Services departments have developed a chlorine dioxide generator technology that is ISO 9001 registered. Approximately 150 patented chlorine dioxide plants have been provided by ERCO to pulp and paper clients around the world. The primary raw material is sodium chlorate, an ERCO product from its own manufacturing plants. These plants are maintained, and serviced by an ERCO sales, service and spare parts group.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

Operations Activities (OP7-21)

In considering the four subsections of the Operations Activities area the team agrees that the company sufficiently meets Responsible Care code implementation expectations. All operations activities including operating procedures, laboratory practices, transportation activities and plant maintenance are well documented and implemented.

Awards received by ERCO for its safe railcar operations include the following; CP Safe Shipper Award, NS Thoroughbred Chemical Safety Award, BNSF Product Stewardship Award, CN Safe Handling Award, UP Pinnacle Award.

i. General Considerations (OP7)

Strengths noted here were the many layered management system approaches, including internal and external audits, self-assessments, control of engineering suppliers, management of capital expenditures, and the use of a Management of Change (MOC) process, as well as a comprehensive transportation management system.

ii. Laboratory Practice (OP8-11)

Research and development work done in Canada is focused on systems for generation of chlorine dioxide. Corporate and site laboratory employees are actively engaged in environment, health and safety initiatives, and expectations are clearly defined. Waste management has evidence of good oversight, training, and record keeping.

iii. Transportation and Physical Distribution (OP12-16)

Carrier selection for rail, highway, and maritime modes, route selection, including annual review of routes for bulk shipments, auditing and oversight are well organized and controlled. Terminals and highway carriers are periodically evaluated by an external consultant. Excellent methods for controlling third-party terminals and warehouses are in place as noted below.

iv. Maintenance (OP17-21)

Maintenance procedures are well integrated into operating processes and preventive maintenance is routine and includes a critical equipment list. Standards and tools are in place for frequency of inspections. All employees and contractors must be qualified and tested. Good information sharing between maintenance and operations exists.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

The Third-Party Terminals and Warehouse Document is very impressive and considered a Successful Practice. (OP15)

Safety and Security (OP22-57)

The company has health and safety standards in place to provide employees and all other involved personnel with the necessary knowledge and tools to recognize potential safety, health and environmental hazards. Their goal is zero incidents (their current rate results are excellent). ERCO is committed to striving to achieve zero incidents, injuries, illnesses and environmental harm. The team reviewed all six subsections in this area and concluded that Responsible Care code expectations are being met.

i. Occupational Health and Safety (OP22-27)

Overall occupational health and safety requirements are well managed. Examples include daily ‘safety tailgate’ review of previous day safety observation cards, job safety observations, near miss incident reporting, and housekeeping is held to a high standard. Contractor safety management is refreshed annually. Strong employee participation and behaviour based safety is integral to the safety system.

ii. Process Safety Management (OP28-30)

The company has developed and maintains a comprehensive, tiered approach for its PSM system, to blend OSHA, CIAC, and CSChE requirements. Process safety is managed through the MOC process, and included such items as incident investigation, safe work, and hot work permits. Corporate PSM audits are every 5 years. Process hazard analysis includes facility siting.

iii. Emergency Management (OP31-47)

Emergency management systems and dedication were evident at all locations visited. Included were emergency response planning, regular training and drills, and integration with local first responders, including joint exercises. Corporate crisis management team manages overall incident. Emergency response manual is updated annually, with a major review every five years. Plans are tested annually, including every employee, using different scenarios.

iv. Malicious Intent (OP48)

Have completed Security Vulnerability Assessment (SVA). All sites have perimeter fencing, lighting, and are patrolled regularly. Cyber security team manages system with tests, including phishing and ransom demands, and backups to cloud-based systems. Security door codes are changed when employee leaves company.

v. Critical Infrastructure/ Business Continuity (OP49-55)

Corporately, a crisis management system is in place, and is integrated with business continuity planning. Product backup includes inventory, as well as reciprocal manufacturing agreements. Most plant employees are cross-trained. An Emergency Crisis Plan is in place; this deals with the “recovery” stage only. See Work in Progress below.

vi. Incident Reporting and Investigation (OP56-57)

ERCO has an excellent performance with respect to various health and safety measurements. Root cause investigations are required according to standard operating procedure. All incidents are reported and tracked, using a database to collect findings and follow up assigned actions. Employee training to report incidents, including near misses, reporting roles and responsibilities, and deadlines are all in place. When a recordable incident occurs, senior management visit the affected site (within a short time), review the root cause(s) and related corrective action(s).

Findings Requiring Action:

None.

Works in Progress:

It is a Work in Progress that the company continue to develop a plan to address the gaps identified on the CIAC Business Continuity Planning Implementation Aid). (OP49-55)

Improvement Opportunities:

It is an Improvement Opportunity for the company to adopt the most stringent standard with respect to safe work procedures; i.e. fall protection in the US is 4 feet, greater than the specified distance in Canada. (OP22)

It is an Improvement Opportunity for the Company to place inspection tags on eye wash stations for visible certification of function. (OP24)

It is an Improvement Opportunity to develop a corporate management system to list contractors who have not met the Responsible Care standards. i.e. a blacklist. (OP25)

It is an Improvement Opportunity that the company periodically review the Emergency Response Plan to identify any changes to external risk assessments and their impact on the plant. (OP40)

Successful Practices:

It is considered a Successful Practice that the company Safety Record at Grand Prairie is 10,008 days since last Lost Time Accident; 7440 days since last Recordable Incident, as well as exceeding 1 million exposure hours on January 2018. (OP22-27)

It is considered a Successful Practice that the company has developed a Warning Ribbon Use procedure in areas of concern. Yellow tape is cautionary; red tape is danger keep out (do not cross). (OP23)

It is a Successful Practice that when a recordable incident occurs, senior management visit the affected site (within a short time), review the root cause(s) and related corrective action(s). (OP57)

Environmental Protection (OP58-75)

This area fully meets our expectations on the implementation of Responsible Care.

i. Emissions and Waste Reduction (OP59-63)

There is a comprehensive management system in place to comply with the requirements of this code area, for decommissioning, demolishing, site cleaning, up to and including reusing equipment and remediation. The facility has a range of systems in place to manage air emissions, waste, soil and legacy subsurface conditions.

In order to minimize the effects of accidental spills or emissions, the company has developed and maintains an Environmental Critical Equipment program, to serve as a list for the maintenance department as a prioritized preventative maintenance list.

ii. Handling, Treatment and Disposal of Wastes (OP64-75)

Each facility or site manages wastes and wastewater to minimize adverse environmental impact and meet or exceed applicable government requirements. Management of waste includes handling, storage, analysis or characterization of waste streams, and employee and contractor hazard communication program maintained through hazard awareness, and safety data sheets.

There is a waste management hierarchy at ERCO; source reduction/elimination, recycle, recover, convert, treatment, containment to contribute to waste reduction efforts and energy, water and materials conservation. Standards provide a process for auditing and approving waste management companies.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

It is considered a Success Practice that the company has generated an Environmental Critical Equipment list to give priority preventative maintenance to prevent releases and violations. (OP62)

Resource Conservation (OP76-80)

The company has a commitment to reduce water consumption, greenhouse gases and energy consumption. ERCO promotes resource conservation at every stage of the life cycle of their products. The management systems supporting continual improvement in reducing the footprint of its operation are in place and meet expectations for Responsible Care.

For ERCO, electrical cost is the biggest resource, and this makes energy conservation vitally important. Plants are benchmarked against each other. Measurement of carbon footprint per plant based on location emission factors per electrical production per province. Plant continuously monitors energy prices and shuts down if it exceeds a certain price.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

Promotion of Responsible Care By Name (OP81-84)

The company has done a very good job in promoting Responsible Care with its employees, contractors and in the community. The use of TRANCAER outreach opportunities to promote RC is also noted. In its review of the activities undertaken by the company the team is of the opinion that Responsible Care implementation expectations are being met.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

It is an Improvement Opportunity for the Company to share their best practices with other companies – i.e. share SP of this report to industrial neighbours. (OP84)

TEAM OBSERVATIONS CONCERNING STEWARDSHIP CODE

The Stewardship Code addresses all company raw materials, products and services and defines expectations for the care and control of same throughout their life cycle. The team is of the opinion that the company meets Responsible Care expectations for all reviewed Stewardship Code elements. There was one Finding Requiring Action in this section and the listed below Improvement Opportunities are presented for the company's consideration.

Expectations of Companies (ST85-114)

i. Research and Development (R&D) Expectations (ST85-92)

Examples during development of the conservation of raw material and energy, elimination and/or reduction and management of wastes, include elimination of mercury from membranes. Also, any raw material must meet specified impurity levels as opposed to cost savings. Where procurement has identified cost saving with suppliers that result in lower usage of raw material, trial runs on samples are carried out. Intellectual property issues must be respected; generator technology is sold but needs to be licensed.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

ii. Expectations Beyond Research and Development (R&D) (ST93-114)

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

a. Raw Materials, Products and Services Characterization and Evaluation (ST93-99)

Approved uses for the product is monitored. Process hazard analysis (PHA) is carried out at all plants on a regular schedule. Legal requirement changes trigger reviews. For terminal operations, suppliers, and contractors, a selection and evaluation process is in place.

b. Promotion of Responsible Care by Name (ST100-102)

See the previous section on this subject for more details.

c. Security (ST103)

Many facets of security are in place, including routine audits, Explosives Precursor regulation requirements, security vulnerability assessments.

d. Communication Through the Value Chain (ST104-110)

Nothing to report here.

e. Historical Hazardous Waste Practices (ST111-114)

Environmental risks are routinely reviewed, waste manifests kept, audits of waste service providers are done.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

It is an Improvement Opportunity that the Company better define “Planned Interval” on Supply Contracts. It is defined as “regular basis”. Verbally told that it is approximately 1 year prior to expiry of supply contract. Should be better defined. (ST94)

Successful Practices:

None.

Expectations of Companies with Respect to Other Parties (ST115-124)

The company has procedures for the selection and management of third-party products and services providers. Responsible Care contractual language is in place. All service providers go through the same approval/selection/auditing process. For contractors; there is an approved contractor list in place, and contractors can be terminated if not in compliance. Every supplier contract contains a requirement that they meet the supplier code of conduct and Responsible Care. In general, the team has determined that ERCO meets Responsible Care implementation expectations. There was one Finding Requiring Action in this section.

Findings Requiring Action:

It is a Finding Requiring Action to revise the current “Product Stewardship Reviews – Customers” management system element to ensure that a review of customer pipeline maintenance and inspection policies and procedures are part of the customer Responsible Care performance evaluation process (ST118-119).

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

TEAM OBSERVATIONS CONCERNING ACCOUNTABILITY CODE

The Accountability Code defines expectations for communication and dialogue with communities local to company manufacturing and distribution operations and transportation corridors, as well as other

stakeholders with an interest in company activities. The team is of the opinion that the company meets Responsible Care expectations for all reviewed Accountability Code elements. There were no Findings Requiring Action in this section and the listed below Improvement Opportunities are presented for the company's consideration.

Operating Site Communities (AC125-136)

With the exception of the following, code expectations have been implemented to meet Responsible Care expectations. The company has a clear definition of community, i.e. the direct neighbours to their facilities. Stakeholder that the company interacts with include direct neighbours and those who they would have a direct effect on, the neighbours' employees and family members, customers, suppliers, first responders, first nations. This list is maintained and updated annually.

ERCO has developed a Community Outreach procedure and the company has established an objective to ensure risk communication at each ERCO location. The Grande Prairie site has an annual Community Outreach plan. The site has a lot of activities within the community; the verification team reviewed the Grande Prairie site community outreach program. The Grand Prairie location is co-located within the IP site, with no other industries around. Beside the local activities, ERCO is actively participating in other CIAC organizations (TRANSCAER, SHARE, Leadership Group, etc.). The Company also supports a range of other community activities.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

It is an Improvement Opportunity for the Company to develop the Community Outreach Plan to link the stakeholder list and contacts (with phone numbers and email addresses) (AC125 & AC126)

Successful Practices:

None.

Other Stakeholders (AC137)

In general, the company meets Responsible Care implementation expectations for all seven sub-categories in this section.

i. Public Policy (AC138-140)

Advancement of the Responsible Care ethic with elected officials, was evident both corporately and at the site level. ERCO senior management is active at the corporate level with both Federal and Provincial governments and through various industry associations including CIAC. Site management is responsible for activity with municipal level governments, using open houses, and hosting various local association meetings.

ii. Finance (AC141-143).

Attempts are being made to get RC recognized to reduce Workers Compensation rates.

iii. Consumers (AC144)

Omitted; no direct consumer contact.

iv. Transportation Corridor (AC145)

The company is an active participant in the national, regional and local TRANSCAER committees and activities.

v. General Public (AC146)

Communication with general public via various routes, such as open houses, presence at local TRANSCAER events. Complaints are handled locally and managed depending on severity.

vi. Non-Governmental Organizations (AC147-150)

Interactions with public interest groups are identified through various means, including relevant associations, community groups, and anywhere there could be concern; they are engaged and monitored as required.

vii. Business (AC151-152)

The team has no specific information about this topic.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

APPENDICES TO CODES: SOCIAL RESPONSIBILITY

This is relatively well understood and practiced throughout ERCO. All employees are trained in business conduct and ethics. The employees at the site level participate in various charity campaigns, such as United Way.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

APPENDICES TO CODES: INVOLVEMENT IN PUBLIC POLICY PROCESS

See above under Other Stakeholders, *i. Public Policy.*

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

TEAM OBSERVATIONS ON THE COMPANY MANAGEMENT SYSTEM

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

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

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

Observations on the PLAN Step

In considering the PLAN Step of the ERCO management system, the verification team observed that staff actively seeks input from various sources, such as Responsible Care Commitments, stakeholders, business imperatives including various goals and objectives, laws and regulations, standards and benchmarks, that are then used in planning activities.

The team agrees that the PLAN part of the company's management system meets all implementation expectations for Responsible Care.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

Observations on the DO Step

During the DO Step in the management system, the company converts the decisions of the PLAN Step into action and ensures awareness and understanding by all involved. The team observed that the

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

The team agrees that the DO part of the company's management system meets all implementation expectations for Responsible Care.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

Observations on the CHECK Step

In considering the CHECK Step of the ERCO management system, the verification team observed the following: key performance indicators are routinely monitored for alignment with expectations, and actions carried out are assessed to determine if the desired outcomes and continual improvements are achieved. Regular internal and external audits are conducted to ensure compliance with regulations, standards, company policies and procedures. In addition, incidents are assessed to identify root causes, and performance measurements are conducted and reviewed.

The team agrees that the CHECK part of the company's management system meets all implementation expectations for Responsible Care.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

Observations on the ACT Step

In considering the ACT Step of the ERCO management system, the verification team observed the following: the company performs a range of activities on a routine and regular basis satisfying this part of their management system. The activities are comprehensive and tie the CHECK step with the PLAN step. The Act step is the final step of the PDCA cycle and is covered under management system review. Leaders must review their management system at defined frequencies to ensure the continuing suitability,

adequacy, and effectiveness of the overall system. It also dictates that leaders initiate and/or leverage changes and improvements.

The team agrees that the ACT part of the company's management system meets all implementation expectations for Responsible Care.

Findings Requiring Action:

None.

Works in Progress:

None.

Improvement Opportunities:

None.

Successful Practices:

None.

TEAM OBSERVATIONS ON THE RESPONSIBLE CARE ETHIC AND PRINCIPLES FOR SUSTAINABILITY

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

The verification team carefully observed the ERCO decision making processes and actions and compared and contrasted the attributes of those with the attributes of a company guided by the Responsible Care Ethic and Principles for Sustainability as discussed in the Responsible Care Commitments (Appendix E). The team is of the opinion that the Responsible Care Ethic and Principles for Sustainability are guiding company decisions and actions, and that the company aligns very well with all eight Principles for Sustainability and ERCO is encouraged to continue making progress in all areas.

The company was seen to be guided by the *Responsible Care Ethic and Principles for Sustainability* in the following aspects:

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

ERCO Worldwide is focused largely on the production and supply of in-organic products along with technology for the production of chlorine dioxide, which is a safe and effective substitute for chlorine. Used by consumers for deodorization and disinfection purposes, and by the oil and gas industry for petrochemical applications, [chlorine dioxide \(ClO₂\)](#) quickly kills a broad spectrum of organisms, purifying water and providing antibacterial properties.

BE ACCOUNTABLE AND RESPONSIVE TO THE PUBLIC, ESPECIALLY OUR LOCAL COMMUNITIES, WHO HAVE THE RIGHT TO KNOW THE RISKS AND BENEFITS OF WHAT WE DO:

ERCO is very grateful to have the privilege to operate in all its plant communities. As such, ERCO has always been closely connected to the communities in which it operates. Guided by the Responsible Care® ethic, ERCO dialogues with their communities to cover all aspects of sustainability: economic sustainment, safety, environmental protection and the well-being of the people in the communities. To ensure consistent and effective dialogue, there are formal processes to develop and maintain community relationships, so that ERCO always understand each community’s needs and can tailor the support. In other words, ERCO fits its community work to what is most important locally, while ensuring that the two-way dialogue remains open and ongoing. Recently, ERCO has developed standard risk communication brochures which outline the potential hazards and advise on what to do in an emergency scenario.

TAKE PREVENTATIVE ACTION TO PROTECT HEALTH AND THE ENVIRONMENT:

ERCO has an outstanding record of protecting its people, the communities in which it operates and the environment. As a producer of specialized inorganic chemicals, ERCO is highly aware that its manufacturing operations carry intrinsic risks, and that the consequences of an accidental release or a transportation accident could be serious to it and/or the public. Accordingly, safety and environmental

protection are of the utmost importance to ERCO – and they have been for as long as it has been in operation.

ERCO is on a journey to create a “World Class Safety Culture”, building on the existing management system to further enhance its safety performance. ERCO’s vision was to create an injury-free workplace. As part of that culture change, ERCO focused on leadership engagement and the measurement of leading indicators as critical components. The Journey to World-Class Safety is a multi-year process that we are applying at all our plants. ERCO has an excellent safety record on all levels. ERCO has a low rate of workplace injuries. ERCO’s record of expertly and safely managing railcars that move across North America has won multiple awards.

ERCO plants are designed using recognized best engineering practices to prevent a chemical leak. Systems are designed with multiple layers of protection to minimize the impact should a leak occur, and keep a release confined within the plant boundaries. Beyond plant design, ERCO maintains a centralized and comprehensive Environmental Management System based on the principles of Responsible Care®.

INNOVATE FOR SAFER PRODUCTS AND PROCESSES THAT CONSERVE RESOURCES AND PROVIDE ENHANCED VALUE:

ERCO has a strong history of innovation and a reputation for the production of safe and reliable chemicals. ERCO owns over 100 patents and has a strong research and development department which works to innovate for safer chemical management and products.

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

ERCO recognizes its responsibility to have sustained dialogue and working relationships with suppliers, customers, distributors, transporters and other parties to ensure that all of ERCO’s products and technologies are used and managed safely, in an environmentally sound, and a socially responsible manner throughout their life cycle.

UNDERSTAND AND MEET EXPECTATIONS FOR SOCIAL RESPONSIBILITY:

ERCO has very thorough governance policies under its parent company, Superior Plus, which include strict expectations for anti-corruption, human rights and HS&E. Additionally, ERCO has a long-standing history of providing support for local plant communities in need. The plants regularly support local schools, and other local institutions. As an example, the plant in Chile funds a scholarship for local, high potential students who would otherwise be financially unable to attend post-secondary education. Additionally, the Buckingham and Port Edwards plants host blood drives at their facilities, annually at a minimum. The Valdosta plant has been recognized for their support to their local community by being named “Manufacturer of the Year” by the local Chamber of Commerce in both 2006 and 2012.

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:

ERCO is an active member of the CIAC and has several representatives that participate in the various committees which work to proactively engage with government bodies. Additionally, ERCO proactively engages with local regulators to identify areas of cooperation and improvement.

PROMOTE RESPONSIBLE CARE® AND INSPIRE OTHERS TO COMMIT TO THESE PRINCIPLES:

ERCO has a policy which outlines expectations around promoting Responsible Care. A standard presentation has been developed for use when communicating to third parties on ERCO and Responsible Care. The Responsible Care logo and material is used extensively throughout the organization. It is expected by all employees to use the logo and present the ethic in all business aspects of the company activities with external contacts. There is an overall ERCC ERCO Responsible Care Committee that monitors all activities and promotes the ethic continuously throughout the organization. There is an annual review at every location by the President, and VPS of each location that includes the local employees and the local safety committees.

VERIFICATION TEAM CONCLUSION

This report documents the observations and conclusions of the independent verification team tasked with conducting a Responsible Care Verification of ERCO Worldwide (ERCO). The verification was undertaken on May 22-23 and May 30-31, 2019, at the Canadian head office and the research and development facility in Toronto, and the Grande Prairie, Alberta site. This was the eighth Responsible Care verification completed for the corporation.

During the verification of ERCO, the verification team looked for evidence that the company was addressing the expectations documented in the Responsible Care Commitments (152 code elements plus 28 benchmark and collective expectations). The team considered all aspects of the Responsible Care Commitments during the verification.

As a result of the examination conducted, and in consideration of the observations communicated within this report, the verification team is of the opinion that the Responsible Care Ethic and Principles for Sustainability are guiding company decisions and actions, and that a self-healing management system is in place to drive continual improvement. The team believes that the company is capable of responding to the range of Findings Requiring Action and Improvement Opportunities, identified during the verification, as summarized in the Executive Summary and discussed in detail in the report. The verification is completed, and no further involvement is required by the verification team.

APPENDIX 1: COMPANY RESPONSE TO VERIFICATION REPORT

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

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

We will give consideration to the Work in Progress and Improvement Opportunities identified by verification team and will assist the CIAC in communicating and sharing the identified Successful Practices to other CIAC members.

Emily Fattore
Director, Environmental Affairs
ERCO Worldwide, October 6, 2019

APPENDIX 2: INTERVIEW LISTS

A: Company Personnel Contacted During Verification Process

NAME	POSITION	LOCATION
Ed Bechberger	President	Toronto, ON
John Christie	VP, Operations	Toronto, ON
Geoff Bertin	Director, Manufacturing	Toronto, ON
Joe Caponio	Manager, Transportation	Toronto, ON
John Birks	Manager, Engineering	Toronto, ON
Gary Gallagher	Director, Engineering	Toronto, ON
Don Smiegielski	Director, Health & Safety	Toronto, ON
Chris Cowan	VP, Human Resources	Toronto, ON
Richard McLellan	VP, Finance	Toronto, ON
Emily Fattore	Director, Environmental Affairs	Toronto, ON
Nera Narang	Manager, Customer Service	Toronto, ON
Rob Michalowicz	Senior PSM Specialist	Toronto, ON
Keyur Mehta	Manager, Process Safety	Toronto, ON
Tomek Dluzniewski	Manager, R&D	Toronto, ON
Sarah Khayoon	Safety & Environmental Specialist	Toronto, ON
Prashant Rajurkar	Manager, Environmental Affairs	Toronto, ON
Albert Wong	Senior Procurement Manager Energy	Toronto, ON
Ralph Hanson	Plant Manager	Grande Prairie, AB
Carlos Salomo	Maintenance Manager	Grande Prairie, AB
Karin Slater	Environmental Manager	Grande Prairie, AB
Lisa Burletoff	Commercial Manager	Grande Prairie, AB
Mark Maharaj	Production Manager	Grande Prairie, AB
Robin Ramberg	Safety Manager	Grande Prairie, AB



Responsible Care[®]
Our commitment to sustainability.

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