



RESPONSIBLE CARE[®] Verification Report

NorFalco Sales

December 5 - 6, 2017



Chemistry Industry
Association of Canada



Responsible Care[®]
Our commitment to sustainability.

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EXECUTIVE SUMMARY

This report documents the observations and conclusions of the independent verification team tasked with conducting a Responsible Care Verification of NorFalco Sales. The verification was undertaken on December 5 and 6, 2017 and included team visits to Corporate Office 100 King Street West, Toronto. The verification team also conducted interviews with other company personnel and external stakeholders at locations the team was unable to visit. These included 3rd party terminals in Calmar, Alberta and Savannah, Georgia. This was the seventh Responsible Care verification completed for NorFalco Sales. The last verification was completed on November 19 and 20, 2013.

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:

- Transportation specifically for marine
- Transportation specifically for rail
- Expectation of Companies with respect to Other Parties

NorFalco is a Glencore Company and a marketer and distributor of Sulphuric Acid predominantly for the North American market. Business functions are carried out through direct rail shipments, a third-party distribution network of rail/truck transloading facilities and ship/barge vessel carriers. Responsible Care functions are administered by the Technical Risk Management Group (TRMG) who have a cross section of expertise in logistics, safety, customer service, transportation technology, quality and marketing. With 27 employees, NorFalco is one of the largest merchant marketers of sulphuric acid in North America, selling and distributing about 2 million tons per year. NorFalco's team approach is an excellent business model for Responsible Care.

The verification team chose marine transportation, rail transportation and oversight of third party terminals as its major focus areas. Marine transportation was chosen because the company has commenced a new business of importing sulphuric acid into two third party marine terminals in Savannah, GA and Houston, TX in addition to the outbound shipments from the Houston and Savannah marine terminals. As most new business ventures are on a learning curve, the verification team felt that a deep dive into this area may be timely and add value for the company. In addition, the verification team looked more closely into the company rail transportation management system. More details about the team's observations and comments are found below in the summary of the verification team observations and the body of the report.

As a result of the examination conducted, the verification team

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

Signed:



Kristina Lee
Verification Team Leader

Date: December 11, 2017

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:

Dan Orasanin
Technical Services and Risk Management
Mobile: (416) 559-8474
e-mail: dan.orasanin@glencore.ca

SUMMARY OF VERIFICATION TEAM OBSERVATIONS

Findings Requiring Action

There were no Findings.

Works in Progress (WIP)

1. Under the NorFalco Marine Risk Management Guidelines 4.0 revise and document inbound marine transloading at the 2 marine terminals which will clearly include: (page 12)

a) what the company can control

b) what the company needs to know if it cannot control e.g. changes in corporate vetting process of vessels

2. Under the NorFalco Marine Risk Management Guidelines 4.0 revise and document the Plan, Do, Check, Act, section of the management system for outbound vessel traffic to clearly include:

a) what the company can control

b) what the company needs to know if it cannot control e.g. changes in terminal handling of the vessels (the barge transportation is covered in #3.) (page 12)

3. Under the NorFalco Marine Risk Management Guidelines 4.0 for barge transportation initiate a management system approach of Plan, Do, Check, Act, including but not limited to, ERP procedures with similar requirements as other primary carriers. (page 13)

Improvement Opportunities (IO)

1. To evaluate the value of the CIAC rail carrier assessment tool for short line and, if there is value, to investigate alternate strategies for successful gathering of information for those which are included under Class 1 and for those which are excluded from Class 1 rate plan. (page 8)

2. There is an opportunity for improvement to revise NorFalco's management system (Plan, Do, Check, Act) to include documented confirmation that terminals and transloading sites complete annual testing exercises of their ER plans (either table top; functional or full-scale exercises). (ST118) (IO-2) (page 9)

Successful Practices (SP)

1. Addition of Anti-bribery and Anti-corruption clauses into the rail carrier agreement is a successful practice. (page 11)

2. Based on a variety of supporting evidence (4), the verification team considers the team approach and the expertise within, to promote innovation of new railcar equipment, to be a successful practice. (page 15)

3. The achievement of AAR Grand Slam Award (2015) is a successful practice. The recipient of this award must have been recognized by at least four Class I railroads and have had zero non-accident releases (NARs) involving their shipments the previous calendar year. (page 15)

1. INTRODUCTION

1.1 About Responsible Care Verification

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

The Responsible Care® Ethic and Principles for Sustainability

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

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

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

As an element of this commitment to Responsible Care, NorFalco 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). NorFalco is also expected to share the report with interested persons in its communities and other stakeholders as part of its ongoing dialogue processes.

Additional information on Responsible Care and / or the verification process can be found at the CIAC website www.canadianchemistry.ca, or by contacting CIAC Responsible Care Manager at glaurin@canadianchemistry.ca or (613) 227-6215 extension 233.

1.2 About NorFalco Sales

NorFalco Sales (NorFalco) is a subsidiary of Glencore Canada and is headquartered 100 King Street West in Toronto, ON. NorFalco LLC (also will be referenced as NorFalco) is the US legal entity and is headquartered in Stamford CT. NorFalco Sales and NorFalco LLC in effect function as a single entity from a day to day operating perspective.

NorFalco's primary business is the marketing and distribution of Sulphuric Acid. Sulphuric Acid is sourced from the four Canadian metal refining smelters of Glencore and CEZinc, and from Glencore's global supply chain network. The bulk of the Sulphuric Acid storage capacity is located at Glencore smelter sites from where it is shipped to transload terminals and customers in North America. NorFalco Sulphuric Acid is also imported, stored and distributed from leased import terminals in Savannah, GA and Houston TX to customers in North America.

NorFalco currently employs approximately 27 employees in Canada and the US. Employees are situated in the following departments: Management, Technical Services & Risk Management, Sales and Marketing, Logistics & Procurement, Supply Chain, Quality, and Traffic.

NorFalco also utilizes shared services from its parent company Glencore (Canada & US). Glencore shared services include the following departments: Accounting, Credit, Treasury, Human Resources, Contracting and Legal.

NorFalco has no physical assets but leases or enters into contracts with third parties to carry out the necessary services to store, transload and distribute Sulphuric Acid (93, 96 & 98% strength) to approximately 150 customers across Canada and the USA. NorFalco has a dedicated fleet of leased rail cars, contracts with primary and secondary carriers, and several terminal or railcar transloading contracts in Canada and the USA. More than 30K truck and rail loads of Sulphuric Acids are handled annually. The company leases a dedicated tank car fleet of more than 2200 rail cars that are built with a more resistant steel and thicker shell than what the regulations specify (9/16 inch thick, instead of ½ inch min). NorFalco's Technical Services group continually works with rail car and other equipment/part (e.g. gasket) manufacturing companies to ensure the leased rail car fleet meets or exceeds regulatory safety standards in Canada and the US.

NorFalco has contracts with terminal transloading facilities in approximately 15 locations. The terminal transloading sites are located near major customers. These sites are responsible for unloading railcars and loading tank trucks (i.e. transloading) for distribution to customer sites that do not have direct rail capability.

NorFalco has relationships with approximately 40 plus road carriers. Of these, 12 are primary carriers, and the remaining are secondary carriers used as needed. NorFalco exports Sulphuric Acid via marine vessels from Valleyfield, QC and Belledune, NB operations and imports Sulphuric Acid from Glencore's global supply chain and trading networks to Savannah, GA and Houston, TX. Both of these import terminals are capable of shipping sulphuric acid by barge, truck and rail car to local customers.

Two exclusions are noted in the report.

Since the company has no physical assets and no manufacturing facilities, including tolling operations, it was deemed by CIAC and the verification team that community representation, usually a requirement for verifications, was not applicable. As well, as there are no employees under NorFalco who perform activities under the Operations Code such as handling of Sulphuric Acid or other chemicals, a meeting with the Joint Health and Safety Committee is not required under the Occupational Health and Safety Act. The corporate office Joint Health and Safety Committee, the responsibility of its parent company Glencore, provides the functions required under the Occupational Health and Safety Act for all workers in the building.

More information about the company can be found at <http://www.norfalco.com/en/Pages/home.aspx>

1.3 About This Verification

The verification of NorFalco Sales was conducted on November 7, 2017 and December 5 and 6, 2017 and included team visits to Corporate Office at 100 King Street West, Suite 6900, Toronto. The verification team also conducted interviews with other company personnel and external stakeholders at Calmar, Alberta and Savannah, GA, transloading terminals via phone conferencing. 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 seventh verification exercise completed for NorFalco Sales. The last verification was completed on November 20, 2013

The verification team was comprised of the following individuals.

Name	Affiliation	Representing
Kris Lee	CIAC	<i>Team Leader, Public-At-Large Verifier</i>
Andre Denis	CIAC	<i>Industry verifier</i>
Excluded(Not applicable)	See Report for explanation	<i>Community Representative</i>

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

During the verification of NorFalco, the verification team looked for evidence that the company was addressing the expectations documented in the Responsible Care Commitments. While there is a total of 152 code elements plus 28 benchmark and collective expectations, the team determined that some code elements did not apply. Please see below the list of applicable areas and the functions which were determined by the team to be excluded. While considering all applicable aspects of the Responsible Care Commitments, the team placed an emphasis on conducting a more in-depth examination of marine terminal and railcar operations and expectations of companies with respect to other parties. The list below summarizes the focus areas.

Focus Areas

Transportation and Physical Distribution
(Marine terminals and new construction)
Incident Reporting and Investigation
Expectations of Companies with Respect to Other Parties
Communication through the Value Chain
Promotion of Responsible Care by Name
Expectations Beyond R&D
Transportation Corridor

Functions Not Applicable

Operations Activity for Manufacturing Sites
Process Safety Management
Environmental Protection for Manufacturing
Handling, Treatment, Disposal of Waste
R&D Expectations
Historical Hazardous Waste Practices
Operating Site Communities (direct influence)

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

1. **Findings Requiring Action;** document instances where the verification team observes specific company actions (or the absence of company actions) which are inconsistent with the detailed codes and benchmark and collective expectations contained in the Responsible Care Commitments. Where possible, the team will communicate, based on their experience and judgment, why it is inconsistent and how the observation relates back to a possible gap in the expected management system and / or the ethic and principles underpinning company actions. The team may also provide advice on how the situation might be responded to.
2. **Works in Progress;** document instances where the team has observed the company self-initiating actions in response to identified gaps and deficiency arising from other internal or external audit and review activities, or where the company has self-initiated important improvement opportunities.
3. **Successful Practices;** document instances where the team believes the company has taken actions that strongly support sustained excellence in performance, and which should be communicated throughout the CIAC membership.
4. **Improvement opportunities;** identify instances where the team has observed company actions and decision making as being largely consistent with the expectations detailed in the Responsible Care Commitments, but for which the team is of the opinion that the company could support further improvement by considering alternate or additional benchmarks when undertaking its planning and decision making.

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

2.1 Team Observations Concerning Operations Code

2.1.1 Design and Construction of Facilities and Equipment

The company does not own or operate any facilities. All functions are carried through leasing and other contractual agreements. It is important to note, that under the ethic of Responsible Care, NorFalco extended the intent of this section for some aspects in best practice technologies during the construction of its a newly built third party marine terminal in Savannah, GA.

For example, the inventory tanks at the Savannah terminal were "purpose built" according to National Association of Corrosion Engineers (NACE) standard. During the interview with the terminal staff, the verification team reviewed examples of best practices used in the construction, maintenance and operation of this terminal.

2.1.2 Operations Activities

Transportation (logistics), physical distribution (supply chain) and customer service are the primary functions of NorFalco operations. Responsibility for the product begins at one of the company's smelters in Canada or at the marine terminals. From these locations, the product is distributed through comprehensive supply chain of rail, and/or transloading stations to customers via tank truck, or marine, across North America.

At the time of the verification, the company operated 15 rail to truck transfer facilities and 2 inbound ocean vessel marine terminals. In addition, ocean vessel outbound marine terminals are located in Canada.

The ocean vessel charter process is controlled by Glencore, in Baar, Switzerland. All other vetting for outbound barge, truck and rail carriers are vetted through and under control of NorFalco. Once the product is ready to be distributed from the marine terminal or production facilities, it is tracked to the final destination. The team noted two areas where gaps exist for inbound and outbound transloading operations. Section 3.1 of the report outlines the two areas.

Majority of the product for rail travels via Class 1 rail. However, there are instances where customer locations require shortline railways to be involved. In most cases, NorFalco's first step is to try and have included under Class 1 rate (where Class 1 manages the relationship, rates, and administration thereof with the shortline). Immediately after the Lac Megantic incident, Class 1 rail carriers began inserting the shortlines into the routing. As NorFalco's product is not considered the same level of hazard from a dangerous commodity perspective, Class 1 have been agreeable in most cases to once again have shortlines covered under their freight rate for business, although at current time, NorFalco does continue to have a mixture of those which are covered and those which are not.

The verification team challenges NorFalco to assess whether or not there is value added for the company to receive the CIAC rail carrier evaluation forms from both those which are and those which are not covered by Class 1 rate plan. Many CIAC member companies face the same challenge with respect to short line carriers. The next verification team may wish to request the company to explain how this issue has been resolved.

There is an opportunity for improvement to evaluate the value of the CIAC rail carrier assessment tool for short line and, if there is value, to investigate alternate strategies for successful gathering of information for those which are included under Class 1 and for those which are excluded from Class 1 rate plan. (ST115, 116, 118, 119) (IO-1)

2.1.3 Safety and Security

The oversight for its third-party terminals and transloading facilities is covered under Terminal and Carrier Self-Assessment Form for new sites followed by site visits, annual reviews/visits and third-party audits on a three-year frequency. The company fulfills the Responsible Care commitment for this section.

Emergency Management

The oversight for third party terminals, transloading facilities, truck and marine carriers is covered under the company *Risk Management Manual*. The verification team reviewed "*Emergency Planning and Communication Requirements for all Terminals*" in *NorFalco Risk Management Manual 8.0* and "*Emergency Response Plans*" under Section 4.0 *Marine Transportation Risk Management Policy*.

In addition, components of emergency management are included in the Terminal and Carrier Self-Assessment Form for new sites followed by site visits, annual reviews/visits and third party audits on a three year frequency.

The verification team interviewed staff at Colonial Terminal Inc. in Savannah, GA about their emergency plans and exercises. An annual table top exercise is conducted using an Incident Command System (ICS) standardized approach. In addition, government initiated unannounced exercises (GIUE) have been conducted for the Savannah site.

Calmar, Alberta transloading site performs evacuation drills and an annual table top exercise, including internal simulations of fire and spills. An external contractor is used for spill response and containment.

Upon review of the documents listed above including Section 22.4 of a terminal agreement, there is a gap in the "field testing" requirement of the Emergency Management plan. As CIAC OP40 requires companies with fixed facilities to "field test" on a regular basis and under ST118 there is additional supporting language, it is reasonable to expect NorFalco to close the loop under PDCA for terminals and transloading facilities where warranted by the level of risk.

There is an opportunity for improvement to revise NorFalco's management system (Plan, Do, Check, Act) to include documented confirmation that terminals and transloading sites complete annual testing exercises of their ER plans (either table top; functional or full-scale exercises). (ST118) (IO-2)

The verification team reviewed the *Marine Transportation Risk Management Policy 4.0* with respect to the barge transportation procedures. There is a gap in several sections of the management system for this particular section of the Policy. See below, Section 3.2 of the report *Management System Observations on the DO Step* for details.

Incident Reporting and Investigation

NorFalco requires notification of any incident including those with no damage to property or equipment e.g. wheel off a track. All incidents are documented and investigated for root cause. For minor acid spills within facility fence line, a site ER plan is activated, handled by the facility with notification to NorFalco. If requested NorFalco will provide on-site assistance to a terminal or customer through a third-party ER contractor and/or NorFalco tech rep and/or Glencore plant ER personnel when necessary. The team reviewed 2016 Incident Reporting Matrix. The company fulfills the Responsible Care requirements for this section.

2.1.4 Environmental Protection

Not applicable.

2.1.5 Resource Conservation

During terminal and transloading facility visits and annual reviews, there is often discussion about energy conservation practices, for example, no truck idling policy. Although the company sees no direct benefit to collect this type of information from its third parties, it could possibly be of interest during the Request for Proposal decision process if all other metrics are equal.

2.1.6 Promotion of Responsible Care by Name

The verification team interviewed staff at the corporate office. All staff were aware of Responsible Care and how it enhances the company. All were trained through orientation and online training programs. Staff who were newly employed were aware of the next orientation session that they were required to attend.

It is worth noting that one of the staff members interviewed had been with NorFalco for several decades when it was known as Noranda to now NorFalco. In spite of all the changes and restructuring through the decades, Responsible Care was always a priority and the common thread.

2.2 Team Observations Concerning Stewardship Code

2.2.1 Expectations of Companies

NorFalco has a comprehensive risk characterization program for Sulphuric Acid supervised by a team of technical experts who provide customer support/training by site visits, webinars, complimentary handbook and through presentations and workshops.

2.2.2 Expectations with Respect to Other Parties

For terminals, transloading facilities and carriers refer to Emergency Management in the report under 2.1.3. The verification team reviewed *Risk Management Guideline Section 8.7 - Terminal Self-Assessment – Community Outreach and Emergency Response*. As well the company uses the annual reviews, visits, external third-party audits and the self-assessment tools to meet the Stewardship Code. There are two Works in Progress related to this subsection which more appropriately fall under the broader Management System Section 3.1 of this report.

2.3 Team Observations Concerning Accountability Code

2.3.1 Operating Site Communities

Not applicable.

2.3.2 Other Stakeholders

NorFalco participates with other industry organizations such as The Fertilizer Institute, The Sulphur Institute, CIAC Leadership Group, CTPAT, MACTDG and TransCAER. Within these organizations there are working groups, most recently with The Sulphur Institute working group engaged in the development of “*TSI-FRA Sulphuric Acid loading and unloading study*”, to be published as a Sulphuric Acid best practice guideline and will be available for reference/downloading from the US DOT website to interested government, industry & other stakeholders.

3. TEAM OBSERVATIONS ON THE COMPANY MANAGEMENT SYSTEM

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

The verification team studied NorFalco Sales management system(s) and compared and contrasted the attributes of that system(s) to those of a self-healing overall management system as discussed in the CIAC Management System Guide.

NorFalco operates under the global Glencore Corporate Practice (GCP) governance framework that encompasses Values, Codes of Conduct and corporate and operational practices. NorFalco Sales, a subsidiary of Glencore Canada, responsible for the transportation, distribution and storage of Sulphuric acid through 3rd party contracts, incorporates the Risk Management Manual as its Responsible Care Management System. It considers itself a "flat organization", meaning that challenges and decisions are conducted collaboratively by a team of technical, marketing and business experts with skills that complement all aspects of the operations. If the company discovers that there is a gap in the skills/expertise, it will invite the appropriate personnel to the team, as was evidenced during the verification visit.

As NorFalco does not have direct control over its third-party terminals or carriers, it relies on contractual language and internal risk management guidelines (of plan, do, check, act) to fulfill both its North American legal requirements, its due diligence obligations and voluntary Responsible Care commitments. Therefore, the verification team reviewed some examples of agreements to verify that the ethic of Responsible Care was included in an overarching program. Anti-bribery and Anti-corruption language was added to the terminal agreements as noted in the previous verification report. The verification team was pleased that NorFalco extended the language into its rail carrier agreement.

Addition of Anti-bribery and Anti-corruption clauses into the rail carrier agreement is a successful practice. (ST115) (SP1)

The verification team's related observations to the company management system(s) are as follows:

3.1 Observations on the PLAN Step

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

The NorFalco Risk Management Manual is comprehensive covering areas such as all transportation modes, upstream and downstream value chains, various types of emergency responses and incident investigation. The company has conducted a cross referencing chart of all applicable CIAC code elements against the subsections of the Risk Management Manual.

The team is of the opinion that the company's Plan Step(s) is consistent with the considerations discussed in the CIAC *Management System Guide* as evidence by six principles (listed below) under the Glencore Policies, Principles & Guidelines for Sustainable Development, Ethics, Codes of Practice, Business Principles, Safe Work. Each of the following sections has an internal Plan, Do, Check, Act component demonstrating the ethic of Responsible Care.

- Reliability: Global multimodal distribution network.
- Market Intelligence: with a diversified customer base throughout North America
- Technical Services: which focuses on training and individual customer support
- Safe Work: which includes a team of specialists in tank car design recognized by industry peers
- Quality: which focuses advanced technologies and protective systems throughout supply chain
- Sustainability: a cradle to grave philosophy

Section 22.4 of a terminal agreement notes that emergency plans are required to be field tested. Under CIAC *Expectations of Companies with Respect to Other Parties* (ST116) there is an expectation to oversee risk management as if the company was "performing the activity itself". The verification team did not find evidence that the company conducts field testing activities and reviews their effectiveness on a prescribed frequency. Refer to Emergency Management 2.1.3 as an Improvement Opportunity.

Responsible Care Commitments

Paul Shaw as the signing officer for the CIAC annual recommitment is involved in the Annual Planning and Technical Team meetings as well as business goals and targets. Quarterly meetings of team leaders long term and short-term goals. Weekly Technical Conference Calls oversee day to day operations. As the company has a small workforce of 27 employees, there is overlap in extensive information sharing and expertise. The team

reviewed August 17, 2017 Technical Services & Risk Management Team Meeting Minutes and found them to be very comprehensive and detailed in business changes, safety, incident reporting, customer support and education.

There is a Work in Progress (ST116, 118. 119) (WIP 1 and 2)

1 Under the NorFalco Marine Risk Management Guideline 4.0 revise and document inbound marine transloading at the 2 marine terminals which will clearly include:

a) what the company can control

b) what the company needs to know if it cannot control; e.g. changes in corporate vetting process of vessels

2. Under the NorFalco Marine Risk Management Guideline 4.0 revise and document the Plan, Do, Check, Act, section of the management system for outbound vessel traffic to clearly include:

a) what the company can control

b) what the company needs to know if it cannot control e.g. changes in terminal handling of the barge

3.2 Observations on the DO Step

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

In considering the DO Step of NorFalco's management system, the team observed the following:

- Customer/Carrier and Terminal visits and support
- Safety Seminars free of charge to customers and business partners for safe handling and emergency response training
- On-line Training

The verification team reviewed the *Marine Transportation Risk Management Guidelines 4.0*. Although it states that a vessel or barge operator emergency response plan must be submitted for review, it does not detail expectations of the plan e.g. simulations (DO) or audits (CHECK). The barge should be considered at the same level of oversight as other primary carriers.

Work in Progress

Under the NorFalco Marine Risk Management Guidelines 4.0 for barge transportation initiate a management system approach of Plan, Do, Check, Act, including but not limited to, ERP procedures with similar requirements as other primary carriers. (ST116, 118) (WIP3)

3.3 Observations on the CHECK Step

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

In considering the Check Step of NorFalco's management system, the team observed the following: NorFalco has a team of technical experts who are assigned to each terminal and transloading site to visit, review and audit their operations on a prescribed frequency. These results are summarized and discussed at technical team meetings and through the Annual Risk management review.

3.4 Observations on the ACT Step

During the ACT Step in the management system, the company translates the results of the CHECK Step into corrective actions for improvement. This includes revisiting the PLAN Step to decide whether changes are needed to the company's stated goals or action plans, policies and procedures for achieving those goals.

Considerations when examining the ACT Step include whether and how: audit and review findings are responded to; performance is communicated internally and externally; employee and contractor performance is rewarded or corrected, etc.

In considering the Act Step of NorFalco management system, the verification team observed the following: NorFalco relies on its partners, customers and peers for input and validation. For example, the company was faced with challenges at the startup of the Colonial, Savannah, GA marine terminal. The parties agreed to amend the appropriate procedures. According to the terminal, the resulting changes were fair and equitable.

The Incident Reporting Matrix tracks the root cause, assigned responsibility and close out.

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

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

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

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

Through its product stewardship commitments, NorFalco strives to improve the risk management of Sulphuric Acid throughout its entire life cycle to continually work towards reducing and where possible eliminate associated hazards. Its mandate is to transfer product knowledge and stewardship for a product which has universal applications.

2. 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;

Although NorFalco has no physical assets and as such no local communities, it does reach out and invite local first responders to attend the regional safety seminars. Carrier and terminal partners are requested to describe their community outreach activities and how they engage local public and emergency responders in areas where they are located. The company participates in Ontario and Quebec TransCAER committees.

3. Take preventative action to protect health and the environment;

Through its parent company Glencore, NorFalco markets and distributes a product that would normally be harmful to the environment. To take preventative action in the distribution and marketing, training to customers, carriers and terminals includes a review of Sulphuric Acid hazards, risk management practices, emergency response, safe loading and unloading of railcars and trucks, spill cleanup procedures, selection of material of construction, best cleaning & maintenance practices for storage tank and piping, etc.

4. Innovate for safer products and processes that conserve resources and provide enhanced value;

Partnership with railcar leasing/manufacturing companies and other related railcar equipment & parts suppliers continually improves the design of Sulphuric Acid rail cars and associated equipment; such as gaskets, fittings, torqueing values, regulatory compliance, and other related items.

The Technical Services and Risk Management team appears to be the driving force behind innovation of safer products and processes. The verification team observed many examples of this innovation.

- i. Although the education pipe cap has been used for about ten years, it was developed through innovation as part of a long-term investment for predictive and preventative maintenance.
- ii. As one of the largest suppliers of Sulphuric Acid shipped by railcar in North America, NorFalco continues as one of the safest shippers of Major Hazmat Commodities over the last 14 years.
- iii. It received Five Rail Carrier Safe Shipping Awards in 2015 (CN, CP, NS, UP, CSX),
- iv. During the verification interview with a terminal, the staff stated that it considers NorFalco "better than any other" Sulphuric Acid distributor.

1. Based on a variety of supporting evidence (listed above), the verification team considers the team approach and the expertise within to promote innovation of new railcar equipment to be a successful practice. (SP2)

2. The achievement of AAR Grand Slam award is a successful practice. The recipient of this award must have been recognized by at least four Class I railroads and have had zero non-accident releases (NARs) involving their shipments the previous calendar year. (SP3)

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

NorFalco is a Customs Trade Partnership Against Terrorism (CTPAT) registered partner. The First Order Form (FOF) process is a system to ensure customers and partners fulfill basic criteria. Follow up with customers, carriers & terminal technical reviews/visits and annual reviews including with Glencore smelter acid manufacturing plants ensure that the company complies with the Ethic of Responsible Care.

6. Understand and meet expectations for social responsibility;

NorFalco supports and has adopted where applicable, Glencore's sustainability commitments which under the ethic of Responsible Care includes:

We will be a recognized industry leader in product stewardship and the safe and environmentally sound distribution of Sulfuric Acid.

This leadership will work with and support the sulfuric acid business and provide a key benefit to our parent company, customers and other stakeholders.

7. 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;

NorFalco is part of a The Sulphur Institute Sulphuric Acid working group. As one of the select companies within the working group it is engaged in the development of a “TSI-FRA Sulphuric Acid loading and unloading study”, to be published as a Sulphuric Acid best practice guideline and will be available for reference/downloading from the US DOT website to interested government, industry & other stakeholders. Annual regional safety seminars for customers, carriers, terminals and local stakeholders held in different parts of North America is very popular.

8. Promote awareness of Responsible Care, and inspire others to commit to these principles.

A Responsible Care section describing the ethic and expectations is part of NorFalco RFP (Request for Proposal) documents, which are submitted to road & rail carriers and terminals to gain NorFalco’s business.

Responsible Care is included in the presentation slides that are reviewed at regional safety seminars that are attended by NorFalco customers, road & rail carriers, terminal operators, emergency responders and other select attendees.

Responsible Care expectations are included in self-assessment documents that are submitted to carrier and terminal operators to complete.

5. VERIFICATION TEAM CONCLUSION

As a result of the examination conducted, and in consideration of the observations communicated within this report, the verification team;

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

COMPANY RESPONSE TO VERIFICATION TEAM REPORT

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

We thank the verification team for conducting a thorough review of our processes; for providing recommendations for continuous improvement; and for preparing the report very promptly following the verification visit. We are pleased with the outcome of this verification and appreciate many positive comments the verification team shared with NorFalco personnel. We further appreciate that the Reverification Team identifying three successful practices NorFalco as being aligned with the ethic of Responsible Care.

NorFalco 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.

We will give consideration to the “Works 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. Our progress in implementing those plans will be discussed when preparing our Annual Statement of Re-Commitment to Responsible Care, and communicated to the verification team at the time of our next verification.

Tom Hobbs
Sr. Vice President
NorFalco
12-27-2017

INTERVIEW LISTS

A: Company Personnel

Name	Position	Location
Brendan Wallage	Operations Mgr.	Toronto ON
Jocelyn Arcouette	Technical Services Team Lead	Cleveland OH
Tom Hobbs	Sr. Vice President	Cleveland OH
Kunal Sinha	CEO	Stamford CT
Marie-France Rollin	Technical Services	Montreal QC
Elisa Willson	Logistics	Toronto ON
Rhys Vigna	Sales	Toronto ON
Dan Orasanin	Technical Services & Responsible Care Coordinator	Toronto ON

B: External Stakeholders

Name	Company / Organization	Position	Location
Kurt Toszak	Liquids Transloading	Site Manager	Calmar AB
Richard Hankinson	Liquids Transloading	Safety Manager	Calmar AB
Staff representative	Colonial Terminals	Manager, Liquid Operations	Savannah GA



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