

## **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<sup>®</sup> commitments. The material in this report reflects the team's best judgment in light of the information available to it at the time of preparation. It is the responsibility of the CIAC member-company that is the subject of this report to interpret and act on the report's findings and recommendations as it sees fit. Any use which a third party makes of this document, or any reliance on the document or decisions made based upon it, are the responsibility of such third parties. Although CIAC members are expected to share the results of this guidance document with interested parties, the Association, its member-companies, their employees, consultants and other participants involved in preparing the document accept no responsibility whatsoever for damages, if any, suffered by a third party as a result of decisions made or actions based on this report.

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# **EXECUTIVE SUMMARY**

This report documents the observations and conclusions of the CIAC independent verification team tasked with conducting a Responsible Care Verification of Methanex Corporation. The verification commenced with a planning meeting team visit to their Corporate Headquarters in Vancouver, British Columbia, on September  $9^{th}$  and  $10^{th}$ , 2014. Verification visits subsequently took place as follows:

- Vancouver, British Columbia Corporate Headquarters on October 14<sup>th</sup> and 15<sup>th</sup>, 2014
- Medicine Hat, Alberta plant site on October 16<sup>th</sup> and 17<sup>th</sup>, 2014
- Asia Pacific Regional Marketing & Logistics offices in Hong Kong, China, on October 30<sup>th</sup> and 31<sup>st</sup>, 2014
- New Plymouth, New Zealand plant sites from November 1<sup>st</sup> to 4<sup>th</sup>, 2014
- Punta Arenas. Chile plant site from November 10<sup>th</sup> to 12<sup>th</sup>, 2014
- Cairo, Egypt Regional office and Damietta, Egypt plant site from February 1<sup>st</sup> to 5<sup>th</sup>, 2015

This was the sixth CIAC Responsible Care verification completed for Methanex. The last verification was completed on December 14<sup>th</sup>, 2011.

Documented in the body of this report by the independent verification team tasked with conducting the verification of Methanex Corporation, are observations and conclusions applicable globally to Methanex. Specifics for each of the locations visited not addressed in the main report are attached as follows: Appendix A – Medicine Hat, Appendix B – New Plymouth, Appendix C – Punta Arenas and Appendix D – Cairo & Damietta, Egypt

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:

Operations Code:

- Section 3 Operations Activities, sub sections i General Considerations, iii Transportation & Physical Distribution and iv - Maintenance
- Section 4 Safety & Security, sub sections i Occupational Health & Safety, ii Process Safety Management, iii – Emergency Management and iv – Malicious Intent
- Section 5 Environmental Protection, sub section I Emissions & Waste Reduction

## Stewardship Code

- Section 2 Expectations of Companies sub section ii Expectations Beyond R&D
- Section 3 Expectations of Companies with Respect to Other Parties

#### Accountability Code

- Section 2 Operating Site Communities
- Section 3 Other Stakeholders, sub sections I Public Policy and iv Transportation Corridor

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 Findings Requiring Action identified during the verification - summarized below and discussed in detail in the report. The verification is complete and no further involvement is required by the verification team.

Signed:

Alec Robertson

Verification Team Leader

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

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Date: March 24, 2015

## SUMMARY OF VERIFICATION TEAM OBSERVATIONS

## **Findings Requiring Action**

- 1. It is a finding requiring action that Methanex perform a comprehensive review of industrial hygiene monitoring strategies and embryo fetus protection programs in place at all production sites with the objective of having a global standard to ensure that strategies and programs at all sites are based on best Methanex and industry practices. (Ref OP's 26 & 27)
- 2. Establish a formal policy for variances to corporate expectations. This is a repeat item from the 2011 verification.

## **Works in Progress**

- 1. Complete updating of the Methanex Project Standards (MPS) to reflect CIAC's updated Responsible Care code expectations as well as the company's recent experiences in restarting mothballed and starting new facilities. This system should include periodic reviews during project implementation to ensure progress as planned in all areas (Ref. OP 2).
- 2. Methanex is encouraged to provide continued support to the development of their critical infrastructure project until fully implemented.
- 3. Complete the process for identifying the people skills development needs for Corporate Global Technical Experts.
- 4. Continue through completion the transportation route risk assessments for motor carrier routes from all producing locations and implement a process for assessing any newly proposed routes prior to their use. (Ref OP 14)
- 5. Methanex is encouraged to continue expediting the upgrading of their corporate wide methanol railcar fleet when the upgraded Transport Canada railcar regulations, and their equivalent in other applicable jurisdictions, are finalized.
- 6. Complete the Human Factors behavior based safety program implementation at Punta Arenas in 2015 as currently planned and develop a program implementation plan for the Damietta site.
- 7. Finalize the corporate crisis communication plan currently being updated and implement a periodic simulation drill process in 2015 as currently planned.
- 8. Complete the corporate Emergency Response Policy which identifies minimum expectations for site emergency response plans during the first quarter of 2015 as currently planned. Note- This is a repeat item from the previous verification report which documented this expectation in more detail.
- 9. Finalize the Global Transportation Emergency Response Standard based on the Canadian Prairies Regional model currently being developed and implement at all Methanex sites. (Ref OP 41-47)
- 10. Include the input from the accident scene information gathering opportunity detailed in section 2.1.3 of the New Zealand section (Appendix B) of this report in finalizing the corporate Accident/Incident Investigation Standard and investigation tools document currently being developed.
- 11. Methanex is encouraged to continue supporting the Iceland "Green Methanol" project group's usage of CIAC's Responsible Care codes and Management Systems as the basis for their policies, procedures and management systems currently being developed.
- 12. Continue implementation of the Global Distributor standard until fully in place for all Marketing and Logistics regions. The management system needs to include expectations regarding motor carrier selection/route risk assessments (Ref ST 116-117) and a process for ensuring that the transportation of methanol is not sub contracted to unapproved carriers (Ref ST 118-119).
- 13. Harmonizing of the Regional Marketing/Logistics assessment protocols, processes and management systems for swap agreements, carriers (motor, rail, and barge), customers and distributors while ensuring that systems in place meet CIAC's Responsible Care code and management system expectations.
- 14. Continue through full implementation the Asia Pacific emergency response centre and regional emergency response plan based on the Incident Command System including the training of people involved.
- 15. Corporately, strengthen the contracting agreements for carriers (barge and truck) to disallow the subcontracting of work being performed (Currently being implemented in the Asia Pacific Region).

#### **Successful Practices**

- 1. The effectiveness of the company's project management and Management of Change (MOC) processes as evidenced by:
  - The dismantling and relocation of two world scale methanol plants from Punta Arenas, Chile to Geismar, Louisiana without a single lost workday injury to those involved.
  - The Medicine Hat and New Plymouth sites having safely implemented numerous facility changes since the previous verification and the Punta Arenas site having successfully developed and implemented the capability to operate the facility at 20% of design rates.
- 2. The Corporation's ongoing support to environmental improvement and resource conservation as evidenced by the recent examples documented in the Medicine Hat and New Plymouth appendices to this report.
- 3. The understanding of employees that Responsible Care serves as the ethical base for all related activities and programs within the company and the extensive processes Methanex has in place to communicate awareness of Responsible Care and what it means to contractors, customers, suppliers and all other parties with whom they do business.
- 4. The Methanex Waterfront Shipping subsidiaries commitment to and sharing of Responsible Care principles (ref ST 100-102). Details are documented in section 2.2.1 of this report.
- 5. The overall methanol handling training to other parties in the value chain.
- 6. The Asia Pacific Region's Logistics Service Providers recognition award system.
- 7. Methanex is commended for, and encouraged to continue, the providing of ongoing leadership and support towards the continual development of improved Industry Association guidelines for methanol transportation and handling in China.
- 8. Methanex's corporate commitment to understand and respond to the full range of local community concerns at all manufacturing locations (Ref AC128). Examples are provided in section 2.3.1 of this report.
- 9. The effective management process in place to align Methanex and Egyptian Government business priorities which has resulted in joint venture partners voluntarily adhering to Responsible Care principles (Ref AC 151-152).

# **Improvement Opportunities**

- 1. To develop and implement standards and management/monitoring systems for-
  - Spot hire ships.
  - Motor carriers transporting methanol in all market areas.
- 2. That the updated New Plymouth location maintenance contractor selection process and the recently finalized Medicine Hat Manual for Contractors be used as references in updating the maintenance management processes at all Methanex manufacturing locations.
- 3. An improvement opportunity exists by developing an overall corporate occupational health program applicable to all production sites based on current best location practices.
- 4. Harmonize the Human Factors safety program and the Behavior Based safety program to help ensure that clear expectations are documented and communicated.
- 5. With a variety of risk assessment tools being used a different sites, the verification team suggests that a continuous improvement opportunity exists by having the corporate Process Safety Management Team provide formalized guidance regarding the best assessment tools to use for each of a variety of areas of application.
- 6. Expand the current Methanex Cyber Security Management System to include identifiable risk areas and a formal "intrusion testing" process. It is suggested that benchmarking current Methanex systems vs. those of other CIAC member companies and other external sources with similar risk exposures would facilitate this process.
- 7. An improvement opportunity exists by evaluating the effectiveness of the current system in place for the reporting, investigation and follow up of incidents and near misses (vessels and dock) at the Taranaki, New Zealand port site. This evaluation should also result in a clarification of respective roles, responsibilities and involvements of the New Plymouth site, Marketing & Logistics and Waterfront Shipping in the various aspects of the process.

- 8. The verification team encourages Methanex to expedite the installation of the currently being evaluated vapour recovery project at the New Plymouth ship loading terminal as well as to complete the upgrading of the Damietta site's ship loading vapour recovery system to operable status.
- 9. Methanex is encouraged to complete:
  - Their evaluation of CIAC's recently finalized Responsible Care training module vs. its intended use as a tool to assist member companies in improving the knowledge of Responsible Care in line with the objectives documented in the introduction to operations code section 7 & ST 100 -102
  - The tailoring of the Leadership Essentials training program and delivery of the program to Marketing & Logistics and offices globally.
- 10. Develop and implement a product security control system (discussed during Hong Kong visit)
- 11. Based on the team observing that gaps existed in the cross referencing of Stewardship Code elements as documented in section 2.2 of this report, upgrade the check element of the corporate management system to ensure that it addresses all elements of the Stewardship Code.
- 12. The team suggests that consideration be given to involving direct contracted service providers such as Waterfront Shipping, surveyors and terminal personnel in obtaining intelligence regarding the effectiveness of processes in place at product loading and unloading locations.
- 13. Encourage increased usage of the Methanex customer incident reporting system to exchange lessons learned from environmental, health and safety incidents with the objective of preventing similar occurrences at Methanex and business partner locations.
- 14. Develop and implement standards and a management system for the selection of spot hire and customer ships and to ensure that the ships picking up product from Methanex locations meet Methanex standards (Ref ST 116).
- 15. Expand the awareness of the Asia Pacific Regional Marketing & Logistics customer and motor carrier assessment processes and results to those involved in supporting these efforts (e.g. Truck loading, emergency response, route risk assessments etc. at the New Plymouth site).
- 16. An opportunity for improvement exists through having a process in place to validate that emergency responders along transportation corridors for Methanex products are sufficiently knowledgeable regarding the product risks and/or whom to contact for information in order to respond appropriately if called upon to do so. Emergency responders include: Police /Traffic Enforcement, Fire, Ambulance, and Local Territorial Authorities.
- 17. An opportunity for improvement exists by ensuring that the community dialogue process for all locations (Ref AC 129 & 133) include :
  - Periodic communication of Site Risks.
  - Sharing the results of level 1 corporate audits and Responsible Care verification reports.
  - A vetting process for Corporate Responsible Care reports.
- 18. The following gaps were identified in Methanex management system documents:
  - Page 14 of The Methanex Global Incident Reporting Standard states that environmental incidents are
    to be reported per Regulatory and Corporate standards for reporting thresholds without any reference
    as to where corporate standards exist. Site personnel were also found to be using outdated regulatory
    reference materials during our site visits.
  - The Corporate PSM Policy and MPS 901 documents are not linked regarding detailed expectations and the MPS document is classed as a Methanex Project Standard which in its current use may or may not be applied to normal operations.
- 19. Reinforce the uniform usage of a formal risk based review process for terminals, distributors and customers to address findings identified during Methanex audits and CDI-T and M audits/assessments.
- 20. Based on the team observing that inconsistencies existed between Regional Marketing and Logistics groups in the "check" and "act" processes utilized for Stewardship Code elements as documented in section 2.2 of this report, review the "check" element of the Global Marketing and Logistics management system to ensure that it addresses all elements of the Stewardship Code. (Ref ST 119-120)

## 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 Methanex Corporation'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, Methanex 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 (<a href="www.canadianchemistry.ca">www.canadianchemistry.ca</a>). Methanex is also is 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 CIAC at glaurin@canadianchemistry.ca or (613) 237-6215 extension 233.

#### 1.2 About Methanex

Headquartered in Vancouver, Methanex is a Canadian company and the world's largest producer and marketer of methanol with approximately 1,100 employees worldwide. Until recently, its operating production sites were located in Canada, Chile, Egypt, New Zealand and Trinidad/Tobago. A production base in the United States has now been established when the first of two methanol plants relocated from Chile to Geismar, Louisiana, was placed in operation in January, 2015. The second plant relocated to this site is targeted to be operational in Q1, 2016. Global operations are supported by an extensive supply chain of terminals, storage facilities and the largest dedicated fleet of methanol ocean tankers in the world.

Marketing and Logistics (M&L) offices are located in key marketing hubs including: Hong Kong (Asia Pacific); Santiago, Chile (Latin America, including Mexico); Dallas, Texas (North America); and Brussels, Belgium (Europe). In the Middle East, Methanex has a Business Development office in Dubai, UAE. In Europe, there is a satellite office in Billingham, UK which is managed directly from Brussels. Asia Pacific in-region satellite offices have been set up in Seoul, South Korea; Tokyo, Japan; and Shanghai, China; all reporting directly to Hong Kong. There is a business development and government relations office in Beijing, serving the needs of the Asia Pacific region. In addition, a wholly-owned subsidiary, Waterfront Shipping Company provides ocean-going logistics services exclusively to Methanex; Waterfront is based in Vancouver and shares office space with Methanex Corporation.

Additional support functions based in Vancouver include; Responsible Care, Finance, Corporate Development, Investor Relations and Corporate Resources (includes Human Resources, Information Technology, Legal, Global Market Development & Stakeholder Relations).

Additional information on the company is available on the corporate website www.methanex.com

### 1.3 About This Verification

The verification of Methanex Corporation was conducted between September 9<sup>th</sup>, 2014 and February 5<sup>th</sup>, 2015 and included team visits to the following locations:

- Corporate Headquarters, Vancouver, British Columbia
- Asia Pacific Regional Marketing & Logistics offices in Hong Kong, China
- Regional office in Cairo, Egypt
- Production facilities in:
  - Medicine Hat, Alberta
  - New Plymouth, New Zealand
  - Punta Arenas. Chile
  - Damietta, Egypt

The verification team also conducted interviews, and interacted with, a wide range of company personnel at all visited locations as well as external stakeholders at visited production locations. Attachment 2 contains a list of those individuals interviewed and their affiliations.

This is the sixth verification exercise completed for Methanex. The last verification was completed in December, 2011.

The verification team was comprised of the following individuals.

Name	Affiliation	Representing	
Alec Robertson	Consultant	Team Leader-participated in all except the Egypt visits	
Marcel Emond	Consultant	Industry verifier- participated in all visits	
Kris Lee	Consultant	Public-At-Large Verifier-participated in the Canadian visits	

Heather Bach	Local Resident	Medicine Hat local Community Representative-participated	
		in the Vancouver and Medicine Hat visits	
Dave Mack	Consultant	Industry verifier- participated in the Egypt visits	
Ken Clarke	Responsible Care New	Industry Verifier- participated in the New Plymouth site	
	Zealand	visits	
Dave Allerton	Local Resident	New Plymouth, NZ local Community Representative-	
		participated in the New Plymouth visits	

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

During the verification of Methanex, the verification team looked for evidence that the company was addressing the expectations documented in the Responsible Care Commitments (152 code elements plus 28 benchmark and collective expectations). While considering all aspects of the Responsible Care Commitments, the team placed an emphasis on conducting a more in-depth examination of certain company aspects identified by the company or the team related to:

## **Operations Code**

- Section 3 Operations Activities, sub sections i General Considerations, iii Transportation & Physical Distribution and iv Maintenance
- Section 4 Safety & Security, sub sections i Occupational Health & Safety, ii Process Safety Management, iii Emergency Management and iv Malicious Intent
- Section 5 Environmental Protection, sub section I Emissions & Waste Reduction

## Stewardship Code

- Section 2 Expectations of Companies sub section ii Expectations Beyond R&D
- Section 3 Expectations of Companies with Respect to Other Parties

# Accountability Code

- Section 2 Operating Site Communities
- Section 3 Other Stakeholders, sub sections I Public Policy and iv Transportation Corridor

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

**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.

**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.

**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.

**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 design and construction of significant capital projects is outsourced to major engineering design and construction contractors via a selection process that includes a successful track record in performing such work. Methanex assigns company personnel with considerable experience in project management, plant operations and engineering to oversee the contractor's work and ensure that Methanex project standards and expectations are appropriately included in the design. Modifications to existing facilities are managed through a rigorous management of change process with appropriate documentation. All changes are reviewed to ensure that new unacceptable risks are not being introduced into the process. The mothballed Motunui and Waitara Valley methanol plants in New Plymouth, New Zealand, were safely restarted since the 2011 verification visit. Two world scale Punta Arenas, Chile, methanol plants were also successfully relocated to Geismar, Louisiana with the first of these having been safely placed back in operation in January 2015.

Code expectations in this area are being met with some improvements being identified as documented below.

# **Works in Progress:**

- Complete updating of the Methanex Project Standards (MPS) to reflect CIAC's updated Responsible Care code expectations as well as the company's recent experiences in restarting mothballed and starting new facilities. This system should include periodic reviews during project implementation to ensure progress as planned in all areas (Ref. OP 2).
- Methanex is encouraged to provide continued support to the development of their critical infrastructure project until fully implemented.
- Complete the process for identifying the people skills development needs for Corporate Global Technical Experts.

# **Successful Practice:**

- The effectiveness of the company's project management and Management of Change (MOC) processes as evidenced by:
  - The dismantling and relocation of two world scale methanol plants from Punta Arenas, Chile to Geismar, Louisiana without a single lost workday injury to those involved.
  - The Medicine Hat and New Plymouth sites having safely implemented numerous facility changes since the previous verification and the Punta Arenas site having successfully developed and implemented the capability to operate the facility at 20% of design rates.

## 2.1.2 Operations Activities (OP 7-21)

All Methanex sites are continuous operation facilities with process operators becoming qualified to independently operate assigned segments of the plant through well-defined training programs with hands on as well as written tests being involved for the various stages in their training program. Safe operating envelopes are defined for all processes through risk assessment processes and process control systems are in place to maintain operating conditions within the designed safe operating ranges. Documented operating instructions are in place for each operating area and are reviewed on a scheduled basis and updated to incorporate revisions required through operating experience or new projects. The integrity and reliability of critical process equipment and control systems are addressed through formalized preventive maintenance and equipment integrity management programs.

## **Laboratory Practice**

The team's limited review of this area indicated that operations are being performed in line with code expectations with relevant comments regarding laboratory industrial hygiene monitoring programs being documented in section 2.1.3 of this report.

## **Transportation and Physical Distribution**

As the largest marketer of methanol in the world, product transportation from producing locations to global distributor and customer sites represents a significant part of Methanex's overall business. All manufacturing sites except Medicine Hat are located adjacent to major waterways, with the vast majority of methanol produced being delivered by large tanker ships to product holding/transfer terminals strategically located across their worldwide market area. Product from the Medicine Hat site is delivered primarily by rail (90%) and tank truck (10%) to North American customer sites. At the time of the team's site visit, approximately one third of the Medicine Hat railcar fleet met the new Transport Canada railcar regulations, upgraded as a result of the disaster at Lac Megantic, Quebec.

Deliveries by tank truck are made from most facilities to sites not accessible by rail or water. All product pickups by motor carriers are by carriers selected by distributors or customers. In Chile, Methanex works with customers, the local chemical association, ASIQUIM, and a surveyor company to spot check carriers' truck drivers. This program was extended to Columbia in 2010.

There is a formal pre screening process used for the selection of new terminal locations with those chosen being formally assessed using an in depth Chemical Distributors Institute – Terminal (CDI-T) audit or other agreed screening protocols augmented to include Responsible Care expectations. A CDI-T audit of the Motonui and Waitara Valley facility's nearby Omata tank farm and adjacent port was in progress at the time of the team's New Zealand visit and the Medicine Hat site was scheduled for a CDI-T audit shortly after the team's visit.

Bulk ship movements are managed by Methanex's subsidiary company, Waterfront Shipping, primarily using ships under long term lease, augmented by joint venture/owned vessels. All ocean-going ships are required to complete an annual inspection based on the CDI-M (marine) protocol and Methanex's internal safety audit program also regularly spot checks selected ships.

Movements by barge occur in the United States, Europe and China and Japan. All barge contracts are reviewed and approved by Waterfront Shipping or the regional shipping specialist. Contracted barge companies are required to pass a selection audit and vetting process to assess their Responsible Care performance in transporting methanol products along inland rivers.

## **Works in Progress:**

- Continue through completion the transportation route risk assessments for motor carrier routes from all
  producing locations and implement a process for assessing any newly proposed routes prior to their use.
  (Ref OP 14)
- Methanex is encouraged to continue expediting the upgrading of their corporate wide methanol railcar fleet when the upgraded Transport Canada railcar regulations, and their equivalent in other applicable jurisdictions, are finalized.

## **Improvement Opportunity:**

- To develop and implement standards and management/monitoring systems for-
  - Spot hire ships.
  - Motor carriers transporting methanol in all market areas.

#### Maintenance

The verification team found that the comprehensive maintenance management/ equipment reliability programs at the Medicine Hat, New Plymouth and Punta Arenas sites during the previous verification remained

in place with enhancements being made as noted below. Verifiers who visited the Damietta, Egypt facility also concluded that effective programs also existed at that location.

# **Improvement Opportunity:**

 That the updated New Plymouth location maintenance contractor selection process and the recently finalized Medicine Hat Manual for Contractors be used as references in updating the maintenance management processes at all Methanex manufacturing locations.

## 2.1.3 Safety and Security (OP 22-58)

## Occupational Health & Safety:

A new events tracking software system was rolled out corporate wide in September, 2014 to track follow ups from audits, incident investigations etc. and a near miss module is being developed.

During their visits to the various plant sites, the team found that significant differences existed between sites with regards to their industrial hygiene monitoring strategies and programs. At New Plymouth, they use a task based approach with coverage including welding fumes, personal and area noise monitoring and urine testing for methanol. An example of inconsistencies between sites is in intensive methanol exposure testing of New Zealand laboratory personnel, no testing having been performed in Punta Arenas for more than 5 years and a testing program being in the development stage at Medicine Hat.

# **Finding Requiring Action:**

• It is a finding requiring action that Methanex perform a comprehensive review of industrial hygiene monitoring strategies and embryo fetus protection programs in place at all production sites with the objective of having a global standard to ensure that strategies and programs at all sites are based on best Methanex and industry practices. (Ref OP's 26 & 27)

## **Works in Progress:**

• Complete the Human Factors behavior based safety program implementation at Punta Arenas in 2015 as currently planned and develop a program implementation plan for the Damietta site.

# **Improvement Opportunities:**

- An improvement opportunity exists by developing an overall corporate occupational health program applicable to all production sites based on current best location practices.
- Harmonize the Human Factors safety program and the Behaviour Based safety program to help ensure that clear expectations are documented and communicated.

#### **Process Safety Management (PSM):**

PSM was identified as a "Finding Requiring Action" area during the previous verification and as an "area of focus" by Methanex for this verification. It was obvious to the current verification team that Methanex took the feedback from the previous verification very seriously as evidenced by the significant progress made since that time. Corporately, PSM expertise was subsequently increased, a Process Safety Lead position identified at each operating facility and the Global Loss Prevention Team, with representatives from all manufacturing sites, providing overall direction and guidance to improvement initiatives in this area. Details regarding the progress to date and current status at each visited site are detailed in the site specific appendices to this report.

## **Improvement Opportunity:**

With a variety of risk assessment tools being used a different sites, the verification team suggests that a
continuous improvement opportunity exists by having the corporate Process Safety Management Team
provide formalized guidance regarding the best assessment tools to use for each of a variety of areas of
application.

## **Emergency Management:**

Methanex's transportation emergency response for methanol in the United States and Canada has traditionally been effectively managed through active participation in the chemical industry's TransCAER initiatives in these jurisdictions and, to a lesser extent, through industry associations in other jurisdictions. While the team found that the company has a sound understanding of the essentials of transportation emergency management in relation to its core product, Methanol, it is concerned that the absence of an overarching transportation emergency response management system has led to inconsistencies and gaps in the processes in place.

## **Works in Progress:**

- Finalize the corporate crisis communication plan currently being updated and implement a periodic simulation drill process in 2015 as currently planned.
- Complete the corporate Emergency Response Policy which identifies minimum expectations for site emergency response plans during the first quarter of 2015 as currently planned. Note- This is a repeat item from the previous verification report which documented this expectation in more detail.
- Finalize the Global Transportation Emergency Response Standard based on the Canadian Prairies Regional model currently being developed and implement at all Methanex sites. (Ref OP 41-47)

# **Malicious Intent/Cyber Security**

Potential gaps in this area identified during the verification visits were shared with the Methanex representative who accompanied the team throughout the verification process.

# **Improvement Opportunity:**

Expand the current Methanex Cyber Security Management System to include identifiable risk areas and a
formal "intrusion testing" process. It is suggested that benchmarking current Methanex systems vs. those
of other CIAC member companies and other external sources with similar risk exposures would facilitate
this process. Contact information for another CIAC member company with a comprehensive cyber security
management program in place who are willing to information share was provided during the verification.

# **Incident Reporting and Investigation**

The verification team concluded that management systems in place generally meet code expectations with an improvement opportunity applicable to more than one functional group being noted below. Specific site comments are included in the site appendices of this report.

## **Work In Progress:**

• Include the input from the accident scene information gathering opportunity detailed in section 2.1.3 of the New Zealand section (Appendix B) of this report in finalizing the corporate Accident/Incident Investigation Standard and investigation tools document currently being developed.

#### **Improvement Opportunity:**

An improvement opportunity exists by evaluating the effectiveness of the current system in place for the
reporting, investigation and follow up of incidents and near misses (vessels and dock) at the Taranaki, New
Zealand port site. This evaluation should also result in a clarification of respective roles, responsibilities and
involvements of the New Plymouth site, Marketing & Logistics and Waterfront Shipping in the various
aspects of the process.

# 2.1.4 Environmental Protection and 2.1.5 Resource Conservation (OP 58-80)

Three year Corporate Environmental plans have been established with each site having annual plans which, when combined, are structured to address the overall corporate expectations.

While vapour recovery systems are largely in place for company owned product holding tanks and loading terminals, the New Plymouth loading terminal is not so equipped with an estimated 400 tonnes/year of methanol currently being vented to the atmosphere as a result. While a ship loading vapour recovery system

exists at the Damietta port site, it was inoperable at the time of the verification visit as detailed in Appendix D of this report.

#### **Emissions and Waste Reduction:**

#### **Successful Practice:**

The Corporation's ongoing support to environmental improvement and resource conservation as
evidenced by the recent examples documented in the Medicine Hat and New Plymouth appendices to this
report.

## **Improvement Opportunities:**

 The verification team encourages Methanex to expedite the installation of the currently being evaluated vapour recovery project at the New Plymouth ship loading terminal as well as to complete the upgrading of the Damietta site's ship loading vapour recovery system to operable status.

## **Handling & Disposal of Wastes**

Waste management systems in place during the time of our production site visits met code expectations with ongoing improvements being made to reduce the quantities of wastes generated.

## 2.1.6 Promotion of Responsible Care by Name (OP 81-84)

Responsible Care is the umbrella under which all Methanex related programs and initiatives are developed and implemented. While In many companies, employees speak about their health and safety program, their environmental program etc. without understanding their linkage to Responsible Care, Methanex, employees speak about their Responsible Care initiatives in various areas and communicate their expectations of suppliers, customers etc. as being Responsible Care expectations.

## **Successful Practice:**

The understanding of employees that Responsible Care serves as the ethical base for all related activities and programs within the company and the extensive processes Methanex has in place to communicate awareness of Responsible Care and what it means to contractors, customers, suppliers and all other parties with whom they do business. For example, the company has implemented a 2 day Leadership Essentials training program for all supervisory personnel on Responsible Care implementation which has been delivered at all Methanex manufacturing locations.

# **Improvement Opportunity:**

- Methanex is encouraged to complete:
  - Their evaluation of CIAC's recently finalized Responsible Care training module vs. its intended use as a tool to assist member companies in improving the knowledge of Responsible Care in line with the objectives documented in the introduction to operations code section 7 & ST 100 -102
  - The tailoring of the Leadership Essentials training program and delivery of the program to Marketing & Logistics and offices globally.

# 2.2 Team Observations Concerning Stewardship Code

## 2.2.1 Expectations of Companies (ST 85-114)

## **Research and Development**

To support their commitment to develop new sustainable technologies Methanex, in 2013, became a shareholder of Iceland-based Carbon Recycling International (CRI) to support the production of renewable methanol from geothermal energy and recycled CO2 emissions ("Green Methanol" Project). In 2014, Methanex shared their approach to Responsible Care with CRI through a review of their plant health, safety, environmental and operational management systems and practices. CRI also visited Methanex's Medicine Hat site to see their Responsible Care ethic in practice. Methanex plans to continue collaborating with CRI on Responsible Care initiatives to further strengthen the execution of their growth strategy.

## **Works in Progress:**

 Methanex is encouraged to continue supporting the Iceland "Green Methanol" project group's usage of CIAC's Responsible Care codes and Management Systems as the basis for their policies, procedures and management systems currently being developed.

#### **Successful Practice:**

- The Methanex Waterfront Shipping subsidiaries commitment to and sharing of Responsible Care principles (ref ST 100-102) as evidenced by their:
  - Establishment and ongoing leadership of "The Methanol Group" which includes 90% of the worldwide
    methanol producers and methanol product movers. Participants in the group's annual meetings
    include Technical Managers of competitors and owners of vessels used to transport methanol.
     Waterfront shipping not only hosts the group's annual meeting every second year but also share their
    various best Responsible Care practices during these gatherings.
  - Annual 2 day audits of all Methanex product moving ships with a scoring system and follow up process to address areas requiring improvement.
  - Proactiveness in the development and introduction of methanol fueled engines for marine service, significantly reducing greenhouse gas emissions versus bunker C fueled engines, the current marine industry standard.
  - Leadership in introducing better living and working conditions on ships with human behavior factors being documented in ship operating guidelines.

## 2.2.2 Expectations with Respect to Other Parties (ST 115-124)

Methanex has a Responsible Care 4 step screening/approval process for potential new business partners as well as new branches/locations of existing business partners. Business partners include all suppliers, customers, distributors, terminals, carriers (barge/truck/rail) and surveyors. The 4 steps are:

- Safety Information Packs provided including MSDS, user guides etc. with an acceptance receipt being required that the materials will be used.
- Self assessments performed using specific assessment forms for customers, terminals, barge companies etc.
- Pre-delivery visits completed using a first pass check list.
- Improvement plans/ contract clauses in place before approval.

The team commends Methanex for having developed and implemented a product swap management system in response to the Finding Requiring Action documented in the previous verification report. A Global Distributor Standard has also been finalized in response to an OFI during the 2011verification which, to date, has been implemented only in the Asia Pacific Region.

A truck screening program is in place for China. For Korea/Japan and New Zealand, carriers must be on the approved list of a major chemical or oil/gas company.

A barge approval protocol is in place in the Asia/Pacific region based on the Ship Inspection Report programme (SIRE) protocol which is the CDIM equivalent for barges. Reassessments are on a three year frequency and quarterly reporting is required on follow up action plan items.

In the team's discussions with Marketing and Logistics personnel from different regions, while common evaluation processes were generally used, differences in approach regarding the acceptability of systems in place by terminals, distributors, customers, and carriers were identified. For example, the follow up processes for action items from customer and terminal assessments were more formal in the Asia Pacific region.

While an Asia Pacific regional customer motor carrier approval process was reportedly in place, including New Zealand, interviewees at the New Plymouth site were unaware of the process in place, including for carriers being loaded at their site.

## **Works in Progress:**

- Continue implementation of the Global Distributor standard until fully in place for all Marketing and Logistics regions. The management system needs to include expectations regarding motor carrier selection/route risk assessments (Ref ST 116-117) and a process for ensuring that the transportation of methanol is not sub contracted to unapproved carriers (Ref ST 118-119).
- Harmonizing of the Regional Marketing/Logistics assessment protocols, processes and management systems for swap agreements, carriers (motor, rail, and barge), customers and distributors while ensuring that systems in place meet CIAC's Responsible Care code and management system expectations.
- Continue through full implementation the Asia Pacific emergency response centre and regional emergency response plan based on the Incident Command System including the training of people involved.
- Corporately, strengthen the contracting agreements for carriers (barge and truck) to disallow the subcontracting of work being performed. (Currently being implemented in the Asia Pacific Region).

# **Successful Practices:**

- The overall methanol handling training to other parties in the value chain.
- The Asia Pacific Region's Logistics Service Providers recognition award system.
- Methanex is commended for, and encouraged to continue, the providing of ongoing leadership and support towards the continual development of improved Industry Association guidelines for methanol transportation and handling in China.

## **Improvement Opportunities:**

- Develop and implement a product security control system (discussed during Hong Kong visit)
- Based on the team observing that inconsistencies existed between Regional Marketing and Logistics
  groups in the "check" and "act" processes utilized for Stewardship Code elements as documented in
  section 2.2 of this report, review the "check" element of the Global Marketing and Logistics management
  system to ensure that it addresses elements ST 119 and 120 of the Stewardship Code.
- The team suggests that consideration be given to involving direct contracted service providers such as Waterfront Shipping, surveyors and terminal personnel in obtaining intelligence regarding the effectiveness of processes in place at product loading and unloading locations.
- The verification team encourages increased usage of the Methanex customer incident reporting system to exchange lessons learned from environmental, health and safety incidents with the objective of preventing similar occurrences at Methanex and business partner locations.
- Develop and implement standards and a management system for the selection of spot hire ships and to ensure that the ships picking up product from Methanex locations meet Methanex standards (Ref ST 116).
- Expand the awareness of the Asia Pacific regional Marketing & Logistics customer and motor carrier assessment processes and results to those involved in supporting these efforts (e.g. truck loading, emergency response, route risk assessments etc. at the New Plymouth site).
- An opportunity for improvement exists through having a process in place to validate that emergency
  responders along transportation corridors for Methanex products are sufficiently knowledgeable regarding
  the product risks and/or whom to contact for information in order to respond appropriately if called upon
  to do so. Emergency responders include: Police / Traffic Enforcement, Fire, Ambulance, and Local
  Territorial Authorities.

# 2.3 Team Observations Concerning Accountability Code

# 2.3.1 Operating Site Communities

## **Successful Practice:**

Methanex's corporate commitment to understand and respond to the full range of local community concerns at all manufacturing locations (ref AC128). While evidence to support the team's conclusion was found at all visited sites, examples include:

## Damietta, Egypt-

The ongoing support to the Damietta University and the summer one week student training program.

• The site's social approach in helping their local community improve living conditions from an education and health point of view with funds and sweat equity and the company's ongoing availability to address the local population's concerns with the "right to know" principle.

#### Medicine Hat-

• The site's strategic approach to stakeholder engagement. Examples include their aboriginal engagement initiative and volunteering to identify safety risk exposure potentials at the annual Medicine Hat Exhibition and Stampede Kiddies' Day.

## **Improvement Opportunity:**

- An opportunity for improvement exists by ensuring that the community dialogue process for all locations (Ref AC 129 & 133) include:
  - Periodic communication of Site Risks.
  - Sharing the results of level 1 corporate audits and Responsible Care verification reports.
  - A vetting process for Corporate Responsible Care reports.

#### 2.3.2 Other Stakeholders

Verification team comments in this subject area are included in the site specific attachments to this report.

## 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 Methanex's management system(s) and compared and contrasted the attributes of that system(s) to those of a self-healing overall management system as discussed in the CIAC Management System Guide. The verification team's related observations to the company management system(s) are as follows:

The Global Management System was identified as a "Finding Requiring Action" area during the previous verification and as an "area of focus" by Methanex for this verification. It was obvious to the current verification team that Methanex took the feedback from the previous verification very seriously as evidenced by a Global Responsible Care Management System and a comprehensive Global Audit Program having subsequently been established. The previous team also suggested that Responsible Care implementation could be enhanced by improving the linkages between various global teams. This verification team concluded that subsequent team realignments have also addressed this improvement opportunity as evidenced by the many continuous improvements documented throughout this report.

## 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 Methanex's management system, the verification team observed the following:

Based on the input from the Global Responsible Care Team and other corporate teams regarding the current status of programs in place as well as new and changing expectations in Responsible Care, regulatory requirements etc., detailed annual Responsible Care tactical plans and actions are developed which are in alignment with the company's business strategy.

During the previous verification, the team found several instances of inconsistent application between sites and regions as a result of expectations being unclear as well as others where aspects of relevant Responsible Care

Commitments had been overlooked. While some inconsistencies and gaps were identified during this verification as documented in this report, noticeable improvement was observed in this regard.

### 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 Methanex's management system, the verification team observed that Methanex's corporate management structure is strongly aligned with Responsible Care with-

- The company's Board of Directors and Senior Management Team establishing the direction for Methanex's Responsible Care, Social Responsibility and Sustainability practices.
- The Board's Responsible Care Committee overseeing Responsible Care performance and issues at the policy level.
- The Executive Leadership Team, chaired by the President and CEO, having clearly defined Responsible Care objectives, responsibilities and goals.
- A Corporate Responsible Care organization reporting to the President & CEO.
- A Global Manufacturing Team (GMT) to drive Responsible Care throughout its organization and bring together senior manufacturing leaders from all facilities. Each manufacturing location has a senior Responsible Care position, with a seat on the site management team. Senior leadership from Human Resources and Public Affairs participate periodically.
- A Global Marketing & Logistics Responsible Care Team developing and managing the annual Responsible Care plan for Marketing & Logistics.
- A Global Responsible Care Team including senior representatives from the corporate Responsible Care group, Manufacturing locations, Marketing & Logistics and Government and Public Affairs act as a collective resource to the company on Responsible Care principles, practices and strategy.

At the time of the 2011 verification the documented cross references and gap analysis between CIAC Responsible Care Codes of Practice and the company's Responsible Care management systems for all regions and all business units was in the process of being completed. While this has been done for most code areas, gaps were observed in Stewardship Code areas as documented in section 2.2 of this report in addition to the following.

### **Improvement Opportunity:**

- The following gaps were identified in Methanex management system documents:
  - Page 14 of The Methanex Global Incident Reporting Standard states that environmental incidents are
    to be reported per Regulatory and Corporate standards for reporting thresholds without any reference
    as to where corporate standards exist. Site personnel were also found to be using outdated regulatory
    reference materials during our site visits.
  - The Corporate PSM Policy and MPS 901 documents are not linked regarding detailed expectations and the MPS document is classed as a Methanex Project Standard which in its current use may or may not be applied to normal operations.

# 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 Methanex's management system, the verification team observed that an extensive "check" process is in place including:

- In depth corporate (Level 1) Responsible Care audits conducted as an inter-location activity by selected teams of Methanex auditors with the frequency being based on each location's performance/risk, determined by the application of the Level 1 audit frequency screening tool.
- Level 2 audits are comprehensive location self assessments to ensure they are doing what is documented, and to confirm that the Responsible Care systems and documentation conform with relevant local legislation and are aligned with the relevant global RCMS principles. They are performed on an ongoing basis with a target to complete all systems over a three-year cycle with the frequencies for various element reviews varying from 3 to 36 months based on risk.
- Management System Reviews (MSR) performed annually at each location with the objective of ensuring that the Responsible Care management system is effective, enabling the plant or business to reach their objectives and targets. The senior location leader and Senior RC person or delegate initiate and coordinate the review with site management team members participating.

## **Improvement Opportunity:**

Based on the team observing that inconsistencies existed between Regional Marketing and Logistics
groups in the "check" and "act" processes utilized for Stewardship Code elements as documented in
section 2.2 of this report, review the "check" element of the Global Marketing and Logistics management
system to ensure that it addresses elements ST 119 and 120 of the Stewardship Code.

## 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 Methanex's management system, the verification team concluded that the "ACT" step was being effectively implemented with the exception of the following:

## **Finding Requiring Action:**

• Establish a formal policy for variances to corporate expectations. This is a repeat item from the 2011 verification.

# **Improvement Opportunity:**

• Reinforce the uniform usage of a formal risk based review process for terminals, distributors and customers to address findings identified during Methanex audits and CDI-T and M audits/assessments.

## 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 Methanex Corporation'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:

Each location where Methanex has a significant presence has a person specifically responsible for the establishment and growth of a social responsibility program that is designed to meet the needs of communities in the particular location. Programs include high rates of employee involvement including fund raising and volunteerism. They also have employee run Social Investment Committees at all locations who are mandated to disperse company funds in supporting initiatives related to regional educational development, community health, safety and the environment. The company also supports employee fund raising through matching grants.

Examples of the extensive array of initiatives supporting the Responsible Care Ethic and Principles for Sustainability by Methanex are:

- In New Zealand, the relocation of a Waitara community childcare centre and potential sponsorship of a local river walkway to increase community buy-in, as well as a number of employee fundraising initiatives for local charities.
- The company's strategic approach to stakeholder engagement.
- EMethanex's support of a Neonatal hospital and kindergarten in Damietta.
- Waterfront Shipping has commissioned the building of seven methanol propulsion ships to be delivered in 2016, with a substantial reduction in sulphur and particulate matter emissions. This is an industry first, promoting the worldwide use of methanol for energy in marine applications, resulting in a cleaner environment.
- Waterfront Shipping's creation of the Methanol Group as detailed in section 2.2.1 of this report.
- Methanex has taken a leadership role in supporting new energy applications. For example, Methanex is a partner in the SPIRETH project which supported the development of methanol and DME (methanol derivative) for the marine fuels market to help meet more stringent environmental regulations being phased into the marine fuels market. Methanol will reduce sulphur, particulate matter and NOx emissions relative to heavy fuel oil, which is the primary marine fuel used today.
- Methanex provides Responsible Care seminars as part of their annual outreach program to upstream and downstream business partners.
- The company's participation in the Iceland-based Carbon Recycling International (CRI) "Green Methanol" project as detailed in section 2.2.1 of this report.

# 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.

# **ATTACHMENT 1**

# COMPANY RESPONSE TO VERIFICATION TEAM REPORT

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

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

We will give consideration to the Improvement Opportunities identified by verification team and will assist the CIAC in communicating and sharing the identified Successful Practices to other CIAC members. Plans will be developed and implemented to respond to the Findings Requiring Action identified by the verification team. Our progress in implementing those plans will be discussed when preparing our Annual Statement of Re-Commitment to Responsible Care, and communicated to the verification team at the time of our next verification.

**Brad Neumann** 

Vice President, Responsible Care

**Methanex Corporation** 

April 14, 2015

# Attachment 2

# **Interview Lists**

# A: Company Personnel

Name	Position	Location
John Floren	President & CEO	Vancouver (via teleconference)
Brad Neumann	Vice President, Responsible Care	Vancouver
Kevin Kerik	Manager, Responsible Care	Vancouver
Edgard Jimenez	Oper. Mgr., Waterfront Shipping	Vancouver
Diego Jaramillo	Quality & Responsible Care	Vancouver
	Supervisor, Waterfront Shipping	
Vincent Tong	Senior Account Executive	Vancouver
Fernando Reinecke	Logistics Manager, Latin America	Vancouver (visiting from Chile)
Christen Downie	Manager, Government Relations	Vancouver
Baljit Lalli	Manager, Communications	Vancouver
Kyle Aiken	Manager, Loss Prevention	Vancouver
Dean Richardson	Dir.,Treasury & Corp. Finance	Vancouver
Howard Seto	Manager, Environmental Affairs	Vancouver
Darcy Carriveau	R.C. Coordinator- Headquarters	Vancouver
Paul Daoust	Plant Manager	Medicine Hat
Terry Rowat	Manager, Responsible Care	Medicine Hat
Matt Geary	Senior Analyst, Global Mfg.	Medicine Hat
Craig Marshall	Environmental Advisor	Medicine Hat
Mojeed Oladimeji	Environmental Engineer	Medicine Hat
Charlene Gilmour-Shauf	RC Admin Assistant	Medicine Hat
Sandra Kish	Procurement & Contracts	Medicine Hat
Ray Leisle	Manager, Maintenance	Medicine Hat
Richard Dworschak	Manager, technical	Medicine Hat
Jody Magill	Mgr, Govt. & Public Affairs	Medicine Hat
Simon Goldring	Trng. & Emerg. Services Advisor	Medicine Hat
Michelle Benson	Quality Assurance Advisor	Medicine Hat
David Oliphant	Lead Process Engineer	Medicine Hat
Richard Dworschak	Manager, Technical	Medicine Hat
Garret Bowman	Reformer Project Lead	Medicine Hat
Rawle Ramlochan	Manager, Operations	Medicine Hat
Chris Hill	Training & Development Coord.	Medicine Hat
Tony Russell	Chief Power Engineer	Medicine Hat
Allison Carr	Lab Technician	Medicine Hat
Jeanine Hughes	Lab Technician	Medicine Hat
Cindy Martin	Supervisor, Product Handling	Medicine Hat
Kevin Lunge	Safety Advisor	Medicine Hat
Chris Johnston	Occupational Health Advisor	Medicine Hat
Tim Mayer	Construction Supervisor	Medicine Hat
Matt Nelligan	Product Handling Coordinator	Medicine Hat
Anneleen Muller	Process Safety Lead	Medicine Hat
Simon Maddren	Vice President Asia Pacific	Hong Kong
	Marketing & Logistics	
Deanna Li	Manager, R.C & ISO	Hong Kong

Candy Chan	Manager, Customer Service & Logistics	Hong Kong
Alice Chang	Sr. Coord. Logistics & Purch.	Hong Kong
Samuel Wong	Customer Service & Logistics	Hong Kong
Matta Chan	Supervisor	Harri Karri
Veila Shao	Sr. Purch. & Logistics Analyst	Hong Kong
Yumi Endo	Coordinator, Supply & Planning	Hong Kong
Kelly Zhou	Mgr. Govt. & Public Affairs	Hong Kong
Vivian Au Yeung	Sr. Financial Accountant	Hong Kong
Celic Tam	Customer Service Coordinator	Hong Kong
Brian Chan	IT Systems Coordinator	Hong Kong
Brian Ropitini	Director, Manufacturing, NZ	New Plymouth, New Zealand
Jayne Francis	Director, NZ Corp. Resources	New Plymouth, New Zealand
Jane Patterson	Manager, Responsible Care	New Plymouth, New Zealand
Gary Rielly	Sustainability & Quality Leader	New Plymouth, New Zealand
David Bull	Operations Manager	New Plymouth, New Zealand
Terry Richardson	Assistant Operations Manager, Waitara Valley	New Plymouth, New Zealand
Juliet Larkin	Manager, Public Affairs	New Plymouth, New Zealand
Tony Jaques	Manager, Planning & Procurement	New Plymouth, New Zealand
Christine Scott	Occupational Health Advisor	New Plymouth, New Zealand
Nick Stonier	Manager, Technical	New Plymouth, New Zealand
Wade Alsweiler	Health & Safety Team Leader	New Plymouth, New Zealand
Malcolm Kelson	Compliance & Integrity S'visor	New Plymouth, New Zealand
Murray Fisher	ER & Security Advisor	New Plymouth, New Zealand
Mike La Franchie	Process Safety Mgmt. Lead	New Plymouth, New Zealand
Mike Stewart-Jacks	Process Safety Advisor	New Plymouth, New Zealand
Greg Dollimore	Manager, Maintenance	New Plymouth, New Zealand
Jane Baird	Laboratory Supervisor	New Plymouth, New Zealand
Matthew Penn	R.C. & Quality Coordinator	New Plymouth, New Zealand
Vanessa James	Senior Vice President, Corporate Marketing & Logistics	New Plymouth, New Zealand
Boris Vukasovic	Plant Manager	Punta Arenas, Chile
	Technical Manager	Punta Arenas, Chile
Jorge Soto Ulises Fernandez	Manager, Responsible Care	Punta Arenas, Chile
Rodrigo Mora	Loss Prevention Engineer	Punta Arenas, Chile
Daniela Navarro		
Fatima Roa	Environmental Engineer  H & S Coordinator/O.H. Advisor	Punta Arenas, Chile
Carlos Severino		Punta Arenas, Chile
	Shipping & Logistics Coord.	Punta Arenas, Chile
Thomas Boyd	Chief, Procurement	Punta Arenas, Chile
Cecilia Trancoso	Mgmt. & Admin. Assistant	Punta Arenas, Chile
Alejandro Labarca	Manager, H.R. & Public Affairs	Punta Arenas, Chile
Victor Schwarzenberg Pamela Miranda	Day Shift Manager	Punta Arenas, Chile
	Manager ,Production	Punta Arenas, Chile
Felipe Rocha	HR Analyst	Punta Arenas, Chile
Carlos Symmer	Chief Engineer	Punta Arenas, Chile
Manuel Dellarossa	Lab Technician	Punta Arenas, Chile
Roberto Hernandez	Purchasing Officer	Punta Arenas, Chile

Louis Perez	Maintenance Mech. Engineer	Punta Arenas, Chile
Edison Munoz	Electrical/Instruments Eng.	Punta Arenas, Chile
Cristian Rodriguez	Safety Advisor	Punta Arenas, Chile
Sergio Oyarzun	Plant Security Contractor	Punta Arenas, Chile
Carla Vidal	H.R. Supervisor	Punta Arenas, Chile
Sergio Peña	Maintenance Manager	Punta Arenas, Chile
Ahmed ELKhadrawy	Operations Manager	Damietta, Egypt
Ihab Shatlawy	Manufacturing	Damietta, Egypt
Mohamed Gamal	Maintenance Manager	Damietta, Egypt
Mostafa Ahmed	I.T. Manager	Damietta, Egypt
Sadek EL-Kady	Security & Admin. Manager	Damietta, Egypt
Hatem Kaldas	Corporate Resources Manager	Damietta, Egypt
Ibrahim Yacoub	Procurement Manager	Damietta, Egypt
Mohamed Khalifa	Technical Manager	Damietta, Egypt
Mohamed Basha	Responsible Care Manager	Damietta, Egypt
Raef Abdelsalam	HR Manager	Damietta, Egypt
Mohamed Abdel Gawad	Shift & Shipping Superintendent	Damietta, Egypt
Ahmed M. Kamal	Process Engineering S.I.	Damietta, Egypt
Hassam Shousha	Engineering Superintendent	Damietta, Egypt
Yehia Awad	Projects Superintendent	Damietta, Egypt
Mohamed El Banhawy	Sr. Loss Prev. & PSM Engineer	Damietta, Egypt
Yahia Kamel	Network & Sec'ty Administrator	Damietta, Egypt
Sherif Sabry	Specialist-Env.,QMS & Ind. Hyg.	Damietta, Egypt
Mahmoud El Mana Khly	Planning Superintendent	Damietta, Egypt
Mohamed Alaa	EIC Superintendent	Damietta, Egypt
Mohamed Gad El Rab	Responsible Care, Sr. Advisor, QMS & Industrial Hygiene	Damietta, Egypt
Medhat Elbarogy	Occupational Health Professional	Damietta, Egypt
Essam Ali	Site Supervisor (acting) Safety	Damietta, Egypt
Fady Badr	Engineer, Loss Prevention	Damietta, Egypt
Mohammed Elgamal	Senior Advisor, Community & Public Affairs	Damietta, Egypt
Kamilia Sofia	Manufacturing Director & Chief Executive Officer	Cairo, Egypt
Brad Boyd	VP Finance & Business Integration	Cairo, Egypt
Mohamed Wagih, Shindy	Chief Financial Officer	Cairo, Egypt
Hanan Nayal	Manager, Public Affairs	Cairo, Egypt
Yumna Emam	Specialist, Public Affairs	Cairo, Egypt

# B: External Stakeholders

Name	Company / Organization	Position	Location
Jack Lemire	Medicine Hat Police Services	MX Medicine Hat CAP member	Medicine Hat, Alberta
Rob Hazelaar	Redcliff Green Houses	MX Medicine Hat CAP member	Medicine Hat, Alberta
Dillan Carlson	Medicine Hat College Student	Mx Medicine Hat CAP member	Medicine Hat, Alberta
Barry Honeyfield	Local resident, farmer	MX NZ CAP Chair	Motunui, New Zealand

Wayne Parker	Petrochemical worker	MX NZ CAP member	Waitara Valley, New Zealand
Allison Pettit	Travel Centre Tour Guide	MX NZ CAP member	New Plymouth, New Zealand
Belle Toupe	Motunui Plant neighbour	MX NZ CAP member	Motunui, New Zealand
Philip Marsh	Technical Service	Industry rep on MX NZ	New Plymouth, New Zealand
	Manager, AICA	CAP	
Elma Honeyfield	Local resident, farmer	MX NZ CAP member	Motunui, New Zealand
Kathleen Weston	Local resident, farmer	MX NZ CAP member	Motunui, New Zealand
Peter Wilson	Former High School	MX NZ CAP member	Waitara Valley, New Zealand
	Teacher & First Response	Waitara Valley plant	
	Unit Volunteer	neighbour	
Mary-Jane Waru	Local Resident	MX NZ CAP member	Motunui, New Zealand
Francisco Villarroel	Representative of the	Punta Arenas CAP	Punta Arenas, Chile
	Medical Care Workers	member	
	Association (ACHS)		
José Alvarado Díaz	Director of School (ex	Punta Arenas CAP	Punta Arenas, Chile
	Education Authority)	member	
Iván Nikovic	Business Representative	Punta Arenas CAP	Punta Arenas, Chile
Octavio Lecaros	University of Magallanes	Punta Arenas CAP	Punta Arenas, Chile
Palma		member	
Carmen	Bishrop representative	Punta Arenas CAP	Punta Arenas, Chile
Maldonado Aros		member	
Cecilia Iglesias	Director of INACAP	Punta Arenas CAP	Punta Arenas, Chile
Boullosa	(Technical and	member	
	Professional University)		
Reinaldo Leiva	Executive Director of FIDE	Punta Arenas CAP	Punta Arenas, Chile
Oyarzo	XII (Foundation for the	member	
	Developing of Magallanes		
	Region).		
Humberto Vidal	Director of the renewable	Punta Arenas CAP	Punta Arenas, Chile
	energy center / University	member	
	of Maggallanes		
Claudio Gómez	Chemical Engineering	Punta Arenas CAP	Punta Arenas, Chile
	Career Director Univ. of	member	
/ ×:	Magallanes		2
Rosa Zúñiga	President Neighborhood	Punta Arenas CAP	Punta Arenas, Chile
	Community Association	member	
Javier Garay	NGO Founder & Teacher	Punta Arenas CAP	Punta Arenas, Chile
Daniel Barrientos	of a Technical Institute &	member	
	an ex student of the same		

#### **APPENDIX A - MEDICINE HAT SITE SPECIFIC ITEMS**

#### INTRODUCTION:

This appendix documents Medicine Site specific items not included in the global Responsible Care Reverification report. As a result, both the main report and this appendix must be reviewed to identify all items applicable to Medicine Hat.

#### **GENERAL:**

At the time of the previous verification team's visit to the Medicine Hat site in September, 2011, the facility had only been placed back in operation for less than four months after being mothballed for approximately 10 years. The team at that time identified several Findings Requiring Action that the company was expected to attend to in a timely manner as well as a number of Opportunities for Improvement that the company was encouraged to review and consider. The current verification team was impressed with the progress made versus the vast majority of these as well as continuous improvement having also been made versus expectations in various other Responsible Care code areas as detailed below. A good Responsible Care culture, evident during the previous verification, was also found to be in place during this visit.

# 2.1 Team Observations Concerning Operations Code

The Team's overview comments for this code area are documented in the global section of the report with the following Medicine Hat specific item being noted.

# 2.1.1 Design and Construction of Facilities and Equipment (OP 1-6) Work In Progress:

• Updating of the Medicine Hat process and instrument drawings (P&ID's) to as built status.

# 2.1.2 Operations Activities (OP 7-21)

# **General Considerations**

## **Work In Progress:**

• The Medicine Hat site is encouraged to complete the updating and implementation of their management of change process for people changes currently in progress.

# **Laboratory Practice**

The current verification team found that the Finding Requiring Action identified during the 2011verification in this subject area had been addressed and a Laboratory Management Manual subsequently finalized which currently serves as the basis for programs in place.

### **Transportation and Physical Distribution**

# **Improvement Opportunity:**

• Implement a program to assess Canadian and U.S. shortline railways used to transport products where Methanex's name is used in the shipping documents.

### Maintenance

A Finding Requiring Action identified during the 2011 verification was for the site to establish and document a comprehensive contractor management program, including all Responsible Care aspects. The current verification team was pleased to find that such a program now exists as documented in the site's comprehensive Manual for Contractors. The comprehensive maintenance management/ equipment reliability program mentioned in the previous report was also found to have remained in place.

## 2.1.3 Safety and Security (OP 22-38)

# **Occupational Health and Safety:**

The Medicine Hat site had achieved 3 years of lost workday injury free operations for company employees at the time of the verification visit. However, considerable dissatisfaction was expressed during the verification team's meeting with the non management H& S committee members regarding the lack of a timely resolution of safety concerns being raised. They reported that a long listing of safety improvement projects exists with little progress being made in having them completed. Examples included safety shower system deficiencies, ventilation in the welding shop and battery breaker hazards. It was suggested by committee members that they would appreciate having some involvement in the prioritization process for items on the safety improvement backlog list.

The Medicine Hat site uses the corporate "Lessons Learned Process" for capturing information from other Methanex sites and external sources such as the U.S. Chemical Safety Board and have implemented the corporate 2 day Leadership Essentials training program for all supervisory personnel on Responsible Care implementation which has been delivered at all Methanex manufacturing locations. A one day session on the same subject is planned for all site employees in 2015.

## **Works In Progress:**

• Finalize the Industrial Hygiene monitoring strategy and plan for the Medicine Hat site currently being developed. This plan needs be consistent with an overall corporate program as detailed in the corporate section of this report.

# **Improvement Opportunity:**

• The team concluded that an opportunity for improvement exists by Medicine Hat site management meeting with the site's Health and Safety Committee to discuss their concerns and implement changes to systems and processes in place with the objective of improving the committee's overall effectiveness.

## **Process Safety Management:**

Medicine Hat was one of the three manufacturing sites identified as requiring significant upgrading of their PSM program during the previous verification. The others were Punta Arenas and Point Lisas. Using the widely accepted U.S. CCPS 20 Process Safety Management Benchmarks as their standard, in 2012, the site performed a gap analysis of systems in place versus each of these benchmarks. Action plans were subsequently developed and are currently being implemented to close each gap.

The team's review of this process led us to conclude that outstanding progress has been made at this site to date with continuing progress being made towards completing the action plans to address the few remaining items. The site also hired a person with process safety expertise who began her employment with Methanex shortly before this verification. During the time of our verification visit she completed a formal reassessment of the site's worst case scenarios with the impact zones for a variety of defined scenarios. This will provide valuable input for the updating of emergency response action plans and drills. She has also examined the site's PSM gap analysis with her critique providing valuable input for continuous improvements in this area.

#### **Works in Progress:**

• Complete the review/revision of the Medicine Hat Hazops by year end 2014 as planned.

# **Emergency Management:**

A Finding Requiring Action in the previous verification was in the area of transportation safety and emergency response. The site has become active participants in CIAC's Regional TransCAER group and a regional TRANSCAER exercise and a rail emergency exercise was hosted in Medicine Hat in October and November,

2014 respectively. Methanex has also been working with local emergency responders regarding integrated response plans for both offsite rail and Methanex plant site response scenarios.

# **Finding Requiring Action:**

• Upon completion of the new Medicine Hat emergency response plan, pre plans need to be developed and exercises and drills completed validating the preplans. The location needs to perform an onsite emergency response exercise involving local responders with the response scenario requiring the use of new site equipment (fire truck, blitz monitor, foam etc).

### **Malicious Intent:**

# **Works In Progress:**

• Perform a security vulnerability assessment (SVA) of the Medicine Hat site in 2015 as currently scheduled.

#### 2.1.4 Environmental Protection and 2.1.5 Resource Conservation

Site spill containment system upgrades in the plant restart project at Medicine Hat included lining under railcar loading areas as well as full contents containment around, and vapour recovery systems on, product storage tanks. Projects to be installed in 2015 include a low NOX boiler burner project which will potentially reduce NOX emissions from this source by 50% and the installation of DECA units on reformer preheaters which, combined with the use of a neighboring manufacturing site's excess CO2 and other system improvements, will result in a 4% reduction in a energy use per tonne of production.

# **Works In Progress:**

Fully implement the recently completed Medicine Hat site environmental plan.

# 2.1.6 Promotion of Responsible Care by Name

The Team's comments for this code area are documented in the global section of the report.

# 2.2 Team Observations Concerning Stewardship Code

Team's comments overall comments for this code area are documented in the global section of the report.

## **Successful Practice**

• The Medicine Hat site's supplier/carrier management system.

## 2.3 Team Observations Concerning Accountability Code

#### 2.3.1 Operating Site Communities

# **Successful Practice:**

• The strategic approach to stakeholder engagement by the Medicine Hat site. Examples include their aboriginal engagement initiative, volunteering to identify safety risk exposure potentials at the annual Medicine Hat Exhibition and Stampede Kiddies' Day etc.

# **Improvement Opportunities:**

- The Medicine Hat site is encouraged to share, in a timely manner, the recently updated site risk profile
  information with their potentially impacted residential and industrial neighbours as well as their local
  Community Advisory Panel (Ref OP 39 & AC 129).
- Using CIAC code elements AC 125 through 136 as a reference and in consultation with their local Community Advisory Panel (CAP) members, the Medicine Hat site is encouraged to develop a CAP charter describing the CAP's objectives and member roles and responsibilities for use as a periodic reference in assessing their ongoing effectiveness.

## 2.3.2 Other Stakeholders

A Finding Requiring Action identified during the previous verification was for the Medicine Hat site to become active participants in CIAC's Prairie's Regional TransCAER committee and its outreach processes. The current team found that this finding was subsequently addressed with the company now meeting or exceeding expectations in this regard as evidenced by their involvement in organizing and scheduled implementation of both a regional TransCAER exercise and a rail emergency response exercise prior to year end 2014.

## 3. TEAM OBSERVATIONS ON THE COMPANY MANAGEMENT SYSTEM

The site's comments for this area are documented in the global section of the report.

## TEAM OBSERVATIONS ON THE RESPONSIBLE CARE ETHIC AND PRINCIPLES FOR SUSTAINABILITY

The Team's comments for these subjects are documented in the global section of the report.

#### **APPENDIX B - NEW ZEALAND SPECIFIC ITEMS**

#### INTRODUCTION:

This appendix documents New Zealand Site specific items not included in the global Responsible Care Reverification report. As a result, both the main report and this appendix must be reviewed to identify all items applicable to the New Zealand site.

#### **GENERAL:**

At the time of the 2011 verification visit, only one of the three New Plymouth methanol plants was operating with the remaining two having been mothballed so that they could be placed back in service should the availability of feedstock improve. With new feedstock sources having been subsequently found, the two plants which had been mothballed for a few years were re commissioned and placed back in operation. An example of the challenges presented was in the hiring and training of sufficient personnel to safely commission, start up and operate these facilities. A unique approach was utilized to maintain a safety focus by both company and contractor employees during the plant restart projects.

The team found that while the restart projects could have resulted in a loss of focus in various areas, the site continued to maintain its well documented and implemented overall Responsible Care management system with an ISO approach continuing to be followed to ensure that documents were current, follow up items from audits and inspections managed through closure etc. The team concluded that maintenance management processes remained impressive with continuous improvement having been evident in the contractor management area as documented in section 2.1.2 below. A strong Responsible Care culture continues to be evident at this location.

## 2.1 Team Observations Concerning Operations Code

## 2.1.1 General

## **Finding Requiring Action:**

The Responsible Care New Zealand representative on the New Plymouth verification team noted that the
recently constructed site foam trailer does not meet HSNO regulations for tank wagons and transportable
containers.

# 2.1.2 Operations Activities

#### **Work In Progress:**

The New Plymouth location is in the process of addressing deficiencies in a recently updated maintenance contractor selection process that has the potential for eventual application at other manufacturing sites. Features include:

- Site global experts are involved in the selection process by defining contractor qualification standards.
- Contractors' wanting to be included on the location's preferred supplier list must satisfactorily complete a formal company audit.
- A Methanex contractor employee induction process which includes a sign off by contractor management, demonstrating that assigned employees are qualified to complete the work to be performed. The company can also request specific qualification data for individual contractor employees to validate the contractor's sign offs.

## 2.1.3 Safety and Security

# Occupational Health & Safety:

Current Occupational Health & Safety areas of focus at New Plymouth include the development of a hazard register for emergency response, Human Factors/Behavior Based Safety initiatives, increasing the numbers of trained accident investigators and moving facility smoking areas to outside the fence lines.

#### **Successful Practice:**

- The comprehensive Occupational Health & Safety program at the New Plymouth site included:
  - Bladder and fatigue management programs
  - Free first aid training for employee's family members
  - The "Stand Up For Safety" process used to maintain workers focus on working safely during the New Plymouth Facility's restart project.
  - Intensive Methanol exposure testing for laboratory personnel

## **Process Safety Management:**

Self assessments vs. The CCPS benchmarks were 50% completed when efforts in this regard were redirected to completion of the New Zealand Safety Case assessment for which legislation dictated completion within two years. At the time of the verification visit, 60% of the safety case assessment had been completed for the Motunui site and plans were in place to complete all three site assessments by the government deadline. Eighty follow up items had been identified to date, of which the most significant were the identification of critical process safety elements and their related assurance processes.

A site wide Hazop of the Motunui facility has just started at the time of our visit with this work to be continued on to the second Motunui site followed by Waitara Valley. Circles of influence had not yet been defined for the various major hazards at the time of the verification visits

Verification team members were concerned that the chlorine cylinder storage area did not present as high a risk profile in the site's recent site risk assessment as did that for a feedstock metering station failure. This concern exists because chlorine storage had presented such a high risk profile at other Responsible Care company sites team members had visited over the years that chlorine was replaced by a less hazardous material for their cooling water treatment system.

#### **Works In Progress:**

- The site Hazop updating process had just begun without any timelines for completion having been shared with the verification team. (Ref OP 29).
- Complete the risk/benefit evaluation regarding the use of chlorine versus other alternatives for treating
  cooling water at the New Plymouth location while giving due consideration not only to operations code
  elements OP31, 32 and 33 but stewardship code elements ST 94, 95 and 97. Collaborating with Responsible
  Care companies in other countries such as Canada is recommended to ensure that industry best practices
  are included in the decision making process.
- Finalize and implement on a planned basis the Critical Infrastructure Plan currently being developed.

#### **Emergency Response:**

# **Findings Requiring Action:**

- Determine the reason for, and implement corrective actions to address, both the LEL alarm activations and subsequent lack of response at the Taranaki ship loading terminal.
- A finding requiring action is for the New Plymouth location to:
  - Identify the circles of influence for the various major hazards at the New Plymouth sites.
  - Based on the outcome of the above, develop emergency response strategies for the identified response scenarios and conduct internal emergency response drills and response simulations with local responders for response scenarios extending beyond plant boundaries on an ongoing basis with an effective process in place to address gaps identified during exercise debriefing sessions.
  - Communicate reasonably foreseeable events and the circles of influence for the various major hazards to the CAP and community.

# **Work In Progress:**

• Finalize and fully implement the risk mitigation and Emergency Response plans for methanol pipelines between the New Plymouth plant sites and from plant sites to the ship loading terminal.

# **Improvement Opportunity:**

For all New Plymouth operations sites, an improvement opportunity exists by clearly defining roles and
responsibilities between company and outside responders in the event of onsite medical, fire, rescue, or
hazmat emergencies.

# **Incident Reporting and Investigation:**

# **Improvement Opportunity:**

With Responsible Care New Zealand's representative on the verification team during the New Plymouth
visit having expertise in the area of accident scene information gathering which he is willing to share, an
opportunity for improvement exists by Methanex taking advantage of this knowledge base as a means of
improving the quality of information input to their Event and action tracking system (KMI). Include the
input from this process in finalizing the corporate Accident/Incident Investigation Standard and
investigation tools document currently being developed.

### 2.1.4 Environmental Protection and 2.1.5 Resource Conservation

A number of resource conservation projects were implemented at the two re-commissioned methanol plants prior to placing them back in service. The recent installation of a new de-aerator at one of the New Plymouth production units has also reduced systems steam usage by 2/3 and also reduced noise levels considerably from the previous installation. Water recycling opportunities and the capturing of storm water were being examined at the time of the verification to develop projects that would reduce river water usage by the Waitara Valley and Motonui facilities. The location has also developed and implemented an environmental awareness training program for operating personnel.

# **Works in Progress:**

The verification team encourages Methanex to expedite:

- The approval and installation of the currently being evaluated vapour recovery project at the New Plymouth ship loading terminal
- The identification and implementation of projects to reduce raw water usage at the Waitara Valley and Motonui plant sites.

#### **Successful Practice:**

• The New Plymouth location's Operator Environmental Awareness training program.

# 2.1.6 Promotion of Responsible Care by Name

The Team's comments for this code area are documented in the global section of the report.

## 2.2 Team Observations Concerning Stewardship Code

The Team's comments for this code area are documented in the global section of the report with the following location specific item having been identified.

# 2.2.2 Expectations with Respect to Other Parties Improvement Opportunity

• The team concluded that an opportunity for improvement exists by clarifying the roles and responsibilities of the various parties involved regarding the permitting process for work performed along the New Plymouth area pipeline corridor. This review needs to consider risks imported from each of the parties

sharing the pipeline corridor during operating, construction and maintenance scenarios as well as those potentially exported to other parties by Methanex under similar scenarios.

# 2.3 Team Observations Concerning Accountability Code

# 2.3.1 Operating Site Communities

During the team's meeting with the New Plymouth Community Advisory Panel, plant noise was identified as being the major concern of local residents, particularly following the recent restart of the Waitara Valley facilities. During the time these units were out of service, residences were constructed closer to the site without the new neighbours recognizing the potential for restarting the Methanex facilities and the resulting change in area noise levels. However, the CAP acknowledged that Methanex were sensitive to concerns raised and had funded home glazing improvements to reduce noise levels in neighboring residences ( Note- Area noise levels were within legal requirements – the noise level change from the previous very quiet background was the issue.)

## 2.3.2 Other Stakeholders

During the previous verification, it was reported that the Director of Manufacturing and Manager of Public Affairs met with the local Mayor and council representatives annually with topics discussed including the local economy and business outlook, Methanex business plans and concerns etc. However, zoning changes did occur near the Waitara Valley plant site during the time it was mothballed as detailed in section 2.3.1 of this report.

## **Improvement Opportunity:**

 An improvement opportunity is for site leadership at New Plymouth to formalize a process for ongoing dialogue/engagement process with local elected and appointed officials (Ref ST 137-140). A proactive approach is suggested to minimize the potential for zoning changes being made allowing residential construction near plant sites such as what occurred at Waitara Valley.

## 3. TEAM OBSERVATIONS ON THE COMPANY MANAGEMENT SYSTEM

The Team's comments for this code area are documented in the global section of the report.

#### TEAM OBSERVATIONS ON THE RESPONSIBLE CARE ETHIC AND PRINCIPLES FOR SUSTAINABILITY

The Team's overall comments for these subjects are documented in the global section of the report.

The New Plymouth location was in the early stages of developing a formal sustainability strategy at the time of the team's visit. Current initiatives include the recycling of water and the collection for use of process and storm waters to raw water consumption and the vapour collection project at the product loading terminal.

## **Improvement Opportunity:**

 To develop and implement an overall New Zealand Manufacturing resource conservation and sustainability plan.

#### **APPENDIX C - PUNTA ARENAS SITE SPECIFIC ITEMS**

#### INTRODUCTION:

This appendix documents Punta Arenas Site specific items not included in the global Responsible Care Reverification report. As a result, both the main report and this appendix must be reviewed to identify all items applicable to the Punta Arenas site.

#### **GENERAL**:

This site has faced considerable uncertainties resulting from the lack of natural gas feedstock for several years with but one methanol plant currently operating versus four when the site was at maximum capacity. Two of the four plants were dismantled and relocated to the United States since the previous verification in 2011 with one of the two remaining plants now having been out of service for several years. This downsizing has created considerable challenges for the site and necessitated a significant downsizing of the workforce. Despite the above, the verification team found that excellent progress has been made in addressing the items for improvement documented in the site's previous verification report. For example, core competencies were found to remain to not only facilitate the plant being operated and maintained effectively but to implement continuous improvements in various areas of involvement.

## 2.1 Team Observations Concerning Operations Code

## 2.1.1 Design and Construction of Facilities and Equipment (OP 1-6)

Hazardous risk assessments are performed for all projects including the small projects implemented by the site's maintenance group. Hazop and "What If" tools are normally used and procedures are in place defining which tool to use. The largest project undertaken by the site since the previous verification involved significantly changes to enable the facility to operate at rates as low as 20% of design during periods of feedstock shortage. This project was successfully completed using the site's facilities change process and risk assessment tools described above

## 2.1.2 Operations Activities (OP 7-21)

The Team's comments for this code area are documented in the global section of the report.

## 2.1.3 Safety and Security (OP 22-58)

Occupational Health & Safety:

## **Successful Practices:**

- The ongoing communications process with, and support to, employees at the Punta Arenas site during the
  facility downsizing process which minimized the potential adverse consequences of stress during the of
  workforce reduction period. Examples include daily talk sessions and having the freedom to miss work if
  feeling unwell.
- The comprehensive Punta Arenas health monitoring program. Noteworthy aspects include:
  - Ergonomic evaluations completed for all jobs both initial and when jobs change and are working with their major contractor to do likewise.
  - The Fit to Work, Job Physical Demands and Job Task Analysis processes.
  - Full body medical scan program in place.

#### **Process Safety Management:**

A gap analysis vs. the CCPS benchmarks was completed and action plans developed to address these. There were gaps remaining against 4 of the 20 CCPS elements at the time of the verification visit with closure of these targeted for Q3, 2015. Progress has also been made since the previous verification in updating site's Hazops which were considerably behind their due dates for updating at the time of the previous verification. Completion of the updating process is targeted by the end of Q2, 2015.

The verification team concluded that, considering all the challenges this site has faced due to the feedstock uncertainty situation, excellent progress has been made in this area with the site being obviously committed to complete the upgrading of their programs by the target dates established.

# **Works in Progress:**

- Complete the updating of Hazops at the Punta Arenas site by the end of Q2, 2015 as currently planned.
- The Punta Arenas site is encouraged to complete the gap closure in the four uncompleted elements of the 20 CCPS PSM benchmarks by or before the current completion target of Q3, 2015 and the updating of their location's worst case scenario and Quantitative Risk Assessment (QRA) by their respective targets of year ends 2015 and 2016. (Ref OP's 28-30)

# **Emergency Management:**

# **Improvement Opportunity:**

 With the last joint exercise having been held in 2012, formalize and implement a plan to conduct emergency response exercises with local emergency responders at specific intervals versus defined site response scenarios.

# **Findings Requiring Action:**

• It is a finding requiring action that the Punta Arenas site determines the imported risk from neighbour ENAP's facility and to update their emergency response notification system and response plans as required to include this risk (Ref OP's 31 & 35).

## 2.1.4 Environmental Protection and 2.1.5 Resource Conservation (OP 58-80)

Site wastes are categorized, segregated and recycled to the extent possible. A web based program is used to track classified wastes being transported to ensure that specific loads reach their intended destination

# **Improvement Opportunity:**

• The development and implementation of fugitive emissions monitoring strategy and plan for the Punta Arenas site (this is a repeat item from the previous verification).

## 2.1.6 Promotion of Responsible Care by Name (OP 81-84)

The Team's comments for this code area are documented in the global section of the report.

# 2.2 Team Observations Concerning Stewardship Code

# 2.2.1 Expectations of Companies (ST 85-114)

The Team's comments for this code area are documented in the global section of the report.

## 2.2.2 Expectations with Respect to Other Parties (ST 115-124)

The bulk of product from the site is delivered in shipload quantities with the rest being truckload deliveries. The numbers of trucks loaded varies between four and eight per month. All trucks are customer supplied with the site performing detailed examinations of the vehicles as well as shipping documentation to ensure all is in order before loading. The trucks visiting the site are dedicated to methanol service and the furthest delivery location is approximately 250 km from the Methanex plant. While there is transportation emergency responder based in Punta Arenas (Suatrans), site personnel interviewed reported that their customers do not have agreements in place with them.

## **Improvement Opportunity:**

Work with customers to ensure that an effective transportation emergency response capability exists for the trucking of methanol from the Punta Arenas plant to customer delivery sites.

# 2.3 Team Observations Concerning Accountability Code

#### 2.3.1 Operating Site Communities

The community engagement process review underway at the time of the previous verification was finalized and implemented. The team noted that the site's Community Advisory Panel (CAP) now includes a broader range of stakeholders with discussions with CAP members during our visit indicating an improved awareness and appreciation of the Methanex site and its challenges and initiatives.

#### 2.3.2 Other Stakeholders

The Team's comments for this code area are documented in the global section of the report.

#### 3. TEAM OBSERVATIONS ON THE COMPANY MANAGEMENT SYSTEM

# 3.1 Observations on the PLAN Step

The Team's comments for this code area are documented in the global section of the report.

## 3.2 Observations on the DO Step

The Corporate Audit Standard states that each of the 12 elements in the location level 2 audit needs to be conducted over 3 years. This was a Finding Requiring Action In the previous verification report as no level 2 audits had been completed vs. the current cycle with only one (office Health & Safety) having just begun. This verification team observed that corrective actions were implemented to address this deficiency with site level 2 audits now being conducted on a staged process to ensure complete coverage over the prescribed three year cycle.

## 3.3 Observations on the CHECK Step

The Team's comments for this code area are documented in the global section of the report.

## 3.4 Observations on the ACT Step

The Team's comments for this code area are documented in the global section of the report.

#### **Successful Practice:**

• The Punta Arenas site's rigorous and thorough audit management system tool which warrants serious consideration for corporate wide use.

## TEAM OBSERVATIONS ON THE RESPONSIBLE CARE ETHIC AND PRINCIPLES FOR SUSTAINABILITY

The Team's comments for these subjects are documented in the global section of the report.

#### **APPENDIX D - METHANEX EGYPT SPECIFIC ITEMS**

#### **INTRODUCTION:**

This appendix documents Egyptian Site specific items not included in the global Responsible Care Reverification report. As a result, both the main report and this appendix must be reviewed to identify all items applicable to Egypt.

#### **GENERAL:**

Methanex Egypt is a joint venture (JV) between Methanex (50%) and four Egypt government owned companies; Echem (17%), Egas (9%), Gasco (12%) and APICORP (12%). Echem is the chemical partner who sells and distributes the methanol in Egypt. They have about 40 customers and methanol is transported from the Damietta plant by truck. The total volume is about 70 KT/yr. Egas is the Egyptian holding company responsible for the nation's gas production. Gasco is the gas distributor and APICORP is solely an investment partner. The Damietta plant has an annual production capacity of 1.3 MT and all the production except the Echem volume is shipped via Marine by Waterfront Shipping.

This Responsible Care verification covered conformance to the 3 Codes of Practice (i.e., Operations, Stewardship and Accountability) and the related 152 elements contained therein. One half day was spent in the Cairo office to become familiar with the Methanex Egypt joint venture and verification of their status versus Accountability Code elements 137 to 152 (Other Stakeholders) and their approach to Social Responsibility. During the three and a half days at the Damietta facility a Responsible Care-in-Place type verification was performed, with the focus on Operational Safety and Security, Transportation activities and Community Dialogue.

## 2.1 Team Observations Concerning Operations Code

# 2.1.2 Operations Activities (OP 7-21)

# **General Considerations**

Procedural controls are supported by ISO-9001/14001, OSHA-18001, compliance with the Methanex Global Responsible Care Global Management System elements (23) and the Process Safety Management (PSM) Standard elements (20). The periodic verification corrective action plans and maintenance activities are followed up by "Smart Sheet" and "Maximo" software systems respectively. The new "KMI" software currently being installed corporate wide will replace the current "Smart Sheet" software for managing activities and action plans. A Management of Change process is in place for both equipment and organizational changes.

# **Improvement Opportunity:**

• Complete the transfer of the contents of the "Smart Sheet" database to the KMI software as soon as possible and correct the deficiencies in the tracking and follow up capabilities of the "Smart Sheet" system.

# **Transportation and Physical Distribution**

Methanol produced on site is either transported by marine or road. The road transportation volume is about 70KT, or 5% of the total production. Marine shipments are under the responsibility of Waterfront Shipping, wholly owned by Methanex. Road transportation is the responsibility of Echem Customers. Echem acts as a distributor of methanol in Egypt. Methanex surveyed the three main roads, identified the potential safety/security issues along the way, and have informed Echem of the results. Methanex mentioned that Echem should notify them of any transportation incidents along the transportation corridors by the carriers transporting methanol. All Echem customer carriers must adhere to Methanex safety & security procedures while on site. This includes the verification and compliance to the certificate of equipment fitness delivered twice per year by a government agency. Methanex has discussed the possibility of customer carriers becoming Global Positioning (GPS) Systems equipped with Echem for virtual location scrutiny (security) and monitoring of on road driver behaviours (safety). The verification team inspected various carrier truck tankers and their

equipment and noted that in one instance a carrier truck tanker had no methanol product identification on the tank (UN #) but was labelled for jet A product only.

During the loading dock visit it was noted that a pipeline was in place to transfer methanol vapours generated during ship loading operations back to the plant site for recovery. However, this system was not operational due to the lack of a flexible connection system to the ship. Methanex is in the process of correcting this deficiency by the installation of a vapour recovery flexible arm by 2017.

### **Works In Progress:**

- Establishing of site safety rules to clearly stipulate that tankers will not be loaded with methanol without proper identification (UN # or equivalent).
- Complete the installation of and place in operation a flexible loading arm to collect vapours generated during ship loading operations for delivery back to the plant site via the existing collection pipeline by 2017.

# **Improvement Opportunities:**

It is suggested that Methanex:

- Formalize with Echem the necessity for reporting of all incidents involving the transportation of methanol by all customer carriers.
- Pursue the initiative to equip all customer tractor units with a GPS device to enhance road safety and security.
- Formalize the response plan for product leaving or arriving at the Damietta site.

#### Maintenance

All maintenance activities were reviewed. A training matrix exists for each job and documented safety procedures and preventive maintenance programs are in place. A site specific critical equipment list had not been developed to date with the site using for the Punta Arenas plant list as an interim reference. Plant repair and preventive maintenance work is scheduled and managed using the Maximo Software. The work force is all contracted but all workers must adhere to Methanex rules and procedures.

## **Improvement Opportunity:**

• It is suggested that the plant develop a site specific critical equipment list because the plants (Punta Arenas vs. Damietta), while similar, are not identical and some key equipment could be omitted from a preventive maintenance priority standpoint.

## 2.1.4 Safety and Security (OP 22-57)

## Occupational Health and Safety & Incident Reporting and investigation

The site uses as its base a study carried out by a consultant named Det Norske Vertas (DNV) in 2008 to identify its risks, circles of influence and mitigation plans. Hazard and Operability Studies (HAZOPs) are performed and the location has a comprehensive Management of Change (MOC) procedure which is thoroughly applied. The facility's Piping and Instrumentation Diagrams (P&IDs) are not to "As Built" status. Procedures exist for all key activities and a customized, 52 element training matrix is in place for all operations/maintenance positions to augment the basic Health Safety and Environment (HSE) training for all employees. All incidents, including near-misses are reported in the company's event and action system (KMI) and are investigated using the "TapRoot" root cause analysis process. Corrective action plans remain open until completion. Employees are encouraged to report any noted facility deficiencies. They do not have a formal behaviour based observation program to improve employee safe behaviour. Some industrial hygiene monitoring practices exist but there is no formal industrial hygiene monitoring strategy or program for identified potential problems (e.g. - chemicals on site, noise levels, heat stress, short and long term exposures). A hiring medical job fit test is performed but for the time being they have no program for ongoing employee health monitoring. A scrutiny of their reporting software (Smart Sheet) to follow their work on corrective action plans, audit action plans, etc. demonstrated

that some work tasks were not followed beyond their expected completion date. Several practices are being addressed following their Responsible Care verification process outcomes and have to be completed.

## **Works In Progress:**

- A global industrial hygiene program is being formalized for all exposures and activities to assure long term health of all employees.
- A periodic medical testing program customized to each employee's tasks & responsibilities is being formalized.
- Improvement is being made in the "Smart Sheet" software to assure timely follow-up and completion of all action items.
- The updating of P&ID's to "as built" status is scheduled for completion within the next 2 yrs.

# **Improvement Opportunity:**

Implement a behaviour based safety observation program to enhance worker safe habits and practices.

## **Process Safety Management**

Plant personnel are presently working to address the gaps found in a recent self assessment of the facility status with respect to the Methanex Process Safety Management Standard (20 elements). This is scheduled for completion by 2017.

## **Work In Progress:**

• Closing the outstanding gaps identified from a self assessment of the facility status with respect to the Methanex Process Safety Management Standard.

## **Emergency Management**

The plant has its own dedicated Emergency crew on a 24/7 basis and a comprehensive emergency response plan. Monthly joint emergency simulations are performed with their industrial neighbours and the Damietta Port Authority. Methanex hosted 2 events in 2014. Weekly emergency simulations are also performed by their internal emergency crew on both day and night shifts.

It was noted that Methanex was unsure of the capacity of the joint actions of Echem /National Civil Defence (CPA) to address a transportation emergency off site. A revision of the 2008 DNV study has just been completed (yet to be reviewed). The scope included an analysis of potential risks from the neighbouring Liquefied Natural Gas (LNG) plant and marine loading facility.

## **Improvement Opportunities:**

- If the revised DNV study reveals that some risk scenarios could affect the adjacent neighbours (circle of influence to extends beyond property limits), site management need initiate a communication plan with the affected neighbour(s) to mitigate the effects of such an emergency.
- Methanex should discuss with Echem/CPA their emergency plan effectiveness/content and as required give them the knowledge or training to effectively address a methanol road transportation incident.

## **Malicious Intent**

The security procedures and practices were scrutinized. The plant has a 2-tier security plan. The first tier is the responsibility of the Damietta Port Authority (DPA) and tier 2 is the responsibility of Methanex. It was noticed during the verification process that there were some deficiencies in the DPA activities.

# **Improvement Opportunity:**

• It is suggested that the DPA security practices be re-evaluated and, as required, improve the Methanex tier 2 practices to address the noted deficiencies.

## **Critical Infrastructure / Business Continuity**

The location has considered the typical scenarios that could occur and has business continuity plans for these.

## 2.1.4 Environmental Protection and 2.1.5 Resource Conservation (OP 58-84)

Methanex has a plant wide energy reduction plan and a waste recycling program. They monitor all wastes generated. Hazardous wastes are sent only to government regulated/operated waste recycling plants. Procedures for effective on site handling of Methanex wastes by government approved contractors are in place. They have a temporary, fenced in, waste storage site while awaiting funds to invest in the construction of permanent facilities. Neither procedures nor practices are in place to assure that the waste contractor's transportation equipment is properly maintained to avoid accidental failure while being on site doing work or travelling back to their site with Methanex wastes.

## **Work In Progress:**

Installation of a permanent waste storage facility planned for completion before 2016.

# **Improvement Opportunity:**

 Methanex should apply the same procedures and practices as they apply with their Methanol carriers to assure waste contractor's transportation equipment reliability and minimize the possibility of equipment failures.

## 2.1.6 Promotion of Responsible Care by Name (OP 81-84)

The Team's comments for this code area are documented in the global section of the report.

# 2.2 Team Observations Concerning Stewardship Code

The team's overall comments for this code area are documented in the global section of the report.

## **Expectations of Companies (ST 85-99)**

## **Expectations Beyond R&D**

Methanex has only one customer, Echem, which is also a JV partner. They have a close and ongoing relationship and Methanex has supplied them with all the required Information and trained them on methanol properties and safe handling procedures.

Responsible Care is routinely addressed at meetings with the gas supplier and the customer with a focus on the name and the meaning. A similar effort is applied to contractors and service providers. Misuse of product has been addressed with the customer. Being a new facility there are no historical hazardous waste practice or disposal site issues.

## **Expectations of Companies with Respect to Other Parties (ST 115-124):**

GE Capital is the main supplier of chemicals through a corporate agreement. Supplies can be procured locally if needed. Suppliers and service providers have Responsible Care related expectations defined in bid packages and contracts.

# 2.3 Team Observations Concerning Accountability Code

## 2.3.1 Operating Site Communities (AC 125-136)

Methanex maintains a close relationship with the local University. They support the academics in methanol safe handling and also give one week onsite training to summer students on chemicals health and safety issues and safe handling.

Methanex has also an effective community dialogue process based on the "right to know" principles. They have identified in the community key individuals that are closely related to the Damietta population at large. They address citizen requests or preoccupations on a regular basis. The site's 5-member CAP has been meeting twice a year since early 2014 and identify the population preoccupations and urgent needs. The company

works with the CAP members to improve the quality of life of the less advantaged people on education or health issues. In 2014, they supplied funds and sweat equity to improve equipment in a neonatal health clinic and improving the living conditions of a kindergarten for 2 to 6 year olds.

#### **Successful Practice:**

The Damietta site's commitment to understand and respond to the full range of local community concerns (Ref AC 128) as evidenced by their-

- Ongoing support to the Damietta University and the summer one week student training program.
- Social approach in helping their local community improve living conditions from an education and health
  point of view with funds and sweat equity and the company's ongoing availability to address the local
  population's concerns with the "right to know" principle.

# 3.2 Other Stakeholders (AC 151-152)

Methanex Egypt has a unique relationship in that all of its joint venture partners are links to the Egyptian government since they are companies under the government authority. Methanex (Cairo) has put in place a management process to align Methanex business priorities including all key Responsible Care activities with Egyptian government priorities. They perform a key stakeholders mapping (SWOT analysis). The end results are that JV partners are voluntary implementing Responsible Care principles in their regular activities, especially Echem with the transportation activities.

#### **Successful Practice:**

• The effective management process in place to align Methanex and Egyptian Government business priorities which has resulted in joint venture partners voluntarily adhering to Responsible Care principles.

# 3. TEAM OBSERVATIONS ON THE METHANEX EGYPT MANAGEMENT SYSTEM

The Damietta plant has a comprehensive integrated management system that complies with the Methanex Global Responsible Care Management System and the International Organization for Standardization/Responsible Care Management System. They were registered to ISO-9001 (Quality Management) & OHSAS-18001 (Occupational Health & Safety) on 2014-04-23 and ISO-14001 (Environmental Management Systems) on 2014-05-09.

A Methanex Corporate Level 1 Audit was completed in June 2013. The last internal verification of the integrated management system was performed in November 2014. Numerous key performance indicators (KPI's) for operational safety, transportation, and social responsibility effectiveness are monitored to support their Operational Excellence activities. They have documented annual milestones which are regularly reviewed and have targeted their 2015 milestones.

# **Successful Practice:**

• The Methanex Egypt "Operations Excellence" to their Global Management System and their rigorous follow up of corrective action plans are considered a successful practice.

### TEAM OBSERVATIONS ON THE RESPONSIBLE CARE ETHIC AND PRINCIPLES FOR SUSTAINABILITY

The Team's comments for these subjects are documented in the global section of the report.

