Phase II Guidance Document

For

Medium and Large Propane Facilities Requiring Level 2 RSMPs

Fire Service Approval Process Guidance for Propane Facilities with a Volume of Propane Greater Than 5,000 USWG

Note:
Some versions of Adobe Reader will not allow users to save this file after completion. Use compatible versions of Adobe software when possible.

This Review Template has been created in partnership with the following stakeholders;

Ontario Association of Fire Chiefs

Ontario Municipal Fire Prevention Officers Association

Fire Fighters Association of Ontario

City of Toronto

Office of the Fire Marshal

Emergency Management Ontario

Introduction

In December 2010, the Government of Ontario approved changes to Regulation 211/01 pertaining to Risk and Safety Management Plans (RSMPs). The government adjusted the RSMP process for small facilities by creating a new process for facilities with lower total capacities of propane on site. Medium and large facilities, with volumes of propane greater than 5,000 USWG, require an RSMP that is completed by a professional engineer. This guidance document has been developed for medium and large propane facilities.

O. Reg. 211/01, as amended by 440/08 and 464/10, extends the license renewal date for all propane operators by an additional 120 days. When all other licensing requirements are met, the TSSA will issue a licence conditional on the operator completing the risk mitigation and control measure(s).

Fire services should know and understand their responsibilities within the propane regulations. Fire service approval is required for the ***fire safety, fire protection and emergency preparedness*** components of a Level 2 RSMP. O. Reg. 211/01, including all amendments, can be found at the following web link: http://www.search.e-laws.gov.on.ca/en/isysquery/ac3c285e-2add-430e-9ab1-5b0aea8ec33f/1/doc/?search=browseStatutes&context=#hit1. Licensing details including recent changes for the Level 2 RSMP can be found in the TSSA Advisory FS 183–10, found at the following web link: http://www.tssa.org/viewNews.asp?ID=607.

The OFM has developed guidance documents to assist fire services with Level 2 RSMP reviews. This document is based on the four (4) key implementation requirements of an RSMP, the Hazard Analysis, Risk Assessment, Risk Mitigation and Control Plan, and the Emergency Response and Preparedness Plan. This guidance document covers relevant areas to ensure that fire safety, fire protection and emergency preparedness elements are accurately addressed in an RSMP submission by a propane license holder for fire department approval.

Note: Unless otherwise indicated a “NO” response does not necessarily indicate a problem or deficiency. As there may be more than one solution to the areas being covered in this document, there should be communication between the propane license holder and the fire department for RSMP approval.

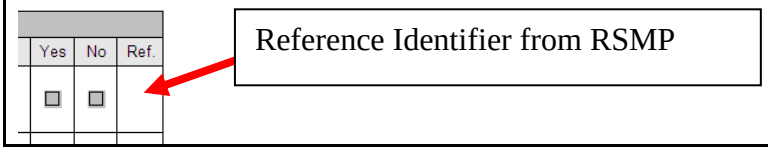
This form is intended may be completed electronically or manually by the propane operator. This form has not provided space for the fire service to provide electronic comments because the review of the Level 2 RSMP will not require a computer.

THIS SECTION TO BE COMPLETED BY PROPANE OPERATOR

1.0 Request for RSMP Approval – Propane Operator

Application Date for RSMP Review
Date:

1.1 Page Reference

RSMP Readiness		
To assist and expedite the approval process, a reference column has been provided for each question that the fire department will review. The reference section is to be completed by the propane applicant when they provide a copy of the RSMP, or those elements of an RSMP related to fire safety, fire protection and emergency preparedness, and this document to the fire department for review. Each reference will identify the location in the RSMP that describes the specific information in response to the question.		
	Yes	No
Does this document contain page reference numbers, tab markers or identifiers to assist with RSMP approvals? Example:  	☐	☐

FIRE DEPARTMENT TO ANSWER QUESTIONS WHEN REVIEWING RSMP

2.0 Review Preparation

RSMP Readiness		
RSMPs must contain a Hazard Analysis, Risk Assessment, Risk Mitigation and Control Plan, and an Emergency Response and Preparedness Plan. Fire departments approve those elements of an RSMP related to fire safety, fire protection and emergency preparedness. The following questions will determine if the RSMP is ready for review.		
	Yes	No
Has the OFM Phase I Document been completed?	☐	☐
Has the fire department received a letter requesting their approval of those elements of an RSMP related to fire safety, fire protection, and emergency preparedness?	☐	☐
Did you receive a copy of an authorization letter identifying the engineering firm that will be representing the propane license applicant?	☐	☐
Has the RSMP submission been stamped by a professional engineer as required by the TSSA Advisory?	☐	☐
Does this document contain a revision level and date so that any future revisions can be tracked?	☐	☐

DO NOT PROCEED IF THE ANSWER TO ANY OF THESE QUESTIONS IS NO

This RSMP submission has been rejected for the following reason:

3.0 Hazard Analysis

3.1 Hazard Distance Calculation

Hazard Distance Calculation			
The regulation requires the applicant to determine the hazard distance for a facility seeking a license. The hazard distance is the distance at which 1 psi overpressure is felt resulting from a vapour cloud explosion (worst case scenario) involving the contents of a single largest vessel on a site. The propane engineer must calculate the hazard distance.			
	Yes	No	Ref.
Does the RSMP clearly state the hazard distance? (feet or metres)	☐	☐	

3.2 Hazard Distance Mapping

Detailed Hazard Distance			
Based on the calculated hazard distance an evaluation is necessary to estimate the vulnerability or potential damage on the public receptors. The RSMP should contain a detailed drawing or picture that shows whether any public receptors are within a circle whose radius is equal to the hazard distance. Public receptors are off site premises that may be affected in an incident to varying degrees.			
	Yes	No	Ref.
If there are no public receptors within the radius area of the hazard distance then the applicant is in compliance with this step of the RSMP process and may proceed to the development of an Emergency Response and Preparedness Plan. Are there any public receptors identified in the hazard distance? IF "NO" then proceed to Section 6.0 in this document.	☐	☐	
Are all public receptors identified and reflected in the drawing?	☐	☐	
Are all permanent structures identified in the drawing or picture?	☐	☐	
Is there an estimation of the maximum number of people located within the hazard distance that would need to be evacuated?	☐	☐	
Has congestion on the property been considered so it will not contribute to a more severe fire situation?	☐	☐	
Have exposures beyond the property been considered where they increase the risk of fire? (Vegetation and Structures etc.)	☐	☐	
Does the RSMP clearly state the fireball distance that was calculated in the hazard analysis?	☐	☐	

Note: TSSA defines public receptors as offsite residences, institutions (e.g. schools and hospitals), industrial, commercial, and office buildings, parks, or recreational areas inhabited or occupied by the public at any time without restriction by the stationary source where members of the public could be exposed to overpressure as a result of an accidental release of propane. Offsite means areas beyond the property boundary and areas within the property boundary to which the public has routine and unrestricted access during or outside business hours. Public roads are not public receptors.

3.3 Other Hazard Considerations

Other Hazard Considerations			
	Yes	No	Ref.
Has a description of the types of propane operations that will be performed at the site been identified in the RSMP? (To fully understand the hazards that could result from a propane facility, there should be a description of the operations that will be performed in the location such as transfers, filling and storage)	☐	☐	
Has water runoff been considered from firefighting operations? (Firefighter operations may utilize a large volume of water)	☐	☐	

3.4 Checkpoint

Checkpoint		
This check point is designed to identify any concerns or challenges you have identified with the proposed hazard analysis. Concerns must be communicated in terms of the fire safety, fire protection and emergency preparedness elements of the hazard analysis.		
	Yes	No
Are there any issues identified or concerns with the hazard analysis?	☐	☐
If yes, please provide comments:		

4.0 Risk Assessment

4.1 Risk Assessment Considerations

Risk Assessment			
Fire departments are not expected to complete or validate the risk assessment that has been completed by a professional engineer. Fire departments should review the consequences that have been identified for each possible scenario identified in the risk assessment and ensure an emergency response strategy is developed. If there are no public receptors within the radius area of the hazard distance then the applicant is in compliance and may proceed to the development of an Emergency Response and Preparedness Plan described later in Section 6.			
	Yes	No	Ref.
Have you been provided with scenarios and associated consequences identified in the risk assessment?	☐	☐	
Are ignition sources identified in the propane facilities location and has the engineer included adjacent properties that could contribute to the scenario? (The risk assessment should consider sources of ignition when fire and explosion scenarios are reviewed)	☐	☐	
Does the site contain hazardous materials, such as asbestos, that could alter a response plan to the propane facility?	☐	☐	
Are hazardous materials shown on the site plan?	☐	☐	

4.2 Checkpoint

Checkpoint		
This check point is designed to identify any concerns or challenges you have identified with the risk analysis. Concerns must be communicated in terms of the fire safety, fire protection and emergency preparedness elements in the risk assessment.		
	Yes	No
Does the RSMP contain a statement to indicate the risk is acceptable? (with or without controls)	☐	☐
Are there any issues identified or concerns with the risk analysis?	☐	☐
If yes, please provide comments:		

5.0 Risk Mitigation and Control Plan

5.1 Detailed Site Map & Other Documentation

Site Details and Mapping Considerations			
The propane company should provide a detailed and scaled drawing to aid the fire department. The site plan should show all permanent and transient items that are kept on the premises.			
	Yes	No	Ref.
Does the site plan show all buildings and access routes?	☐	☐	
Does the site plan show the storage areas and include information that identifies propane cylinders depending on the state of the container?	☐	☐	
Does the site plan show all tanks including fixed and parking orientations?	☐	☐	
Does the site plan show the perimeter and include fencing and security considerations?	☐	☐	
Are features such as bollards and barriers clearly identified?	☐	☐	
Do access routes allow for fire department access at all times including when vehicles are transferring propane?	☐	☐	
Do storage areas contain access routes so firefighting activities may occur?	☐	☐	
Does this RSMP identify minimum staffing numbers of trained personnel that will be in attendance at the site while propane filling and transfer operations are being conducted?	☐	☐	
Are fire protection devices shown on the site plan? (Extinguishers, private hydrants etc.)	☐	☐	
Are emergency shut off / shut down controls identified on the site plan?	☐	☐	
Does your fire department have access in off hours?	☐	☐	
Does the RSMP show the hours of operation?	☐	☐	
Did you receive a fire safety plan for the building in situations where they are required? (Not part of the RSMP approval)	☐	☐	

5.2 Water Supply and Resources

Water Supply			
The propane engineer should determine the largest volume of water that will be required based on the scenarios identified in the risk assessment.			
What is the amount of water flow indicated by the engineer that will be required to cool the tank(s) at the propane location? (consider all tanks and exposures) (GPM or LPM)			
Based on flow requirements and duration, the engineer should estimate the volume of water that could be deployed onto the site (Gallons, Litres) (The duration of the event should be considered and compared to the fire protection services the department will be providing. The duration will be determined from all response agencies and consider the time for specialized technical propane operators to gain control of the event. Provide details regarding industry specific response and include a maximum response time. Estimate the amount of time the department would be required to flow water at the worst case scenario event.)			
	Yes	No	Ref.
The Phase I Document has identified the water supply capabilities your department can provide. Does the fire department have enough water for fire suppression efforts?	☐	☐	
If "NO", then does the RSMP identify a proposal for a water supply?	☐	☐	
Are there any constraints or barriers that impede this water supply?	☐	☐	
Does the fire department have staffing to provide the established level of service for this type of response?	☐	☐	
If "NO", does the RSMP address the gap identified for staffing?	☐	☐	
Does the RSMP include or reference an industry specific response plan?	☐	☐	

5.3 *Controls*

Control Considerations			
The propane engineer will demonstrate that the identified treatment or control options will avoid, reduce, and/or mitigate the risk to acceptable limits. The identified controls may relate to administrative processes or technical controls for fire safety, fire protection, and emergency preparedness.			
	Yes	No	Ref.
Are there any controls identified that relate to fire protection, fire safety or emergency preparedness?	☐	☐	
Are the following controls considered in the RSMP Proposal: (Early Detection Systems, Early Warning Systems inside fence and outside fence, and Suppression Systems or Components, etc.)	☐	☐	
Has the fire department been provided with a list of controls?	☐	☐	
Does the control information describe their function, use and operation?	☐	☐	
Are backup safety features included where situations could result where a single device becomes inaccessible?	☐	☐	
Does the RSMP have provisions for maintenance and testing of identified controls?	☐	☐	

5.4 Physical Security Plan

Building and Site Physical Security Plan			
Propane operators have a responsibility to ensure that they operate in a safe environment and promote community safety. A Physical Security Plan should protect people, information and assets from risks. Due diligence requires these propane locations be thoroughly examined and evaluated to determine their current levels of physical and procedural security based on the risk assessment.			
	Yes	No	Ref.
Does the propane location have controlled access to limit unnecessary risk and entry?	☐	☐	
Are controlled access zones identified on the detailed mapping for the site?	☐	☐	
Are there procedures for dealing with unauthorized entry?	☐	☐	
Have mitigation features been considered and put in place to limit the effects of unauthorized entry and malicious intent?	☐	☐	
Is there adequate night lighting at the site?	☐	☐	
Are there provisions for fire department entry when there are no operations or staffing at the propane site?	☐	☐	
Are there procedures to test and maintain security features, including inspection records?	☐	☐	

5.5 Quality Control and Propane Inspection Records

Quality Control, Inspection Records and Procedures			
Quality control and inspection records may be required for certain aspects of propane handling. Propane cylinders may be filled to 80% capacity for liquid volume. Filling is often validated by weight.			
	Yes	No	Ref.
Has a procedure been identified that captures and records the **daily** inspection of hoses, and inspection requirements for filling systems and mechanical devices used in the transfer of propane?	☐	☐	
Are weighing systems validated for accuracy?	☐	☐	
Does the RSMP include procedures to isolate and purge any overfilled propane cylinders?	☐	☐	
Does the RSMP include procedures that identify activities that could increase the risk to the propane site? (Example: Hot works procedure)	☐	☐	
Are procedures in place to ensure access routes, aisles, storage areas, filling areas and the grounds are kept clear and free from unwanted materials? (combustible storage)	☐	☐	
Are storage areas clearly marked with the container state? (Filled, purged and other hazardous materials)	☐	☐	
Does the RSMP identify quality assurance procedures to ensure that all valves are closed after the propane cylinders are filled? (QCC1 valves. Example: 20 lb BBQ Tanks)	☐	☐	

Does the RSMP identify when to generate and keep maintenance and testing documentation?	☐	☐	
Does this RSMP identify minimum staffing numbers of trained personnel that will be in attendance at the site when propane filling and transfer operations are being conducted?	☐	☐	

5.6 Checkpoint

Checkpoint		
This check point is designed to identify any concerns or challenges you have identified with the proposed Risk Mitigation and Control Plan. Concerns must be communicated in terms of the fire safety, fire protection and emergency preparedness elements of this section.		
	Yes	No
Are there any issues identified or concerns with the Risk Mitigation and Control Plan?	☐	☐
If yes, please provide comments:		

6.0 Emergency Response and Preparedness Plan

6.1 Emergency Plan – Internal

Emergency Planning – Internal			
TSSA guidelines include mandatory information that must be included in the emergency plan;			
	Yes	No	Ref.
Does the internal emergency plan include the current names or positions of persons authorized to set emergency procedures and their roles and responsibilities?	☐	☐	
Does the internal emergency plan include the name or position of the person with responsibility for liaising with the authority responsible for the external emergency plan?	☐	☐	
Does the internal emergency plan include the foreseeable conditions or events which could be significant in bringing about a major incident, a description of the action which should be taken to control the conditions or events and to limit their consequences, including a description of the safety equipment and the resources available?	☐	☐	
Does the internal emergency plan include the arrangements for limiting the risks to persons on site including how warnings are to be given and the actions persons are expected to take on receipt of a warning?	☐	☐	
Does the internal emergency plan identify the process for initiating the external emergency plan?	☐	☐	
Does the internal emergency plan include the arrangements for training staff in the duties they will be expected to perform, and where necessary coordinating this with off-site emergency services?	☐	☐	
Does the internal emergency plan include the arrangements for providing assistance with off-site mitigation actions?	☐	☐	
Does the internal emergency plan include some type of accountability system that accounts for staff and visitors, and provide details for a meeting place in a safe identified area?	☐	☐	
Does the plan identify a qualified person who will liaise with the incident commander from fire department and be available on a 24 hour basis?	☐	☐	
Does the plan identify how long will it take for the qualified liaison person to respond to the site?	☐	☐	

6.2 Emergency Plan – External

Emergency Planning – External			
O. Reg. 211/01 as amended, requires an emergency response and preparedness plan that provides for onsite and offsite procedures, including evacuation procedures, to be followed in the event of an incident or situation. The evacuation procedures set out in the RSMP will be available to the public, in print or electronic form as part of the regulatory requirements by TSSA. TSSA guidelines include a list of mandatory information that must be included in the emergency plan. Municipalities should be consulted when developing this section to ensure compatibility with any existing planning and capacity.			
	Yes	No	Ref.
Does the external emergency plan include the names or positions of persons authorized to set emergency procedures in motion and of persons authorized to take charge of and coordinate off-site action?	☐	☐	
Does the external emergency plan include arrangements for receiving early warning of incidents, and alert and call-out procedures?	☐	☐	
Does the external emergency plan include arrangements for coordinating resources necessary to implement the external emergency plan?	☐	☐	
Does the external emergency plan include arrangements for providing assistance with on-site mitigation actions?	☐	☐	
Does the external emergency plan include arrangements for off-site mitigation actions?	☐	☐	
Does the external emergency plan include arrangements for providing the public with specific information relating to the incident and the behaviour which it should adopt? (review to ensure it coordinates with fire department information plan)	☐	☐	
Does the external emergency plan include arrangements for the provision of information to the emergency services of other municipalities in the event of a major incident with possible trans-boundary consequences?	☐	☐	
Does the external emergency plan include a public notification or alerting system?	☐	☐	
Do arrangements for providing off-site assistance match the municipal evacuation plan requirements?	☐	☐	
Have internal and external evacuation plans been prepared?	☐	☐	
Does the evacuation plan include the reception information, transportation, evacuation facilities, and responsibilities for coordinating affected people?	☐	☐	

6.3 Checkpoint

Checkpoint		
This check point is designed to identify any concerns or challenges you have identified with the proposed Emergency Response and Preparedness Plan. Concerns must be communicated in terms of the fire safety, fire protection and emergency preparedness elements of this section.		
	Yes	No
Are there any issues identified or concerns with the Emergency Response and Preparedness Plan?	☐	☐
If yes, please provide comments:		

Date _____ Print Name _____ Signature _____