June 22, 2016

Ms. Kirsten Walli
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: EB-2015-0363 – Consultation to Develop a Regulatory Framework for Natural Gas Distributors' Cap and Trade Compliance Plans – Union Gas Limited Submission on Discussion Paper

In response to the Ontario Energy Board ("Board") Staff Discussion Paper on a Cap-and-Trade Regulatory Framework for Natural Gas Utilities dated May 25, 2016 ("Discussion Paper"), please find enclosed Union Gas Limited's ("Union") submission.

If you have any questions concerning this submission please contact me at 519-436-5334.

Yours truly,

[*Original Signed by*]

Vanessa Innis
Manager, Regulatory Initiatives

c.c.: Mark Kitchen, Union
Crawford Smith, Torys
EB-2015-0363 Participants

CAP-AND-TRADE REGULATORY FRAMEWORK FOR THE NATURAL GAS UTILITIES-UNION GAS LIMITED SUBMISSION

In response to the Ontario Energy Board ("Board") Staff Discussion Paper on a Cap-and-Trade Regulatory Framework for Natural Gas Utilities dated May 25, 2016 ("Discussion Paper"), this submission provides Union Gas Limited's ("Union") positions and suggestions for consideration. The submission begins with a summary of Union's positions, and provides further detail throughout the rest of the document.

Executive Summary

Background

Union is committed to implementing the cap-and-trade program and to supporting its success. As the province strives to meet its 2020, 2030 and 2050 Greenhouse Gas ("GHG") emission reduction targets, Union believes that natural gas can play, and indeed Ontarians need it to play, an even greater role in partnership with the government to achieve emission reductions while balancing energy affordability for consumers. In this vein, Union is working towards compliance with program regulations and is taking all actions required to meet its obligations.

As a regulated natural gas utility, or distributor, to over 1.4 million homes and businesses across more than 400 communities in Ontario, Union has unique implementation considerations as it transitions to the cap-and-trade program for January 1, 2017:

- The sector is regulated and subject to the guidelines, regulations, and matters of law within the Board's jurisdiction which need to be considered, specifically as they apply to cap-and-trade and the development of the framework and compliance plans.
- Natural gas utilities have the obligation to continue to serve their customers. Union has little direct control over its customers' consumption and emissions although it encourages reductions in consumption through its Demand Side Management ("DSM") programs.
- As recent experience demonstrates, natural gas consumption can vary greatly from season to season, and from year to year for Union's residential and commercial customers. In addition, Union can experience considerable volatility due to consumption variations of the large natural gas-fired power generators. This volatility will add complexity to the planning and execution of emission allowance purchase plans. The appropriate recovery of costs for those customers who will drive the requirement to purchase allowances can also vary seasonally and annually;
- Natural gas utilities will be competing for allowances in a market that includes other participants who are not regulated and are not subject to regulatory determination of plan prudence. Initially, the market for allowances in Ontario will be small and illiquid, which will have undetermined impacts on the availability and price of allowances. At this point, there is no certainty in terms of Ontario joining the Western Climate Initiative ("WCI"); and
- Union has a much larger compliance obligation than most other participants, and is projected to be the second largest acquirer of allowances in Ontario.

There is also market context to be considered in the development of this framework. First and foremost, the carbon market in Ontario is in its infancy – it is not a deep or liquid market, resulting in a market that could be volatile and difficult to predict. Contributing to this, there remain a number of regulations yet to be defined (such as offsets and early reduction credits) which will impact the market. In addition, it is not yet known when or if Ontario will join the WCI, although Union recognizes significant effort is underway by the government to achieve this linkage. While the cap-and-trade regulations and proposed Board framework elements are leveraging

experience in California and Québec (fellow WCI members), it must be noted that this market is still relatively young and unstable, as evidenced by recent undersubscribed sales in the WCI government auctions.

Compounding the uncertainty around the market is the speed with which Ontario is developing the program and supporting framework, relative to other jurisdictions with a cap-and-trade program. Union recognizes that the Board is supporting the province's commitment to deliver on its ambitious GHG reduction targets, and that there are significant efforts required by all levels of government and the utilities in order to smoothly implement the program by January 1, 2017.

In addition to the speed of implementation, Ontario is unique relative to the programs in California and Québec in a number of ways. Most notably, in those jurisdictions natural gas distribution was phased in during the second year of the program. In addition, natural gas utilities in California received free allowances. These steps helped ease the transition to cap-and-trade for these consumers - consumers who are not as reliant on natural gas for their overall energy needs compared to consumers in Ontario. California is a "non-heating state", and in Québec, close to 85%[1] of residents heat their homes using electricity. The impact of cap-and-trade for Ontario consumers will therefore be of greater magnitude and more immediate, and consequently the supporting framework to implement the program should consider how to make the transition as smooth as possible for ratepayers.

All of these factors contribute to the collective challenge that government, the Board, the utilities and interested parties share when developing the cap-and-trade regulatory framework. It is in this context that Union has given due consideration to the Discussion Paper and has brought forward the comments documented in this submission. This submission also builds upon Union's prior letter, dated April 22, 2016, which summarized initial positions following the Board stakeholder meeting with natural gas utilities on April 5, 2016.

Key Recommendations

- **The overarching principle of the program should be compliance and prudence.** Union interprets prudence to mean that the utility meets its compliance obligation by minimizing risk and achieving an overall cost that is reasonable as compared to the market for allowances as it evolves over time. The goal should not be to "beat the market" and assume risk for purposes of trying to "optimize" costs. Union has a time-tested framework related to the purchase of natural gas for the customers it serves including the associated prudence test. In Union's view, there should not be an over-emphasis on cost optimization, especially at the outset of the cap-and–trade program when the market for allowances is in its infancy and is not liquid.

- **The guiding principles should be similar to the long-standing and tested gas supply planning principles**, and should focus on compliance, diversity to minimize risk, and flexibility to adapt to changing conditions. In addition, the guiding principles should reflect transparency for the Board and for customers, while maintaining the appropriate level of confidentiality in terms of Union's participation in the market and purchase of allowances.

- **Initial compliance plans should be simple**, recognizing the accelerated implementation timing of cap-and-trade in Ontario relative to other jurisdictions, the fact that the allowance market is not yet developed, and the associated learning curve for utilities.

[1] http://www.statcan.gc.ca/pub/11-526-s/2013002/t002-eng.htm

- The **initial compliance plan to be filed in 2016 by natural gas utilities should focus solely on 2017**. A second compliance plan filed in 2017 should focus on 2018. Union does not believe that it is either practical or valuable to create a long-term plan at this stage. As noted above, there is significant uncertainty in respect of the cap-and-trade program and the market for emission allowances. This makes the ability to create a longer term plan and strategy very difficult, if not impossible. Longer term plans may be more easily considered at a later date once experience is gained with the market.
- **Risk management plans featuring sophisticated financial instruments should not be employed at this time.** Risk management and hedging practices were discontinued by the Board for Union in EB-2007-0606 in relation to gas supply purchases on the basis of the Board's view that they provided limited benefit to customers. In Union's view, it makes little sense to have a framework where such risk management practices are not employed in relation to the purchase of natural gas (where there is an open and liquid North American market) yet are initiated for the purchase of emission allowances in what is a very limited regional market. Active risk management and hedging practices do not guarantee lower costs for customers (as contended by Board staff); this was never the objective of risk management plans that were previously employed for the purchase of natural gas.
- **Carbon price forecasts should be updated on a quarterly basis** in order to reduce potential volatility of cap-and-trade program costs for customers, reflect market values for allowances, and adhere to the principle of cost causality. In addition, **deferral accounts should be used to capture all price variances and cleared on a quarterly basis**. This is consistent with both the expected timing of quarterly government allowance auctions (the majority of Union's purchases), and the existing Quarterly Rate Adjustment Mechanism ("QRAM") processes for gas supply purchases. A quarterly update ensures that the cost of carbon on customers' bills is as close to the real market as possible. It also ensures that the cost of carbon on customers' bills is as close to the real market as possible. The QRAM process has worked very well for natural gas purchases and is well understood by all stakeholders.
- **There should be a separate volumetric line item on the bill** to recover the costs of the program from impacted customers, similar to other Canadian jurisdictions (Québec and British Columbia). This is consistent with the purpose of the cap-and-trade program which is to affect behavioral changes of consumers, and further supports the government's and Board's objectives of transparency and energy literacy. In a recent qualitative analysis conducted earlier in June 2016, and a quantitative study completed in 2010, customers overwhelmingly support bill transparency for cap-and-trade related costs. The separate line item also facilitates the most efficient and practical method for ensuring that costs are recovered from the appropriate customers, and are tracked accurately from billing through to deferral account disposition.
- **Content of customer communication should continue to reside with the natural gas utilities**, with key topics/themes being shared with the Board. Union and Enbridge would plan to work together to achieve general consistency of message and timing across the province.

While not specifically addressed in the Discussion Paper, Union submitted an interim rate order request to the Board on April 15, 2016. The purpose of this request is to obtain approval for a rate and corresponding separate line item bill presentment that would allow Union to begin billing for customer-related allowance costs (which comprise the vast majority of the cap-and-trade program costs) effective January 1, 2017. Union requested approval of this interim rate order by July 1, 2016, in order to facilitate customer communication and billing system changes by January 1, 2017, the program effective date. Union respectfully requests that this interim rate order be approved as expeditiously as possible.

Also related to timing, Union recognizes the efforts of the Board to work through the framework process forward as expeditiously as possible. Union also acknowledges there are many elements of the compliance plan, and multiple stakeholder views on each of these elements. Given the value the Board has placed on transparency and

consultation throughout the framework development process, Union sees a potential risk that finalization of the framework could experience delays, or take longer than initially planned to complete. If this scenario begins to materialize in the coming months, then Union would support expediting the Board's approval of utilities' compliance plans for 2017 while the framework development work continues on a separate but parallel path to its natural conclusion.

The remainder of this submission provides support for the recommendations summarized above. The submission is organized in the general order provided by the Discussion Paper, with references provided for ease of comparison.

Section 1: Guiding Principles of Framework

(Referencing section 3 of the Discussion Paper)

Union supports Board staff's view that a principle-based framework will provide guidance to the utility in developing its plans, and will support a consistent approach for assessing action against these plans across utilities. However, Union has the following concerns with the proposed principles:

- The suggested principles do not acknowledge the unconditional requirement of natural gas utilities to meet their obligations to serve their customers while at the same time achieving compliance with the new cap-and-trade program regulations and legislation effective January 1, 2017. The principles must acknowledge that the cap-and-trade market primarily exists to facilitate the achievement of government objectives (i.e. GHG emissions reductions), in a cost-effective way. The primary objective that should be explicitly recognized in the regulatory framework is compliance.
- Union strongly believes the focus should be on prudence, not cost-effectiveness. Prudence is consistent with Union's obligations when purchasing gas supply within the framework of an open and liquid North American market, and would reflect execution of a sound, low risk plan that achieves compliance. The theme articulated by Board staff in the guiding principles, and indeed throughout the entire Discussion Paper, is the concept of cost-effectiveness, or the pursuit of lowest cost. In Union's view this is not appropriate, particularly in an emissions market that is in its infancy and is not yet a broad and liquid market. In addition, it is inconsistent to have a cap-and-trade program where the government is seeking to maximize the proceeds from cap-and-trade through quarterly auctions while subjecting natural gas utilities to a cost-effectiveness standard.
- The references to "optimization" and "risk management" cause Union serious concern. Union does not expect to take optimization positions with the emissions allowances portfolio through the use of sophisticated financial hedging transactions, nor does Union believe this approach is prudent. It is inconsistent with the Board directive to cease these activities for natural gas purchases, and does not recognize that experience in the carbon market needs to be gained before there can be any contemplation of financial risk management. These concerns, and Union's alternative proposal, are discussed further in the Risk Management section below.
- Union supports the objective of transparency of the plan and its execution so that the Board can review and assess prudence. Transparency will need to be accompanied by appropriate confidentiality measures to ensure that the competitive carbon market is not impacted by access to sensitive information that, if disclosed, could compromise the market.
- Union also believes the objective of transparency should include explicit bill disclosure and energy literacy for customers through a new and separate line item on applicable customer bills. This recommendation is discussed in the Bill Presentment section below.

Union's recommended approach is to develop principles which are similar to its gas supply guiding principles, presented to and repeatedly accepted by the Board. These principles have been in place for a long period of time, and have been tested in a wide variety of circumstances for both Union and Enbridge. They have also provided the Board with an appropriate level of oversight over Union's activities as it advocates for customers' interests. Therefore, Union proposes a cap-and-trade framework underpinned by the following recommended guiding principles. The objective of these guiding principles is the development and execution of a prudent compliance plan and process, which will result in reasonable costs for customers.

1. **Compliance** - ensure compliance with legislative and regulatory obligations for natural gas utilities
2. **Diversification** - minimize risk through diversification within the compliance portfolio
3. **Flexibility** - adapt to evolving market conditions

1. Compliance

Under Ontario's cap-and-trade program, the "point of regulation" for natural gas is the Board rate-regulated natural gas utility. This means that Union has an obligation to satisfy customer-related and facility-related compliance obligations for each compliance period starting January 1, 2017. The primary objective of Union's compliance plan is to ensure full compliance with the cap-and-trade program and related regulations.

2. Diversification

Given Union's legal obligation to meet program compliance requirements, Union's compliance plan should seek to minimize risk and price volatility. This will be principally achieved through diversification of compliance instruments, timing of allowance purchases through quarterly auctions, and other market mechanisms that develop over time.

While there may be several possible compliance instruments available to utilities, their use should not be unilaterally mandated. For example, the reference to the use of offset credits as a means to achieve compliance needs to be carefully considered. The rules around offset credits have yet to be established and there can be many issues related to the certification and validation of offset credits that can impact overall compliance. Similarly, the pursuit of allowances for future vintages will have to be carefully weighed against additional financing costs and potential price risk. These represent two examples where the market needs to develop and experience must be gained before the use of particular compliance instruments is mandated.

3. Flexibility

Union's compliance plan should be flexible in order to adapt to changing market conditions and an evolving business environment, including changes in government policies, customer demands, the availability of compliance instruments and carbon price dynamics. Flexibility will be achieved through diversity, as noted above, as well as through periodic plan reviews and monitoring, and adjusting quantities to respond to changing conditions. Such flexibility will also allow Union's plan to develop as the market matures and participants gain experience.

Appendix A illustrates how these recommended guiding principles relate to the long-standing gas supply planning principles described above.

Section 2: Compliance Plans

(Referencing section 4 of the Discussion Paper)

Compliance Plan Scope

In reviewing the Discussion Paper, it is clear that Board staff views the compliance plans to be holistic in nature, focusing on elements beyond just purchase plans. For example, Board staff has included components such as risk management, governance structures, marginal abatement cost curves, long term investments for GHG reductions, and DSM. Union addresses each of these items in the sections below. However, the common theme underpinning Union's responses is that the compliance plans, at least initially, need to be simple. They need to focus on compliance for the short term, incorporating the knowledge of the market and compliance instruments that exist today, and adapting to changes throughout the first compliance period. There are too many unknowns, too much inexperience, and the timeline is too tight, to presume that more advanced concepts can (or should) be contemplated at this time in the development of a low-risk, prudent plan.

Union supports Board staff's intention to evolve compliance plans over time, as the market becomes established, lessons are learned, and participants become more knowledgeable. Union fully supports reviewing the process for these components following the first compliance period, but until then, strongly advocates for simplicity, prudence, and compliance.

Duration

Union does not agree with Board staff's recommendation that compliance plans should span the entire compliance period. Union believes the initial plan for the Ontario market should be simple, focus on compliance and ensure proper and efficient cost recovery from customers. Given the complexities of the program and the speed of implementation relative to other jurisdictions, a measured approach would best serve natural gas utilities and their customers.

Similar to California's approach, Union proposes compliance plans should be filed with the Board on an annual basis. Beginning in 2016, the utilities would initially file compliance plans for 2017. Similarly, in 2017, the utilities would file compliance plans for 2018, and would continue to file plans on an annual basis for the remainder of the first compliance period. Without transparent information on carbon allowance markets (supply and demand) and forward carbon prices, long-term planning would be speculative and of little value at this time. Union notes that the uncertainty around the timing and impact of linking with the WCI makes long-term forecasting virtually impossible. As highlighted in the government's Impact Modelling and Analysis of Ontario Cap-and-Trade Program[2] document, an unlinked cap-and-trade market in Ontario has significant carbon allowance cost impacts.

Union believes annual compliance plans achieve the greatest flexibility in terms of providing the ability to adapt to changing market conditions and changing regulations, as well as to achieve continuous improvement. Union recognizes Board staff's concern that this would remove focus from long-term strategies. However, this long-term view will be achieved through other mechanisms, such as the DSM framework to achieve long-term efficiency measures for customers, and Union's own regulated capital investments. Both of these items are discussed in further detail below.

[2] http://www.enviroeconomics.org/#!Impact-Modelling-and-Analysis-of-Ontario's-Proposed-Cap-and-Trade-Program/c1uze/573a64620cf23f57cc66dd05

Union suggests that the duration of compliance plans could be re-assessed following the first compliance period (i.e. after 2020). At that time, it is assumed there would be greater clarity related to Ontario linking with the WCI, outstanding regulations, and market development. This would allow the Board and all interested parties an opportunity to assess the market going forward as well as the process for developing future compliance plans.

Forecast Components

Union accepts the proposed compliance plan forecasting components: load forecasts, GHG emission forecasts and carbon price forecast. Specific compliance plan components are summarized in Appendix B. As noted above, these forecasts should be provided on an annual basis with respect to the cap-and-trade framework.

a) **Load forecast:** as noted in Board staff's comments, Union already prepares a comprehensive load forecast for the purpose of rate setting in a Cost of Service application; this forecast accounts for both facility and customer load, as well as unaccounted for gas losses ("UFG"). Union supports the use of its existing Board approved load forecast methodology as a key input for forecasting GHG emissions on an ongoing basis.

b) **GHG emissions forecast**: Union agrees that two separate forecasts will be required to calculate its compliance obligation: customer-related emissions forecast and facility-related emissions forecast. Union believes the basis for the GHG emissions forecast should be aligned with the GHG reporting regulations (O.Reg.143/16) and guidelines (ON 20 and ON 400) in place at the time. The GHG emissions forecast should be limited to only those emissions that are subject to a compliance obligation under the cap-and-trade program. The Board's framework should not require any additional reporting of emissions that are not a part of the cap-and-trade program.

c) **Carbon price forecast**: Union agrees with Board staff that annual carbon price forecasts should be based on a large, liquid and public market exchange. Using a well-known industry source will ensure forecasting transparency and create consistency for Ontario natural gas customers. Options include a one-year forward market price on the InterContinental Exchange ("ICE"), recent auction settle price, or a Board-issued consensus forecast. Union proposes that utilities bring forward their recommendations on the most appropriate forecasting source in their 2017 compliance plan filing. As noted above, Union does not support the development of a long-term forecast at this time since there is not currently a transparent and liquid market. In addition, the carbon market in Ontario includes a high degree of uncertainty related to outstanding regulations (offsets and early reduction credits regulations) and linking with the WCI. The government's[3] analytics on cap-and-trade reveals a spike in the forecast for carbon allowance prices in Ontario by 2020 ($157/tCO2e compared to $18/tCO2e) if Ontario is unable to join the WCI in the first compliance period. Such uncertainty makes it difficult, if not impossible, to create a long-term price forecast. Even assuming linkage takes place, there remains significant uncertainty in long-term forecasts given that unpredictable factors – such as ongoing litigation involving California's cap-and-trade program, or the California Air Resources Board's consideration of how to address its current over-allocation of allowances – have the potential for significant price impacts.

In addition to these forecasting components, Union agrees with Board staff that compliance plans should include a discussion of the utility's governance system. Union believes that this is an important component of a prudent plan and process for compliance.

[3] http://www.enviroeconomics.org/#!Impact-Modelling-and-Analysis-of-Ontario's-Proposed-Cap-and-Trade-Program/c1uze/573a64620cf23f57cc66dd05

Marginal Abatement Cost Curve ("MACC")

Board staff proposes that the Board use a MACC to determine optimization and prioritization in assessing the utility's compliance plans. Based on the Discussion Paper, it is not clear to Union how the MACC is intended to be used with respect to compliance plans. A single general MACC may be employed by the government to evaluate in which projects it will invest its cap-and-trade proceeds. However, this would be outside the scope of the utility's cap-and-trade regulatory framework, and certainly outside the scope of any one utility's compliance plan. Unlike DSM projects, the utility will have no control over how the funds are allocated to abatement initiatives across the province, and across sectors. On this basis, Union does not accept that MACC curves should be developed and presented within the utility's compliance plan. If the Board supports the inclusion of MACC curves in this context, then Union would require the draft framework to provide clarity regarding how the Board sees non-utility specific MACC analysis being applied within the compliance plan.

Long-Term Investments and DSM

(Referencing sections 4.1.5 & 9 of the Discussion Paper)

Union understands that the goal of the cap-and-trade program is to reduce GHG emissions, and that this is not achieved through the acquisition of allowances and credits alone. Board staff has proposed that actions and investments to reduce Union's own emissions and the emissions of its customers need to be considered when the compliance plan is being created. Union proposes these actions and investments be addressed as follows:

- **Union's regulated operations**: a qualitative listing of actions and investments taken to reduce GHG emissions for Union's regulated activities would be addressed through the normal course of business, such as annual rate filings, or a separate application. This may include changes to Union's fleet, buildings, and compressor operations. Union notes that an interim solution for recovering the cost of capital investments between 2017 and the next rebasing application will be required, since the current mechanisms (including the Z-factor), may not be sufficient to recover the costs of these initiatives. This could result in these initiatives being delayed until post 2019, which is not consistent with the government's objectives. Otherwise, the utility will be absorbing the cost of such investments, while customers realize the benefits of lower compliance costs.

- **Existing DSM program impacts:** the impact of existing DSM programs will be captured in Union's annual load forecast, as noted above. In addition, as noted in the Board's EB-2015-0029/EB-2015-0049 Decision, Enbridge and Union will be undertaking a joint study to assess DSM in future infrastructure planning activities and will be filing a transition plan as part of the DSM mid-term review.

- **Future DSM programs:** Union proposes that analysis and potential revision to the 2015-2020 DSM Plan be handled outside the cap-and-trade regulatory framework and within the DSM Framework as part of the mid-term review or sooner. Union expects that some changes may be required to the Board's 2015-2020 Demand Side Management Framework for Natural Gas Distributors to address cap-and-trade; however these revisions need to be incremental to the existing DSM Plan approved by the Board to ensure consistency. Given Union's track record in successfully delivering energy conservation programs for almost 20 years to over 1.4 million Ontario homes and businesses, Union is best positioned to design and deliver GHG abatement programs as they relate to conservation. Having a comprehensive energy conservation program within DSM to address cap-and-trade is essential in order to avoid market disruption and customer confusion that can negatively impact savings achieved, and resulting emissions abatement. Union will continue to work with the Ministry of Environment and Climate Change and the Ministry of Energy to ensure programs are aligned to best serve the needs of customers.

- **Unregulated investments:** investments that Union or Union affiliates may undertake to achieve provincial GHG reductions (which may or may not be with respect to Union's distribution customers) should not be included in the compliance plan. First, these may be outside the scope of Union's compliance obligation (e.g. development of CNG/LNG for the transportation sector). Second, these investments are commercial arrangements which are highly sensitive, and not appropriate for public disclosure. Third, as unregulated activities, they are not subject to the Board's oversight. However, if any of these activities are with a Union affiliate, they will be subject to the Affiliate Relationship Code.

Plan Evaluation

(Referencing section 4.1.4 of the Discussion Paper)

Board staff proposes compliance plans should be assessed against "optimization, integration and adaptability" (Discussion Paper, section 4.1.4.1). These references, as well as other references to "optimization" and "risk management" cause Union serious concern. Union is not supportive of recommendations that utilities take optimization positions with the emission allowances portfolio for the reasons outlined above, and as outlined in the Risk Management section below.

Union does not agree with Board staff's recommended metrics to assess the compliance plans, all of which solely focus on minimizing cost. The utility should not be required to try to "beat the market" as part of its compliance requirement. The ability to establish benchmarks in a market that is not yet developed or transparent must be seriously questioned.

Union believes compliance plans should be evaluated within the context of the previously proposed guiding principles. In addition, the Board will need to consider constraints within the regulations which may limit options available to utilities when developing and executing their plans. For example, holding limits and purchase limits are currently restrictive for the utilities as the largest acquirers of allowances in the Ontario cap-and-trade market.

Once approved by the Board, Union's compliance plans will be reviewed annually as part of the monitoring and reporting requirement, as outlined in the Discussion Paper (Discussion Paper, section 6). The goal of this annual filing would be to provide the Board enough information to assess the prudence of Union's activities relative to the plan and guiding principles. Union recommends annual monitoring reports would include a summary of annual compliance requirement, annual compliance costs, verification of compliance with cap-and-trade program regulations and an evaluation of actions taken relative to plan.

Confidentiality

(Referencing section 8 of the Discussion Paper)

As acknowledged by Board staff in the Discussion Paper, Union agrees the process for filing compliance plans will need to respect the confidentiality of market sensitive and competitive information. Union appreciates Board staff's adoption of confidentiality protocols in order to protect auction and market sensitive information. Union supports transparency with the Board in order to facilitate prudency reviews of the plan and the resulting costs. Keeping with the notion of transparency, Union supports the need for customers to understand charges related to the cap-and-trade program and what their utility is doing to address GHG emissions.

However, it is important to recognize that in meeting compliance requirements, Union will be participating in a carbon market. In this market, it will be competing for available allowances and other compliance instruments with unregulated parties, and parties that are in the market purely for profit. Should Union's purchase strategy be

made public, it would compromise Union's ability to fulfil its obligation, particularly in a scenario where available allowances may not exist in sufficient quantity to satisfy total market demand. A further complicating factor is that Union will be one of the largest acquirers of allowances in the province. Disclosure of market sensitive information could impact the market and put Union at a disadvantage in competing at auction, or negotiating in the secondary market.

Therefore, Union believes that its procurement strategy, including details on offsets, should be filed in confidence. Similarly, Union believes that load forecasts and emissions forecasts information that is provided on the public record should be in an aggregate format, while details of customer-related emissions and facility-related emissions should be kept confidential. Appendix B summarizes Union's proposed components for the annual compliance plan, and which elements are proposed to be public information versus kept in strict confidence.

Risk Management

The compliance plan will need to address inherent risks to ensure Union will be able to secure a sufficient quantity of GHG emission allowances by the end of each compliance period to meet customer-related and facility-related compliance obligations under the Ontario cap-and-trade program.

The inherent risks associated with a cap-and-trade market include:

- load variability: driven by consumption, the power market and weather
- allowance price volatility: driven by the supply and demand of allowances
- compliance instruments availability: driven by market liquidity and regulations
- changing market dynamics: driven by program participants and involved jurisdictions

Union believes that the compliance plan should be structured to minimize the risk associated with non-compliance and to satisfy Union's compliance obligation through a prudent compliance process and plan. This objective will be met through purchasing strategies that align with the proposed guiding principles outlined in Section 1 above. Effective purchasing strategies could include diverse timing of purchases, adjusting purchases for load changes, participation in multiple markets (auctions as well as the secondary market), and the potential use of multiple instruments (such as allowances as well as offsets). Union uses these types of risk management activities for its natural gas purchases and they have been effective at reducing price volatility in the cost of natural gas for customers.

However, Union does not agree with Board staff's comment that "*trading of emission units in the secondary and tertiary markets is a key component of a cap-and-trade program.*" Union does not support the development of a risk management program that would include trading complex and sophisticated financial risk management tools in the tertiary market (e.g. financial hedges and trades such as puts, calls, collars, etc.), as suggested by Board staff in the Discussion Paper. These are the same risk management activities that the Board ordered Union to discontinue with respect to gas supply purchases in EB-2007-0606. The objective for a regulated natural gas utility is to ensure compliance with the cap-and-trade program and not to actively trade allowances in the market. Union also does not expect to be a seller of allowances on a planned basis. Union has a large obligation to meet and will acquire allowances on a diversified basis over the compliance period. To plan to sell allowances assumes that Union is prepared to take a price risk on acquiring the sold allowances at a later time.

To further explore and understand the issues surrounding financial risk management, Union engaged Risk Management Incorporated (RMI), a division of INTL FCStone Financial Inc. ("FCStone"). FC Stone specializes in delivering risk management consulting services to clients across North America, particularly in relation to

commodity markets including energy commodities. Union engaged FCStone to utilize their expertise in risk management to:

1) Explain risk management and what it entails; and
2) Discuss the appropriateness of the application of risk management principles for a natural gas utility in an emerging market such as the Ontario cap-and-trade program

FCStone's white paper entitled "Risk Management Review for an Ontario Cap-and-Trade Gas Utility Compliance Framework" is included as Appendix C to this submission, and is referenced below.

With respect to the cap-and-trade framework, Board staff proposed that "*there are reasons for the utility to participate in risk management. These markets provide participants with the necessary flexibility to meet their GHG obligations. As such, trading and hedging strategies could result in more effective compliance for gas utilities, and thus reduce costs for customers*". Again, even when Union was involved in risk management for its gas supply purchases, the overriding objective of the risk management plan was to reduce volatility, not to reduce costs.

Union has several concerns with Board staff's recommendation to pursue risk management. First, there is an underlying assumption that the goal of the compliance program is to minimize costs. As previously discussed, Union believes the objective of the utility's compliance program should be centered on achieving compliance through the use of a prudent process and plan. As discussed in Appendix C, p.6, FCStone states that "*Utility Commissions have noted in recent past orders that risk management program objectives are not to reduce energy commodity costs, but are designed to protect the end customer by providing price stability*."

Second, the recommendation presumes that participating in risk management activities will result in lower costs. Again, the objective of risk management plans is not to "beat the market" but rather to manage volatility. FCStone concludes on p.6 that "*it is important to note that executing a price risk management plan can add some administrative costs and cannot be expected to result in the lowest price. In any freely traded open market, the lowest price can never be predicted.*" They also state on p.4 "*that utility commodity risk management programs are established on the premise of providing price stability and not on the ability to "beat the market"*". Furthermore, FCStone warns on p.6 that "*as a company that represents a larger share of a given market executes a position to meet its needs, the resulting price movement could be significant and again causing bid/offer spreads that can take away from a risk management plan's objective of reducing price exposure volatility and potentially elevate the risk of increased costs.*" Union is projected to be a large participant in Ontario's cap-and-trade market and its participation in financial emissions markets may pose significant risk of increased costs related to low liquidity for financial products and the relative market share possessed by Union.

In EB-2007-0606, the Board determined that the costs of Union's risk management program as it related to financially hedging its exposure to natural gas price volatility provided "no material net benefit for customers."[4] The Board noted that volatility in a customer's bill was already being addressed by rate smoothing mechanisms such as the QRAM. Since a similar mechanism is recommended to implement the expected costs of the cap-and-trade program in rates on a forecast basis (see section 3), much of the volatility in emissions prices would be smoothed in a similar way which the QRAM does for gas price fluctuations. For this reason, Union does not believe risk management activities such as financial hedging should be undertaken consistent with the Board's views and decisions related to the financial hedging of gas prices in 2008.

[4] Ontario Energy Board Decisions EB-2007-0606/EB-2007-0615, July 31, 2008, page 17

Section 3: Cost Recovery and True-Up Mechanism

(Referencing section 5 of the Discussion Paper)

Cost Causation

Union agrees with Board staff that there are three types of costs related to the cap-and-trade program: customer-related obligation costs, facility-related obligation costs, and program costs. Union believes customer-related obligation costs should be borne by customers for which Union is covering the obligations on their behalf. This will include everyone except large final emitters or voluntary participants). Union believes all shippers should bear a portion of Union's facility-related obligation costs. Union agrees with Board staff's recommendation that cap-and-trade program related costs (including administrative costs) should be borne by all customers including large final emitters and voluntary participants. These principles of cost causation are central to the purpose of the cap-and-trade program to send price signals to end-users of fossil-based fuels.

Cost Allocation

Union agrees with Board staff's recommendation that customer-related and facility-related obligation costs should be allocated to rate classes on a volumetric basis, consistent with how Union treats compressor fuel and UFG. Consistent with Board staff's recommendation, Union has no concerns with allocating administrative costs in a similar manner to other existing administrative costs.

Rate Design

Board staff suggests that both the customer-related and facility-related rates should be included on the utility's Board-approved tariff sheets as a new cap-and-trade charge, presented as a one line item on the bill, in order to provide transparency. Union supports identifying the cap-and-trade rate on its rate schedules, as well as on the bill. Union does not believe the rate schedule alone will provide adequate transparency, as suggested by Board staff. In addition, including this charge in the delivery rate does not make it easier to implement the billing systems changes and track the amounts collected, as speculated by Board staff. This is discussed further in the Bill Presentment section below.

True-Up Mechanism

As outlined in Section 5.1.4 of the Discussion Paper, Board staff proposes the forecasted carbon price be recalibrated annually, and trued-up on an annual basis subject to a trigger that could provide for more frequent true-up. Union does not support this proposal.

Price Re-Calibration Process

Union recommends the forecasted carbon price be adjusted quarterly, rather than annually as proposed by Board staff. A quarterly adjustment is better able to catch up price differences in a timely manner thereby reducing the amounts captured in a deferral account for subsequent periods. In addition, a quarterly adjustment can adjust to big price movements more quickly than an annual adjustment. These price movements could be a result of changes in allowance prices as well as US/CAN exchange rate fluctuations in a WCI linked market. The quarterly adjustment approach allows customers to directly associate consumption with a carbon cost that closely reflects market, thus incenting them to change behavior.

Union proposes that a transparent, public source that reflects carbon market prices be used for the quarterly price adjustment. Options include a one-year forward market price on ICE, recent auction settle prices, or a Board-issued consensus forecast. Union proposes that utilities bring forward their recommendations on the most appropriate forecasting source in their 2017 filings. Union expects that once the market is more developed, that the one-year forward market price on ICE would be appropriate (similar to that used in QRAM), but in the short term, all options should be considered for framework development.

A quarterly adjustment can also leverage Union's existing business processes for its gas commodity QRAM where applicable. Initially in 2017, and potentially throughout the first compliance period as all parties gain experience with the forecasted carbon price change mechanism, Union anticipates a need for filing the quarterly emission allowances forecasted carbon price filing separately from the QRAM filing. Union agrees with Board staff's expectation that there will be a greater focus on this new activity and anticipates more time will be required to review the filing than with the streamlined QRAM filing. However, the forecasted carbon price changes can be implemented coincident with commodity price changes in the QRAM.

True Up Process

Union believes that price variances related to the difference between the forecasted carbon price and the actual purchase price of compliance instruments be trued-up, through deferral account disposition, on a quarterly basis rather than annually as proposed by Board staff. This approach reduces the balance that would accumulate in a deferral account and reduces out-of-period adjustments for customers. Union's largest customers, particularly the natural-gas fired power producers, are particularly sensitive to large deferral account dispositions, and would prefer smaller adjustments more frequently.

Board staff expresses concern that there is a potential for large deferral account balances in relation to the customer-related obligation costs. Union shares this concern and believes the best way to address it is to adjust the forecasted carbon price quarterly and to dispose of price variances quarterly. When quarterly disposition is coupled with quarterly forecasted carbon price setting, there is no need for the trigger mechanism suggested by Board staff. Clearing a large deferral account balance only once per year could increase the magnitude of carbon pricing impact on customers significantly, where they would be paying an increased price in relation to their current emissions as well as price variances on prior years' emissions. To provide an order of magnitude, in a drastic scenario of highly volatile prices of an Ontario-only market, the price variance for 2020 could be reduced by up to $200 million through the use of a quarterly, rather than annual, deferral disposition.

This annual disposition approach also takes away from the ability of market pricing to incent customer behavior due to the time lag between consumption and the resulting costs. Customers generally want to understand these price impacts as soon as possible to assist them in making any necessary investments in emissions abatement in a timely way. Similarly, customers who are eligible to opt-in to the cap-and-trade program will also want to be able to identify price impacts in order to make an informed decision about whether they will volunteer to cover their own emissions, or continue to rely on the natural gas utility.

As described above, the quarterly price adjustments and a quarterly price variance clearing mechanism can also leverage Union's existing business processes for its gas commodity QRAM.

Section 4: Bill Presentment

As noted in Union's interim rate order request submitted to the Board on April 15, 2016, Union believes a separate line item for the cap-and-trade program is imperative to live up to the commitments made around the transparency of the cap-and-trade program and the program success. The new cap-and-trade line item would combine all customer-related charges, facility-related charges, and cap-and-trade deferral adjustments under the same separate line item, as applicable. Union disagrees with Board staff's recommendation to include cap-and-trade charges within the delivery rate on customers' bills for several reasons.

First, a separate line item is fundamental to the principle of transparency and necessary to meet the emissions reduction objectives of the program[5]. Second, it minimizes call center impacts and assists customers in accepting the change and managing the transition. Third, it facilitates the appropriate recovery of the cap-and-trade costs from the appropriate customers through its billing system. Union notes that the time required to make the billing system changes is not reduced if the cap-and-trade charges are incorporated into delivery rates. Lastly, it effectively manages the regulatory accounting requirements of a cost that is incurred on behalf of customers and subsequently billed to them.

Transparency

Union believes a separate line item for the cap-and-trade program costs is critical from two perspectives. First, separate line item disclosure is critical to align with the government's commitment to accountability and transparency related to cap-and-trade and the Climate Change Action Plan. Second, a separate line item is a necessity in order to educate and influence customer behavior. Displaying the cap-and-trade charge as a separate line item will create a direct carbon price signal on utility bills in order to encourage customers to use less gas and invest in energy efficiency measures. In addition, it will allow customers to easily compare their month-to-month emissions costs, emphasizing the value of reducing their usage. This same practice of separating the carbon charge has been implemented in other Canadian jurisdictions (Québec and British Columbia) for the same reasons of transparency and encouraging demand response.

Union conducted quantitative research in 2010 related to potential Green Energy Act charges, consisting of telephone interviews conducted among 301 energy bill payers in Ontario. In response to the question "If charges for energy conservation and renewable energy programs were to be included in your energy utility bills, how important is it to you that the charges are shown as separate line items on the bill? Would you say it is very important, somewhat important, not very important, or not at all important", an overwhelming majority of 92% indicated that it is somewhat or very important to see a separate line item on the bill for conservation and renewable energy initiatives, with 79% indicating it is very important. The margin of error for this survey was +/- 5.7% at the 95% confidence level.

In order to gain a deeper understanding of consumer preferences regarding bill presentment and the need for transparency, Union retained an independent market research firm to hold ten focus groups sessions in five cities in June, 2016. The objective of the qualitative research was to gauge consumer views on the need for a separate line item on the bill to show cap-and-trade charges. A key finding from this research was that: "Respondents were nearly unanimous that whatever additional cost consumers have to bear as a result of the cap and trade program should be transparent to the consumer and that additional charges for cap-and-trade should be specifically referenced on natural gas bills"[6]. The most common reason for wanting to show the charge separately on the bill was for "simple clarity, transparency, or full disclosure". At a basic level, participants believed that "customers should know what they are paying" and that not showing the cost would amount to being deceived."[7] (Emphasis added).

The finding from this most recent qualitative research (i.e. focus groups) in combination with the 2010 quantitative research noted above strongly support the consumer desire for a separate line item on the bill to reflect carbon costs.

[5] The Preamble to Bill 172 (Climate Change Mitigation and Low-carbon Economy Act, 2016) states "A key purpose of this Act is to establish a broad carbon price through a cap and trade program that will change the behaviour of everyone across the Province".
[6] Natural Gas Consumer Reaction to Ontario Government Reported Cap and Trade Plan, June 21, 2016.
[7] Ibid.

Union submits these two recent customer research results are more relevant to carbon allowance costs than the research referenced by Board staff in the Discussion Paper. The Discussion Paper appears to rely on research on Time of Use Electricity rates conducted in 2014. This research was not relevant to carbon allowance costs, and further, the referenced report indicates: "There are some notable biases in the sample that should be considered when interpreting the results from these surveys."[8] The identified biases are related to education level, home ownership, urban concentration, and participation in a recent Ontario Power Authority promotional campaign. Given the more relevant research as noted above, the 2014 BEworks study results should not be referenced in making a decision impacting over 3.5 million homes and businesses in Ontario.

Transparency is the overriding philosophy underpinning customers' behavior change as well as past directives from the Board. Such directives include the unbundling of components on the natural gas bill (delivery, storage, transportation, and commodity), the implementation of time of use rates for electricity customers in order to change customer behaviour, and the disclosure of the Ontario Clean Energy Benefit and the Debt Retirement Charge.

Call Center and Customer Impacts

Building on past experience with rate changes, Union expects call volumes to increase by up to 80% as a result of introducing cap-and-trade costs. Contrary to the assumption of Board staff, reflecting these costs in the delivery charge will not decrease call volumes. Union's experience would indicate that customer calls will likely increase both in volume and complexity if the new charge is not displayed clearly on a separate line item. This will add a greater burden on the utility and the Board, and also result in an estimated 25% increase in escalated complaints. Together, these impacts put Union at risk of missing its Board directed telephone service factor service quality requirement.

Union supports Board staff's recommendation on the need to ensure uniform bill presentment for all customers, regardless of the utility. Union discussed the concept of presenting cap-and-trade charges on a separate line with other stakeholders and there was wide consensus that the separate line item is preferred and necessary. Furthermore, one of Ontario's utilities (not regulated by the Board) has indicated to Union their plan to also present cap-and-trade charges on a separate line item on its customers' bills, making it important for all other Ontario utilities to provide their customers with similar information.

A cap-and-trade charge displayed as a separate line item is especially critical for voluntary participants who are eligible to opt-in to the program throughout the compliance period. These customers might experience a time lag of when their registration is reflected in the bill given that the release of the master list of participants will not be aligned with billing cycles. Union's primary objective is to ensure accurate billing that reflects actual consumption, and to keep customers well-informed about their costs.

Accurate Billing & IT Changes

Given the complexity of the cap-and-trade program design, a separate line item will help ensure customers with direct obligation are properly exempt from the customer-related emissions charges. The exclusion of certain customers from Union's customer-related compliance obligation (large final emitters and voluntary participants who choose to opt in) means that some customers in one rate class will be charged for customer-related charges, while others will not. Embedding customer-related cap-and-trade costs in an existing billing line item would potentially result in more customer confusion and inquiries as customers seek to understand and verify their bills.

[8] BEworks, "Analyzing and Nudging Energy Conservation and Demand Shifting Through Time of Use Compliance", December, 2014, p. 22.

Union emphasizes that establishing a cap-and-trade charge that makes use of the current billing format (i.e. including the carbon allowance costs within existing delivery rates) is not less complex than creating a separate line item from a billing and accounting system perspective. Since large final emitters and voluntary participants who opt-in to the program will be responsible for their customer-related cap-and-trade costs, Union's rate schedules would become more complicated by adding two different fixed cap-and-trade rates to multiple volumetric delivery rates within each rate class, including each block of both firm and interruptible delivery rates, authorized overrun delivery rates, and unauthorized overrun delivery rates.

Union estimates that six months will still be required to make all the necessary system changes, even if the charge was embedded in delivery rates. This is contrary to Board staff's assertion that it may allow the utilities to expedite their system changes.

The treatment of the Harmonized Sales Tax ("HST") is another consideration with respect to bill presentment. Although HST applicability for cap-and-trade charges has not been determined, it is possible that these charges could be HST exempt. In this case, a separate line item would be required in order for the HST to be correctly levied only on the applicable charges (delivery charges, but not the cap-and-trade charge). In addition, the separate line item disclosure is required for customers to reconcile HST charges to the components of their bill.

Union has completed an analysis of the required changes to its billing system, and the time required to implement these changes. Union does not want to replicate the recent Hydro One experience where billing system errors became front-page news. This real-life example provides the potent and stark lesson that billing system changes need to be managed with care and precision. The alternative would not benefit the province or the cap-and-trade program – and would result in increased costs[9], eroded consumer confidence, and frustration for all parties.

Appropriate Regulatory Accounting

If the cost of the customer-related emissions allowances was built into existing delivery rates, it would be more difficult for Union to practically isolate a specific revenue stream attributable to the cap-and-trade program without manual processes outside its billing and financial tracking systems. The clear identification of this revenue is necessary to properly account for the program and related deferral account balances to ensure that all costs and revenues are appropriately tracked, reported and recovered from customers.

Section 5: Customer Outreach and Education

(Referencing section 7 of the Discussion Paper)

Union supports Board staff's emphasis on customer outreach and education, as these are essential in ensuring customers fully understand the provincial cap-and-trade program, the impact of the program on their bills and how they can personally manage their GHG emissions and resulting bill impacts.

Union interprets Board staff's recommendation to include a Board review of the utility's messaging to mean that Union would share the key themes/topics to be included in customer education with the Board. Union supports this proposal, as it ensures that both Enbridge and Union are issuing consistent communications. Union expects to leverage cap-and-trade communications to emphasize the opportunities that are available to customers to reduce their cap-and-trade related costs, including Union's DSM programs, as well as the new Green Investment Fund offerings.

[9] The cost for Hydro One to address its billing issue was $88.3 million.

Union does not interpret Board Staff's proposal to review utility messaging to extend to explicit approval of messaging and wording. Such detailed approval would not be practical, and would not be supported for the following reasons:

1. **Union cannot meet the required communication timelines if messaging requires Board approval:** Union expects to begin issuing customer communications four months prior to the January 1, 2017 cap-and-trade implementation date. In order to begin issuing these communications on September 1, 2016, Union must have initial messaging created and approved internally by the end of July. Board staff has noted that Board's review of customer communications will not occur until September, which would result, at best, in customer communications being restricted to November and December only. Union does not support delaying the date to begin communicating to customers, as this would limit opportunities to utilize low cost messaging mechanisms such as bill inserts for a complicated communication effort that should span more than two months. Union envisions communications both building customer understanding of the cap-and-trade program and fostering an understanding of how they can manage their GHG emissions prior to the program being implemented.

   Union also notes there are multiple communication mediums that are used to reach various customer groups. Review of each of these mediums would not be practical or efficient, given the tight timelines and recognizing that messages will be consistent across each communication. Therefore, Union supports the sharing of key topics/themes with the Board for purposes of review for consistency, rather than a detailed examination of communication content.

2. **Union's franchise area is different than both California and Québec:** As described earlier, the natural gas load in Ontario is much greater than in California and Québec, due to weather and/or market penetration differences. Consequently, a customized approach to communications is required. Union has developed a well-known and trusted brand with customers. Through many years of experience, Union has learned what messaging and tactics resonate with customers and, as a result, has become an ongoing and trusted resource for relevant energy information.

3. **Union has a proven track record of effectively communicating complex and critical information to customers:** Examples of these past successes include Union's campaigns to address bill impacts of the 2013/2014 Polar Vortex, and the March 2012 communication of required changes in both residential and small commercial 'Conditions of Service Policies'. In both cases, Union demonstrated its ability to decipher key messages and sensitive information to different customer groups in a clear and succinct manner, thus reducing the resulting calls into call centers.

Appendix A – Proposed Cap-and-Trade Guiding Principles

Gas Supply Guiding Principles	Cap and Trade Guiding Principles
Objective: The objective of Union's gas supply plan is to create an efficient supply portfolio that will meet the demands of sales service and bundled direct purchase ("DP") customers, while meeting the overall gas supply planning principles.	*Objective: The development and execution of a prudent compliance plan and process, which will result in reasonable costs for customers.*
Ensure secure and reliable gas supply to Union's service territory	Compliance - ensure compliance with legislative and regulatory obligations for natural gas utilities
Minimize risk by diversifying contract terms, supply basins and upstream pipelines	Diversification - minimize risk through diversification within the compliance portfolio
Encourage new sources of supply as well as new infrastructure to Union's service territory	Flexibility - adapt to evolving market conditions
Meet planned peak day and seasonal gas delivery requirements	
Deliver gas to various receipt points on Union's system to maintain system integrity	

Appendix B– Compliance Plan Components and Confidentiality Matrix

Compliance Plans Components	**Treatment**
Annual Load Forecast (Total)	Public
Annual Load Forecast (facility-related)	Confidential
Annual Load Forecast (customer-related)	Confidential
Cap-and-trade Program Participant Customers List	Public
Annual Emissions Compliance Obligation (Total)	Public
Annual Emissions Compliance Obligation (facility-related)	Confidential
Annual Emissions Compliance Obligation (customer-related)	Confidential
Annual Carbon Price Forecast	Public
Annual Allowance & Offset Procurement Strategy	Confidential

RISK MANAGEMENT REVIEW FOR AN ONTARIO CAP & TRADE GAS UTILITY COMPLIANCE FRAMEWORK

June 2016

Prepared for Union Gas Limited

INTL · FCStone®

TABLE OF CONTENTS

Risk Management Review for an Ontario Cap & Trade Gas Utility Compliance Framework

Risk Management Incorporated (RMI), now a division of INTL FCStone Financial Inc., (FCStone), has utilized its 28 years of commodity market experience in providing risk management services and software products to mitigate and track price and credit risk for over 80 energy and commodity buyers in this review. These services range from the formation of policies and internal controls, review of pricing models and probability analysis of market risk, and execution of strategies for energy commodities, including carbon allowances and Renewable Energy Credits. RMI was previously engaged with Union Gas to provide consulting services in regards to Union's risk management program on natural gas commodity purchasing. Union's former risk management program on natural gas commodities was discontinued as a result of an OEB decision in 2008 (EB-2007-0606).

Union Gas requested that FCStone utilize their expertise in risk management to:

1) Explain risk management and what it entails; and
2) Discuss the appropriateness of the application of risk management principles for a gas utility in an emerging market such as the Ontario Cap & Trade initiative.

This paper first defines risk management concepts and then outlines the primary components that serve as the foundation of a sound risk management program. The next section of this report focuses on the variables inherent in an emerging market like the Ontario carbon project and the challenge to integrate the commodity risk management paradigm in that developing environment. For the purposes of this paper, risk management refers to the use of financial hedging activities such as the purchase and sale of options and swaps and not physical activities such as the purchase of physical products like forward contracts on emission allowances.

PART I ENERGY COMMODITY RISK MANAGEMENT

Price risk management is the process of identifying, controlling and minimizing exposure to adverse commodity price movement. In managing energy commodity risk, an organization must be able to clearly identify its risk, state its objectives and strategies to best mitigate that risk within the business framework and set a clear governing infrastructure to implement risk management plans. Regulated utilities follow this practice in managing commodity price risk to clearly articulate the purpose, processes and results of risk mitigation initiatives to senior management and regulatory boards. The primary components of a risk management plan are highlighted below.

I. Risk Management Objectives

As most commodity dependent companies, such as utilities, are subject to buying and selling products with high sensitivity to market elements, providing a reduction to the customer's exposure to energy price volatility is the most often specified goal in a hedging or risk management program. In FCStone's most recent client survey (Spring 2016), 100% of participants listed the reduction of volatility as an

objective. A close second objective has been protection against price extremes in highly volatile markets.

Hedging is taking an offsetting position to a physical operational asset in a physical or financial forward/futures market, to reduce the risk of adverse price movement in that asset. Without an underlying asset behind the hedge, the transaction would be considered speculative. Recent Commission activity in Florida underscores that regulatory bodies agree since hedging was first established in that state in 2002, hedging is intended to reduce price volatility and the potential for fuel-cost price spikes, and there was no mention of hedging being implemented to achieve lowest cost (Docket No. 150001-EI Nov 20, 2015).

It is essential that objectives be clearly delineated as these goals serve as the foundation for benchmarking and measuring the effectiveness of a given program when conducting a post-operative review.

II. Governance

The strength and success of any risk management program revolves around the governance framework and internal controls in place to administer the entity's policy. The primary element of risk control is the oversight committee that is established within the organization to maintain shared accountability for the program. This group is typically manageable in size and usually consists of executives from cross-functional departments. It is also common to have an executive level group for ultimate program accountability and a management level committee designated with overseeing implementation and execution. In addition to oversight accountability, the segregation of functions within an organization provides a valuable internal control in the on-going operation of a risk management program.

III. Monitoring and Reporting

To track if a plan's components are being adhered to, industry best practices emphasize the importance of reporting in risk monitoring and management. In the regulated utility environment where state or provincial boards are given results, a complete and transparent reporting process, subject to the safeguard of confidential and market-sensitive information, aids in regulatory review. As program objectives are delineated, reports that measure the organization's adherence to these goals are established. Through the creation and distribution of reports, which can range in frequency from daily to monthly to quarterly depending on the size of the organization and the level of activity, to the appropriate executives and personnel in charge of oversight and implementation, an organization is best equipped to make decisions regarding the risks it faces. These same principles apply for a utility reporting to a Commission and aid in communicating how results achieved were in line with stated objectives as noted in the *Risk Management Objectives* section above.

IV. Benchmarking to Plan Objectives

Any company that has hedged its commodity exposure has found itself in the predicament of justifying its hedge position against where the market has trended. It is important to remember that utility

commodity risk management programs are established on the premise of providing price stability and not on the ability to "beat the market". When determining measured "success" of a hedge plan, companies that are grappling with performance measurement implementation need to communicate to senior management how well the plan did against stated risk management goals and guiding principles. Program metrics should be set up as a means of analyzing performance to these objectives.

PART II PITFALLS OF RISK MANAGEMENT IN AN EMERGING MARKET

Varying elements contribute to the challenges faced when administering risk management plans, particularly in a new and untested market. These key points are addressed in this section.

I. Lack of Historical Data/Insufficient Price Transparency for Plan Design

Risk management plans rely on ample historical data and a robust forward price curve. The application of risk management principles can prove more challenging when a market is in its infancy stage. Having no historical data available to determine product value restricts the ability to structure a quantifiable and reliable plan. Simply put, there will be no historical reference point for determining reasonable value. Additionally, not having a transparent forward curve available also complicates the capability to evaluate the current market price for plan execution to any preset targets. Given the lack of data in determining value and analyzing proper execution timing, this insufficient transparency also makes program results measurement to stated objectives difficult. Objective performance measurement, such as volatility reduction calculations, is not possible in markets where the underlying data is not available.

II. Limited Instrument Portfolio Alternatives

When markets are first being established, similar to limited past data and reliable future data not being available or transparent, the breadth of instruments to carry out a risk management plan tend to be limited. A base physical tool (such as a physical emission allowance) is generally the only instrument offered and until a confidence is gained in the emerging market, derivatives and options on the underlying contracts are not prevalent. Values for options or other derivatives of an underlying physical product will be difficult to determine in a market where trading volume is limited. Risk would increase for the market maker who sells that product and therefore the premium in those products would in turn increase to cover the increase in risk.

III. Illiquidity/Limited Counterparties for Plan Execution

Building on the fact that when a market is unknown and untested limited data and tools are dispensed, the number of companies involved from the onset is in short supply until more experience and knowledge is gained with respect to that given market. When a market and the players offering products for hedging is illiquid, the premium associated with products can make the execution of a risk management plan cost prohibitive and potentially riskier. While a compliance market such as the

carbon market requires participation from certain emitters, little or no speculative market maker activity can cause buyers and sellers to be far apart on price setting for hedging products.

IV. Market Movement Potential Impact from Larger Participants

The limited counterparties and less liquid market scenario also affects the impact of a larger participant transacting in this tighter market environment. As a company that represents a larger share of a given market executes a position to meet its requirements, the resulting price movement could be significant and again causing bid/offer spreads that can take away from a risk management plan's objective of reducing price exposure volatility and potentially elevate the risk of increased costs. Additionally, maintaining a greater percentage of the open interest would preclude flexibility in exiting existing positions if needed. As an example, with a bigger share of the given commodity market and few counterparties willing to participate in that emerging market, a utility that finds itself with an over-hedged position, say due to a volume forecast change, could be hard pressed to identify an interested buyer to take on its no longer needed positions.

PART III CONCLUSIONS

Risk management programs have been implemented to help companies mitigate the price volatility exposure that has been exhibited in various markets, including natural gas. Utility Commissions have noted in recent past orders that risk management program objectives are not to reduce energy commodity costs, but are designed to protect the end customer by providing price stability. Risk management plans run effectively through prudent management oversight, quantifiable hedge plans, diligent monitoring and reporting and insightful benchmarking to verify if plan objectives are being achieved and are most appropriate when the goal is to manage volatility, not cost reduction. It is important to note that executing a price risk management plan can add some administrative costs and cannot be expected to result in the lowest price. In any freely traded open market, the lowest price can never be predicted. Some parties consider the risk management costs to be an insurance premium (to prevent volatile pricing) which is normally an additive to the market price.

When a market is first getting established, the lack of historical and forward transparent data in addition to limited instrument and counterparty pool alternatives leads to the potential for wider bid/offer spreads especially for larger participants and causes concern for the effective deployment of a risk management plan. As a price taker, a participant could be paying a premium when executing in an illiquid market environment. Achieving the primary objective of price volatility reduction in an untested and instable marketplace remains a challenge and would need to be approached in a cautious and conservative manner. Risk management activity in a new market would only be recommended when the market matures to include many buyers and sellers and can be determined to be liquid.