

Emergency Response Task Force Second Quarterly Report and Recommendations

**Presented to Director General, Transportation of
Dangerous Goods, March 17, 2015**

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Executive Summary

This is the Second Quarterly Report from the Emergency Response Task Force since its creation following the Ministerial Announcement on April 23, 2014. The purpose is to provide a progress report to the Director General of Transport of Dangerous Goods Directorate (TDG Directorate), to submit recommendations and explain the next steps.

Building on Protective Direction 33:

Subgroup 1 focused their attention on Building on the Protective Direction 33 (PD 33)¹. Their conclusions and recommendations were submitted to the Task Force for decision on February 19, 2015. The recommendations were accepted and included in this report as recommendations 17, 18 and 19.

The subgroup has corroborated and validated the TDG Emergency Response Assistance Plan (ERAP) review process for spill-only flammable liquids rail incident scenarios. For fire flammable liquids rail incident scenarios, the subgroup identified areas for further examination including:

- Unknown response service levels and timelines once an ERAP is activated;
- Capability and competency requirements description for a Technical Advisor resource for flammable liquids ERAPs; and
- First Responders knowledge on the availability and competency requirements for an ERAP-holder's Technical Advisors.

Results of this examination allowed the members to suggest the following to Transport Canada:

- Clarify service level and timeline expectations on activation of an ERAP, a three Tiered Response Timeline was developed to serve as a best practices baseline standard;
- Consider further developing a Flammable Liquids Technical Advisor (FLTA) Competency Profile (including expected credentials and equivalencies), and to suggest competency assessment criteria to be used by Transport Canada during its ERAP review process;
- Increase awareness in communities of the availability and competency of the FLTA. Transport Canada should include the FLTA profile as part of its Awareness and Communication Strategy for emergency planners.

¹ <http://www.tc.gc.ca/eng/mediaroom/protective-direction-33-7494.html>

Incident Management/Structure:

Subgroup 2 on Incident Management/Structure provided their findings and submitted their proposed recommendations to Task Force members for decision on January 15, 2015. The recommendations were accepted and included in this report as recommendations 5 to 16.

Subgroup 2 discussions led the Task Force in identifying key issues including:

- Incident Command System (ICS) coordination challenges regarding rail incidents involving flammable liquids; and
- Need for a comprehensive training standard for First Responders regarding specialized firefighting techniques involving flammable liquids incidents.

To ensure the successful coordination and management of emergency response to flammable liquids rail incidents, Subgroup 2 members agreed on the following key components of an Incident Management Structure and Command:

- 1) All those involved in the response must have a clear understanding of the roles and responsibilities of the primary government agencies and the private sector organizations during a rail incident;
- 2) The local “Authority Having Jurisdiction” must be recognized as the authority that designates the Incident Commander, providing clarity on “Who’s In Charge”;
- 3) The Incident Management Structure needs to use a Unified Command Structure where representatives with appropriate agency authority are “All in the Same Tent” (Command Post), recognizing that there is a single Incident Commander who bears ultimate responsibility for decision making;
- 4) For situations where the local community is not capable of managing the incident, the railways may be the only organization to initiate and organize a response. In these instances, a Federal/Provincial/Territorial government body needs to be recognized as the Authority Having Jurisdiction to ensure compliance with health, safety and environment regulations to maintain public confidence in government oversight;
- 5) The priority and focus of the Transport Canada TDG inspectors/Remedial Measures Specialist should be public safety and not enforcement activities, until the incident is stabilized and public safety is assured;
- 6) Building trust before an incident occurs is important and can be accomplished by training and participating in exercises across the greater emergency response community.

Recognizing that the safety of First Responders and the public is a critical element in establishing an effective ICS structure and developing an Incident Action Plan that is understood and followed by all on-scene agencies and personnel, the Task Force suggested 11 recommendations for Transport Canada's consideration.

Training for First Responders:

Subgroup 2 identified that the *National Fire Protection Association (NFPA) Standards* are currently being used to train firefighters across Canada. To provide a single comprehensive standard addressing flammable liquids incidents being transported by rail, a submission to the NFPA Standards Council was filed on January 27, 2015, proposing a new *Standard on Competencies for Responders to Incidents of Flammable Liquids in Transport – High-Hazard Flammable Trains (HHFT)*.

In addition, a NFPA sponsored Training Workshop is scheduled for March 18, 2015, for the purpose of developing specialized training guidelines to help support First Responders when dealing with flammable liquids incidents by rail.

Data Collection and Analysis:

Following a request made by the Task Force to Transport Canada for assistance in the collection and analysis of data that is required to pursue its work, the TDG Directorate has several initiatives underway to provide the requested information to the Task Force. Work is now underway to provide the following:

- Mapping of Fire Stations, equipment and resources located along rail corridors;
- List of flammable liquids (UN numbers), volumes and rail corridors;
- Mapping of rail corridors transporting flammable liquids; and
- Inventory and categorization of flammable liquids (a team of subject matter experts are currently working on this initiative).

Please refer to Annex A for a list of acronyms used in this Quarterly Report. A list of Task Force Members is provided as Annex B.

Emergency Response Task Force Activities and Meetings Summary

Fifth Monthly Meeting (November 20, 2014)

At this meeting, several presentations were made, including remarks by the Director General TDG who commended the ERTF members on their hard work and dedication. She added that the recommendations made to Transport Canada so far were being given serious consideration.

Renewable Fuels Association (U.S.) - Training

A presentation was given by Kristy Moore from the American Renewable Fuels Association on the Ethanol Emergency Response Coalition's (EERC) process and effort to provide the appropriate training to responders having to deal with rail incidents involving such goods.

Canadian Association of Fire Chiefs - Proposal on Funding

A second presentation was given by Jean-Paul Cody of the Canadian Association of Fire Chiefs, proposing that a levy be established to provide funding for First Responder training on flammable liquids and that a single Canadian Authority be created to issue recognized credentials that would reflect a consistent acceptable level of preparedness and firefighting capability for rail incidents involving flammable liquids.

Center for Security and Science – Multi-Agency Situational Awareness System (MASAS)

A third presentation was given by Dave Matshke and Doug Allport from the Defence Research and Development Canada-Centre for Security Science on the Multi-Agency Situational Awareness System (MASAS) interoperability mapping system that can allow existing mapping systems to feed into one data information exchange application.

CP Rail – “AskRail” Application

The last presentation was given by Jim Kozey and Darlene Nagy of Canadian Pacific Railway on “AskRail”, which consists of a computer application software enabling users, such as qualified HazMat emergency responders, to access critical information relating to the contents of rail cars when the train conductor or train consist is not available.

Challenges identified

These presentations generated a discussion among ERTF members, highlighting some of the challenges Canadian First Responders face in receiving specialized training for rail incidents involving flammable liquids, like ethanol and crude oil. These challenges include:

- Need of funding for First Responders (especially volunteer fire fighters) to attend such specialized training;
- Need of facilities that can offer this type of training;
- Need of a comprehensive standard upon which to develop a specialized training standard for flammable liquids;
- Need for “Real-time” consist information; and
- Need for collaboration among all of those involved in the rail transportation of flammable liquids to coordinate effective response to incidents.

The B.C. Justice Institute advised that there is some development underway in the area of training for Canadian firefighters, similar to what is being developed by EERC in the U.S.

More data is required from the industry in terms of identifying flammable liquids transportation routes and volumes, as well as the locations and capacity of emergency response resources (e.g. foam), in order to target specialized training to communities at risk.

The Chair informed members that consideration should be given to submit a request to the NFPA for an amendment to NFPA Standards with the objective of creating a comprehensive and specialized training standard on flammable liquids.

Subgroup Reports

Subgroups 1 and 2 presented their progress reports to the Task Force:

The work of Subgroup 1 on PD 33 was proving to be quite a challenge given the lack of data required to accomplish its work. The group’s discussions have been mainly focused on creating a Flammable Liquids Technical Advisor Competency Profile that would clarify the required knowledge, experience and training as well as its role and responsibilities during an incident.

Subgroup 2 members reviewed case studies and different models of Incident Management Systems (IMS) including ICS, NIMS and Ontario IMS, and some of the problems identified in successful implementation of a Unified Command structure.

To clarify and better understand roles and responsibilities of each agency involved during a rail incident, information was collected from members through a roles and responsibilities survey. This exercise has assisted in identifying factors that impact on the success of incident command.

Both subgroups identified a need for common language/lexicon in order to avoid misinterpretation of terms.

Sixth Monthly Meeting (December 11, 2014)

Four presentations were made at this meeting:

Canadian Fire Service Training Standards

The Chair presented on firefighter training standards in Canada, outlining how the requirements for a flammable liquids training program would differ from the basic firefighter training currently provided.

Results from a survey conducted by the ERTF Secretariat confirmed that *NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, and *NFPA Standard 1001: Standard for Fire Fighter Professional Qualifications*, are used as the current Canadian fire service training standards. However, there is a need for a single comprehensive standard that would address incidents of large scale flammable liquids in transport.

NFPA Standards Process

Shayne Mintz, Director of the NFPA Canadian office, presented on the NFPA Standard amendment process as well as the different options available and deadlines to submit a request for such an amendment. Members supported the idea of submitting an NFPA amendment request and will be working with Mr. Mintz to accomplish this.

Lac Mégantic and L'Isle Verte: Lessons Learned

There were two presentations highlighting incident command challenges and lessons learned in the context of the events of Lac Mégantic and l'Isle Verte in the province of Quebec. Captain René Cayer of la Sûreté du Québec and Fire Chief Denis Lauzon of Lac Mégantic spoke about the incident management and interoperability and communication challenges experienced during these events. The discussion emphasized the need for better communication and better emergency planning in terms of collaborative training and exercises that would combine all the parties involved.

Subgroup 1 and 2 progress reports included proposals for the ERTF members to consider:

Establish regional TDG flammable liquids training centers in Canada utilizing established training facilities;

Request the Federal/Provincial/Territorial Task Force for TDG to address Part 8 of the *Transportation of Dangerous Goods Regulations* on reporting notification to local fire services;

- Members were also consulted on suggested documents and charts:
- Flammable Liquids Technical Advisor Competency Profile
- Emergency Planning and Response Cycle Chart
- ICS Structure Using Unified Command for Railway Dangerous Goods Incidents Chart
- Railway Dangerous Goods Incidents – Roles and Responsibilities Table and Chart.

Seventh Monthly Meeting (January 15, 2015)

At this meeting, two presentations were made on ICS/IMS:

ICS Canada Project

Dave Galea of the Alberta Emergency Management Agency (AEMA) first presented an updated report on the *ICS Canada* Project. The project objectives are to ensure the continued integrity of *ICS Canada* products through collaborative partnerships, develop a common standardized ICS framework to ensure interoperability, develop governance and funding models for long term sustainability of the organization and to promote dialogue on the need for a Canadian National IMS.

Alberta's approach to ICS

Dave Galea also gave a presentation on Alberta's approach to ICS. Alberta has adopted the Incident Command System (*ICS Canada*) as the command and control/organizational model for incident management. First Responders, local authorities, including municipalities, Métis Settlements and First Nations, and industry in Alberta are encouraged to utilize ICS.

The AEMA is the Authority Having Jurisdiction for all aspects of ICS training within the province of Alberta. The AEMA is responsible for the certification of trainers, the oversight of training delivery standards, and accreditation of students. The use of *ICS Canada*, training standards, curriculum and materials are mandatory when delivering ICS training within the province.

Training Standards for First Responders

The Chair also addressed the issue of training standards. Members agreed that there is a lack of a comprehensive standard for specialized training in Canada for firefighters to respond adequately to the unique problems that are posed at flammable liquid incidents. Members agreed that a proposal to amend the current NFPA standards in this regard be submitted to the NFPA Council by the Chair on behalf of the members.

Subgroup 1 and 2 Progress Reports

The Vice-Chair presented the Flammable Liquid Emergency Response Chart – A Disciplined Approach (Annex C). This chart, courtesy of the Chemistry Industry Association of Canada, was modified by SMEs from an original industry application for all dangerous goods. The purpose of this chart is to provide a guide for the development of Incident Action Plans for Class 3 Flammable Liquids tank car incidents. It was adapted specifically to help and be used by First Responders. Subgroup 2 members suggested recommending this Chart to Transport Canada to be used as an awareness and promotion tool.

Subgroup 2 members reached consensus on 11 recommendations (Recommendations 5-16) which were submitted in its Final Report dated January 15, 2015 to the Task Force (Recommendations 1-4 were included in the First Quarterly Report).

Task Force members accepted all of Subgroup 2 recommendations. Details on these recommendations are set out in the section called Recommendations on Incident Management and the full Subgroup 2 Report can be found in Annex E.

During this meeting, the Task Force Secretariat also provided the following update to members:

- 1) Subgroup 3 on ERAP Expansion to other flammable liquids, and Subgroup 5 on First Responder Training, began their work in early February 2015.
- 2) Subgroup 4 on ERAP Program Review will begin their work in April 2015.
- 3) Status Update on the implementation of the Task Force's "Recommendation no. 1 - 2016 *Emergency Response Guidebook*": CANUTEC met with the Pipeline and Hazardous Materials Safety Administration at the end of January where a proposal for basic information on the ERAP Program to be included in the ERG 2016 version was accepted.

Eighth Monthly Meeting (February 19, 2015)

Key Elements for Coordinated and Successful Response

During this meeting, Ernie Wong (Subject Matter Expert), Jean-Claude Morin (Emergency Response Contractor) and Ève Poirier (Remedial Measures Specialist) each gave a presentation to share with the members a wealth of field experience in their respective fields of work during rail incidents involving flammable liquids.

Key messages that kept re-surfacing during these presentations are the importance of effective communication and trust. Ideally, emergency responders build relationships beforehand by training and exercising together on a regular basis. This also allows a

better understanding of their respective roles and responsibilities when responding to such incidents. Continuity in agency representatives at an incident is important in maintaining effective and cooperative relationships.

Transport Canada Action Plan to Implement Recommendations

Members were also provided with several status updates, including Transport Canada's Action Plan to implement the First Quarterly Report recommendations. Nicole Girard, Director General, TDG, attended the meeting and informed members of the work accomplished on the ERTF recommendations from the First Quarterly Report.

Transport Canada implemented **Recommendation no. 1** by supporting a request to include basic information on the ERAP program in the reference section of the *2016 Emergency Response Guidebook* and mark products that are required to have an ERAP with a Canadian logo for ease of reference. Proposal W45 was discussed and approved at the ERG 2016 Steering Committee meeting in January 2015 whereby a Canadian maple leaf flag will be added to the 47 Orange Guide pages (which has at least one product that requires an ERAP) in combination with a statement about the ERAP program in the White Section of the guide.

Transport Canada implemented **Recommendation no. 2** by maintaining its ongoing relationship with DRDC-CSS and by continuing to seek opportunities for collaboration.

For example, TDG is currently collaborating with CSS on Jack Rabbit II Initiative and has submitted applications to DRDC-CSS for assistance and funding for two exercises with flammable liquid incident scenarios for fiscal year 2015-16.

Transport Canada implemented **Recommendation no. 3** by implementing an amendment to TDG regulations to include nine Class 3 Flammable Liquids to Part 7 (PD 33), Sour Crude Oil UN 3494 (UN 18 amendments) and Ethanol UN 1987 shipped from the U.S. to require ERAP. The Amendment was published in Gazette II on December 31, 2014 and came into force December 31, 2014.

Transport Canada implemented **Recommendation no. 4** by developing a TDG outreach and communication strategy for 2015-16 to address, among other topics, the following:

- ERAP Program;
- Roles of TDG RMS;
- CANUTEC;
- PD 32;
- PD 33;
- Emergency Response Task Force; and
- TDG-GPAC.

Subgroups Update

Subgroup 1, Building on PD 33, submitted its findings and proposed recommendations to the Task Force.

Meetings for Subgroup 3 on ERAP Expansion to other flammable liquids and Subgroup 5 on First Responder Training are now underway and the subgroups are expected to pursue their work until at least April 2015.

Subgroup 4 on the ERAP Program Review will be established by the end of March 2015.

Incident Management: Key Issues and Findings

Subgroup 2 on Incident Management provided their findings and submitted their proposed recommendations to Task Force members for decision on January 15, 2015. The recommendations are provided below, and the full report can be found in Annex E.

The members of Subgroup 2 were familiar with the concept of ICS as the default system for emergency incident management. While commonly thought of as a system used by public First Responders, the private sector, including the Petroleum industry and Railways have adopted ICS in their emergency response plans and in some respects are more attuned to its use, especially in larger scale incidents than are public sector First Responders. There is a general understanding that First Responders refers to a public sector employee from police, fire or emergency medical services who responds to emergencies as part of their duties.

There was a consensus that ICS should be the system used at railway incidents involving dangerous goods and that a standard model should be proposed for use by all responding agencies. It is further noted that while the Task Force mandate is to focus on the transport of flammable liquids by rail, many of the components and recommendations considered by Subgroup 2 would also apply to TDG incidents involving other dangerous goods and in other modes of transport.

Subgroup 2 examined case studies such as the Grange Report on the Mississauga derailment, the Lac Mégantic tragedy, the Elliott Lake Mall collapse and the Gainford train derailment. The purpose of this exercise was to recognize the challenges faced by First Responders and the lessons learned in the application of Incident Command.

Case Study: Grange Inquiry – Mississauga Railway Accident 1979

The basis for the current ERAP program originated with the Grange Commission Report on the 1979 Mississauga Railway Accident. Justice Grange provided a review of that incident and addressed issues that are again being considered by the Task Force. His

report was comprehensive and many of the recommendations are as relevant today as they were in 1981 when the report was released.

While the Grange Commission did not have a mandate to inquire into the management of that incident by First Responders or municipal officials, it did recognize the need for a structured system that was inclusive of all organizations including the railways and shippers emergency response teams.

A number of Subgroup 2 recommendations are derived from the Grange Inquiry recommendations that are provided in more detail in the Incident Management Subgroup 2 Report.

Case Study: Lac Mégantic

First Responders faced many challenges in managing the July 6, 2013, derailment incident. Incident Command was a significant challenge as a very large number of agencies and personnel participated in response efforts. Following the Lac Mégantic incident, some agencies, including the Sûreté du Québec, reviewed their ICS structure and adopted some changes, some of them to ensure better cross-border integration with agencies in the United States. As a result, the Sûreté du Québec has now well aligned its ICS with the *ICS Canada* and NIMS models.

Case Study: Elliott Lake Mall Collapse Inquiry

In Ontario, the Commission of Inquiry into the Elliott Lake Mall Collapse resulted in a number of recommendations to change and improve the Ontario IMS. One of them is the need to clarify the terminology and understanding of ICS versus IMS, in particular the use of the concept of “Unified Command”. Another recommendation is to identify a single Incident Commander having overall responsibility.

Case Study: Gainford Train Derailment – Parkland County Alberta

The Gainford Train Derailment occurred on October 19, 2013, resulting in a number of tank cars being derailed, including cars containing propane or crude oil, and necessitating the evacuation of approximately 100 Gainford residents for four days. Parkland County commissioned a review of the incident to assess how the incident was managed. The report concluded that the ICS used on the scene was a major concern.

“An overriding/lapping issue is better understanding and utilizing the Incident Command System (ICS) that addresses key issues of concern/opportunity:

- *Unified Command, what is it, how it should work and why it did not, at Gainford.*
- *The roles, responsibility, authority, facilities and communications among the Emergency Operations Center and the incident and reception center commands and departments, in a response mode.*

- *How to interact/serve the community with timely, useful, consistent, and accurate information.*
- *Tracking/accountability and work period planning for responders.”²*

These Case Studies revealed many common themes including the need to use a common ICS that all responding organizations are trained in and the importance of a Unified Command where key stakeholders provide input and recommendations on developing an Incident Action Plan” (IAP) that is implemented by the Incident Commander.

Who’s In Charge?

“Who’s In Charge?” is a question that was posed on a number of occasions by Dr. John Read, former Director General of the TDG Directorate. Dr. Read was concerned that the roles and responsibilities at dangerous goods incidents were not clearly defined. At a policy level, the question is “What authority/responsibility does each agency have at these incidents?” At a strategic level, the question is “Who should be the Incident Commander?”

“Within Canada’s constitutional framework, the provincial and territorial governments and local authorities provide the first response to the vast majority of emergencies. The federal and provincial/territorial governments have complementary roles in emergency management, and each jurisdiction has emergency management legislation articulating its responsibilities. If an emergency threatens to overwhelm the resources of any individual province/territory, the federal government may intervene at the specific request of the province/territory. Local governments bear a large part of the responsibility for emergency management because of delegated authority and because they are often closest to the event.”³

Transport Canada has the authority to regulate railways and the transportation of dangerous goods in Canada. Transport Canada does not have authority over public safety and the environment in local communities. As Transport Canada is not currently prepared to respond to and take charge of dangerous goods incidents, then it follows that the local AHJ must be recognized as the authority who designates the Incident Commander and thus answers the question of “Who’s in Charge?”.

Roles and Responsibilities

Subgroup 2 completed a Roles and Responsibilities table (Annex F) to identify what each of the government agencies and the private sector organizations would be expected to fulfill at a railway dangerous goods incident. Identifying these roles and

² Gainford Train Derailment Recommendations Version: 2014-24 , Parkland County Alberta

³ Office of the Privacy Commissioner of Canada, Privacy Emergency Kit, https://www.priv.gc.ca/information/pub/gd_em_201305_e.asp

responsibilities and making them known is absolutely necessary if an ICS structure and process is to be successful in managing the incident.

The Roles and Responsibilities are important components in assisting an Incident Commander to understand how the different organizations and agencies that attend these incidents can work towards mitigating the effects of the incident. This is accomplished using a “Unified Command” structure which is discussed in a later section of this report.

To further clarify Roles and Responsibilities across jurisdictions during emergency response, Subgroup 2 developed a table of Roles and Responsibilities and associated charts (Annexes F-H) based on information provided by participants.

Recommendations on Incident Management

Even when incidents fall within a single jurisdiction, they can be complex and require the advice and recommendations from a number of different entities representing the AHJ, other government agencies, and the private sector. The coordination of multiple agencies and different jurisdictions is a real challenge during emergencies incidents. To better assist agencies involved in response, the following recommendations are directed to Transport Canada TDG Directorate for consideration.

Recommendations No. 5 and 6 – Unified Command Structure

The coordination and communication between multiple agencies can be improved with the use of a Unified Command structure where representatives with appropriate agency authority are “All in the same Tent”. This type of Unified Command provides a single Incident Commander designated by the AHJ.

Railway dangerous goods incidents should work under a Unified Command structure, with the clear understanding that the Incident Commander from the AHJ has the ultimate responsibility for command decisions and for implementing the Incident Action Plan. For additional clarity, the Unified Command Structure can be referred to as a “Unified Command Post” which more accurately describes the command structure as inclusive of various organizations but with a single Incident Commander, usually designated by the AHJ.

As an incident progresses from emergency response to investigation and then to remediation and recovery, the primary agency responsible and therefore the Incident Commander will, in some cases, change. This change needs to be done in a formal transfer process that is documented and made known to all parties at the time it occurs.

The following chart illustrates the five different phases of the incident management cycle, from Planning to Post Incident Assessment.

Figure 1: Emergency Planning and Response Cycle Chart



Recommendation no. 5:

Support the concept of a standardized ICS, based on the *ICS Canada* program and that the Incident Commander in charge of a railway or other dangerous goods incident will be a representative of the local Authority Having Jurisdiction working within a Unified Command Structure.

Recommendation no. 6:

Require ERAP documents to include identification of ICS and a Unified Command structure as part of the planning requirements for response to incidents.

Recommendations No. 7 to 11 – ICS Training, Railway Emergency Plans, Clear Roles and Responsibilities for Transport Canada Inspectors and Remedial Measures Specialists, Improved Interoperability

A clear understanding of roles and responsibilities is a key component of an ICS Structure and is absolutely necessary to successfully manage an incident.

First Responders should be trained in ICS to levels appropriate to their role at an incident and use of the *ICS Canada* training courses for I-100, I-200, I-300 and I-400 would help ensure interoperability with the railways and other private sector and government organizations.

Recommendation no. 7

Require ERAP Technical Advisors to complete, at a minimum, the following ICS Canada incident command courses, appropriate to their roles in an incident:

- ✓ I-100 Introduction to ICS
- ✓ I-200 Basic ICS for Single Resources and Initial Action Incidents
- ✓ I-300 Intermediate ICS for Expanding Incidents

Recommendation no. 8

Require railway companies to provide copies of their Emergency Response Plans to the TDG Directorate, with details on how the ICS System is incorporated within those plans for dangerous goods incidents and, that the information in the railway Emergency Response Plans is immediately available to CANUTEC during an emergency incident.

Recommendation no. 9

Require railway companies to have company managers, supervisory staff and contractor supervisors, who attend dangerous goods incidents, complete at a minimum, the following ICS Canada incident command courses, appropriate to their roles in an incident:

- ✓ I-100 Introduction to ICS
- ✓ I-200 Basic ICS for Single Resources and Initial Action Incidents
- ✓ I-300 Intermediate ICS for Expanding Incidents

Recommendation no. 10

Include in the Transport Canada Training Program for TDG Inspectors and Remedial Measures Specialists the following ICS Canada courses, appropriate to their role in an incident:

- ✓ I-100 Introduction to ICS
- ✓ I-200 Basic ICS for Single Resources and Initial Action Incidents
- ✓ I-300 Intermediate ICS for Expanding Incidents

The CANUTEC representative indicated that this training should also be included in their plan so CANUTEC Advisors could get training on ICS.

Recommendation no 11

Review and define the roles and responsibilities of TDG Inspectors and RMS to include consultation and advice with the Incident Commander to help in developing an Incident Action Plan. Transport Canada should make those roles and responsibilities well known to both the public sector and private sector as part of their Awareness and Outreach Program.

Recommendation No. 12 - Emergency Planning

Provinces and Territories have a responsibility for public safety and have passed Emergency Management Acts and Regulations that, in many cases, require municipalities to develop and enact a Community Emergency Management Plan.

In November 2013, Transport Canada issued Protective Direction 32 requiring railways to provide information on dangerous goods being transported through a community, including the nature and volumes. It is important for communities to consider this railway information to develop emergency plans for dangerous goods incidents. Communities should also develop mutual aid agreements with other communities or organizations that will be able to provide additional assistance during a major emergency.

Task Force members agree that Transport Canada could further assist by facilitating the development of a template for a Dangerous Goods Emergency Response Plan that could be incorporated in Community Emergency Plans.

Recommendation no. 12

Facilitate the development of a template for a Community Dangerous Goods Emergency Response Plan that can be incorporated in Community Emergency Plans.

Recommendation No. 13 to 16 - Outreach, Awareness, Training and Exercises

It is noted that Transport Canada has no legislative authority over many of the organizations involved in emergency response and management. It is therefore critical that outreach and awareness, as well as training and exercises, are incorporated in any Transport Canada plans to improve TDG emergency response. Transport Canada is an important player during rail incidents and should be participating in multi-jurisdictional exercises. Members of Subgroup 2 emphasized that interactions and lessons learned during these training and exercises are the most effective means to engage, gain trust and cooperation between the various parties.

Recommendation no. 13

Work in collaboration with Public Safety Canada, Senior Officials Responsible for Emergency Management (SOREM), Railway Association of Canada (RAC), Canadian Association of Petroleum Producers (CAPP), Canadian Fuels Association

(CFA), Aboriginal Firefighters Association of Canada (AFAC) and the Canadian Association of Fire Chiefs (CAFC) as well as other stakeholders in a comprehensive outreach and education program that provides information and training/reference materials for dangerous goods ICS “best practices”, as well as recommending the use of ICS Canada training courses for First Responders.

To increase awareness and as part of the Communication and Outreach Strategy, it is further recommended that these documents be developed and completed by Transport Canada to be distributed in conjunction with the *2016 Emergency Response Guidebook* to all first response agencies and community/First Nations emergency planners in Canada.

To assist Transport Canada, the Task Force has drafted the documentation and is included below as part of Recommendation No. 14. It is submitted as a starting point to be further validated and developed by Transport Canada.

Recommendation no. 14

Complete the development of and produce the following concept documents:

- ✓ Community Emergency Planning Guide for Dangerous Goods (suggested to be developed by Transport Canada)
- ✓ The Emergency Planning and Response Cycle Chart (Figure 1, p. 12)
- ✓ ICS Structure Using Unified Command for Railway Dangerous Goods Incidents Chart (Annex G)
- ✓ Railway Dangerous Goods Incidents – Roles and Responsibilities Table (Annex F)
- ✓ Flammable Liquid (TDG) Emergency Response Chart - A Disciplined Approach (Annex C)
- ✓ The Disciplined Approach work sheets for developing an Incident Action Plan with ICS (suggested to be developed by Transport Canada)
- ✓ Provide a dangerous goods lexicon with defined names and terminology (some definitions are being suggested as part of the FLTA Competency Profile document found in Annex I)

Recommendation no 15

Work with the Centre for Security and Science (CSS), First Responders, emergency planners, RAC member companies, ERAP holders, CANUTEC and Transport Canada RMS representatives to develop response exercises to test and evaluate the effectiveness of the ERAP program and identify opportunities for improvement.

Recommendation no. 16

Encourage and support training, exercises, networking and interaction between railway personnel, First Responders, emergency planners and Transport Canada to

build experience, trust and communications in application of the ICS and unified command at dangerous goods incidents.

Building on PD 33: Key Issues and Findings

The structure of Subgroup 1 discussions followed the basic methodology of Transportation Risk Assessment and Incident Hazard Analysis. As the background knowledge on ERAPs varied amongst the subgroup members, some common understanding and definitions work was also undertaken using the approach “from where does an ERAP come and to where does it go?”

While the look at Transportation Risk Assessment is hampered by the delay in obtaining data on PD 33 dangerous goods movements (route, volume and frequency), the work on small, medium or large Incident Hazard Analysis scenarios did continue.

Incident Hazard Analysis and Findings: Spill-Only Scenarios

For the spill-only scenarios, members generally agreed that most of the ERAP requirements are well understood with little further to add. As reported in the First Quarterly Report, members’ findings provided further corroboration and validation of the incident scenarios used by the TDG Directorate in their process to review and approve an ERAP.

Incident Hazard Analysis and Findings: Fire Scenarios

For the fire scenarios, members felt differently due to what is now known as “the new interface.” It became clear that the flammable liquids ERAP-holder was to provide information, guidance and resources that are to be utilized by fire services while performing their firefighting duties. This requires improved integration of the ERAP into community fire emergency plans if it is to be used as effectively as intended.

Overall, during their work on spill and/or fire potentials, Subgroup members have so far identified four areas for further examination:

- The Incident Notification requirements of the *TDG Regulations*, Section 8.1;
- Unknown response service levels and timelines once an ERAP is activated;
- Capability and competency requirements description for a Technical Advisor resource for flammable liquids ERAPs; and
- First Responders knowledge on the availability and competency requirements for an ERAP-holder’s Technical Advisors.

Incident Notification under Part 8 of TDG Regulations

The Incident Notification requirements of *TDG Regulations*, Section 8.1, should be reviewed with provincial and territorial governments. Currently under the regulation, following an accidental release of a dangerous good from a means of containment

meeting the quantity threshold established in the regulations (200 Litres for Class 3), the person in possession of the dangerous good at the time of the incident is required to make an immediate report to the appropriate provincial authority and/or the local police, CANUTEC, the person's employer, the consignor of the dangerous goods. There are additional reporting requirements depending on the mode of transportation.

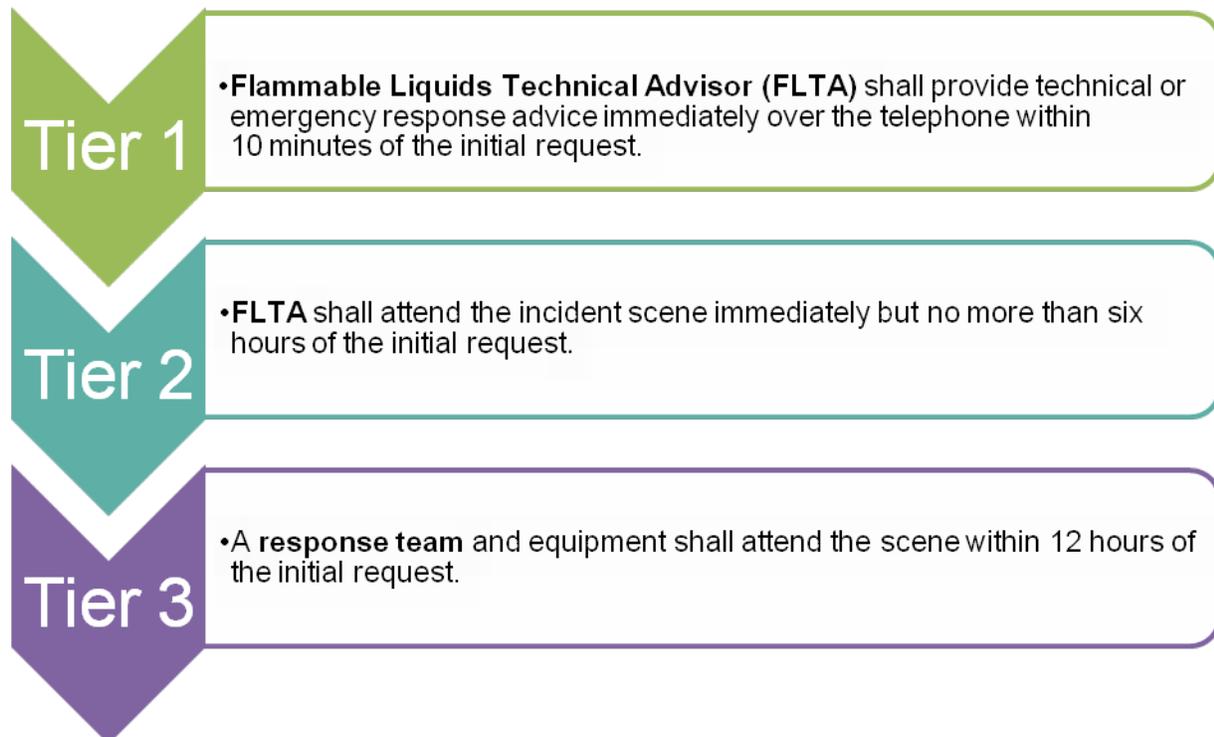
Members of Subgroup 1 have raised concerns that information provided to either provincial/territorial governments and local police forces are not regularly being transmitted in an expeditious manner to fire services. Subgroup 1 members are seeking to improve this important communication. Because of the jurisdictional responsibilities of emergency response in municipalities and provincial/territories, Transport Canada cannot on its own resolve communications issues at other levels of governments. Members agreed to refer this matter to the Federal/Provincial/Territorial Task Force on TDG for their review. Further discussions with Municipalities will also be required to find communication solutions within provincial/territorial/municipal governmental jurisdictions.

Response Service Levels and Timelines: Best Practices

Subgroup 1 identified the need for clarification on ERAP appropriate response levels as *TDG Regulations*, Part 7 does not specify criteria for expected response and timelines.

Through these discussions, Subgroup 1 developed a Three Tiered Response Timeline for flammable liquid rail incidents to serve as a best practices example.

Figure 2: Response Tier and Timelines: Best Practices



Stakeholders agreed that:

1. Tier One response time for a FLTA to provide technical or emergency response advice by telephone would be within 10 minutes of the initial request;
2. Tier Two response time for a FLTA to attend the incident scene would be within six hours of the initial request; and
3. Tier Three response time for a response team and equipment to attend the scene would be within 12 hours of the initial request.

Best efforts are expected, however, consideration must be given to natural disasters, weather conditions, site accessibility, or other circumstances such as acts of terrorism which may interfere with the above timelines.

Technical Advisor: Availability and Competency Profile

When an ERAP is activated, whether by telephone or on-scene, usually the initial resource provided by the ERAP-holder is referred to as a Technical Advisor. This resource capability is well established and known by those familiar with ERAPs, such as ERAP-holders, carriers and approval authorities. However, it is not well known in communities who are expected to utilize these resources. Further, there is little openly available information on the capabilities and competencies expected of a Technical Advisor, especially for Class 3 Flammable Liquids.

The availability and competency requirements for an ERAP-holder's Technical Advisors are not commonly known among First Responders and other community emergency response or management agencies and authorities. When an ERAP is activated, First Responders should expect a competent Technical Advisor to provide technical and emergency response information and guidance. Incident Management needs to have confidence in their on-scene resources. One means of achieving this is for the ERAP Program to define a list of competencies for a Flammable Liquids Technical Advisor (FLTA).

The requirements for a Technical Advisor are not well described for flammable liquids ERAPs. Subgroup members agreed to specifically address this item by developing a FLTA Competency Profile and include credential requirements to increase recognition and confidence on the scene of a rail incident during the decision-making process. In doing so, this large and varied stakeholder group met the challenge of bringing industry and community fire service knowledge and experience together, to discuss and agree on the competency attributes required for such a FLTA. As a result, a draft FLTA Competency Profile has been developed (Annex I).

Documenting specific capability and competency requirements for an FLTA will provide:

- Better guidance to ERAP-holders on what is expected of them for compliance;
- Better guidance to community authorities and emergency responders such as police, fire and emergency medical services, on what can and cannot be provided by an ERAP FLTA during a rail incident;
- Increase confidence in the availability and competency of this important on-scene resource during the incident response decision making process; and
- Provide improved approval and performance assessment tools to Regulatory authorities, such as Remedial Measures Specialists.

Members agree that these key components within the FLTA Competency Profile should be utilized by Transport Canada as a baseline and developed further. To further increase awareness in communities of the availability and competencies of the Technical Advisor, Subgroup members agree this item should be considered as an addition to the TDG Directorate planning for outreach activities.

Recommendation No. 17 to 19 – Flammable Liquids Technical Advisor

Recommendation no. 17

Further develop a Flammable Liquids Technical Advisor (FLTA) Competency Profile that can be used as a tool during the review and approval process of an ERAP for Class 3 Flammable Liquids.

Recommendation no 18

Include the Response Tier and Timelines Best Practices as a standard addition for outreach activities.

Recommendation no. 19

Include the Flammable Liquids Technical Advisor (FLTA) Competency Profile in the TDG Directorate planning for outreach activities.

Next Steps

ERAP Expansion to Other Flammable Liquids

In February 2015, Subgroup 3 turned their attention to the potential expansion of the ERAP requirement to other flammable liquids. Subject for discussion include assessing options for the potential expansion of the ERAP Program to include Class 3 Flammable Liquids beyond those listed in PD 33.

Training for First Responders

In February 2015, Subgroup 5 began discussions with a focus on First Responders' training. Subjects for discussion include:

- Work with First Responders and industry to identify the expertise and equipment required to better support First Responders attending a flammable liquids incident;
- Explore the requirements for First Responders training needs and identify gaps;
- Identify available training resources and material; and
- Explore options to address challenges such as lack of training accreditation standards in Canada for First Responders and lack of qualification/accreditation standards for flammable liquids technical advisors in Canada.

National Fire Protection Association Training Standards

The ERTF Secretariat conducted a national survey on current training for firefighters in Canada. It was identified that the *National Fire Protection Association (NFPA) Standards* are the standards used to train firefighters across Canada. However, there is a need for a single comprehensive standard that would address incidents of large scale flammable liquids in rail transport. To address this lack of specialized training on flammable liquids, members agreed to submit a "New Project Initiation Form" to the NFPA Standards Council to consider a proposed new *Standard on Competencies for Responders to Incidents of Flammable Liquids in Transport – High-Hazard Flammable Trains (HHFT)*. This could be in the form of a new standard or a revision and amendment of *NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*.

On January 27, 2015, the ERTF provided a submission to the NFPA Standards Council, a proposed *Standard on Competencies for Responders to Incidents of Flammable Liquids in Transport – High-Hazard Flammable Trains (HHFT)*. The letter of introduction and submission are provided as Annex J.

Since this process can take up to two years, the Task Force Secretariat is working in conjunction with the NFPA to organize a Training Workshop. Scheduled for March 18, 2015, and sponsored by the NFPA, the purpose is to bring together NFPA officials with stakeholders to develop specialized training guidelines for First Responders regarding flammable liquids incidents by rail.

ERAP Program Improvement and Effectiveness

Subgroup 4 will begin its work in March, upon reception of data and information from the TDG Directorate. Subjects to be discussed include:

- Identify the ERAP program's data needs and data gaps to continually monitor its effectiveness and provide the necessary information to ensure ongoing improvement of the program. Elements which may be considered include:
 - ERAP content;
 - Communities at risk;
 - Local capacity; and
 - Activation data.
- Clarify and recommend how ERAPs can be activated and establish appropriate levels of activation in support of First Responders.
- Explore means to provide "Real-time" train consist information to First Responders via CANUTEC.
- Assess availability of Material Safety Data Sheets related to goods listed in the train consist to First Responders.

Conclusion

Considerable work is ongoing, however much remains to be addressed. Nonetheless, the sustained dedication of members and observers is impressive considering the aggressive timelines and scope of the mandate.

Accessing appropriate and timely data and analysis is crucial for meaningful discussion and sound recommendations to occur. Lots of efforts have been deployed by the department to provide relevant and timely data to the Task Force but it still remains a challenge as the department experienced delays in collecting the volumes of dangerous goods (by UN numbers) that are being transported by rail and over what transportation corridors. Such data on dangerous goods movements and volumes makes it possible

to know what communities are at risk and to what degree. It also provides information on emergency response capacities; for example, the location of resources will allow communities to determine if within reasonable distances to respond, or what products would be encountered through their communities on a more frequent basis.

The Final Report is scheduled for the end of July 2015.

Reference Documents

Document	Date	Author(s)	Location(s)
Crude Oil Forecast, Markets & Transportation	June 2014	Canadian Association of Petroleum Producers	http://www.capp.ca/getdoc.aspx?DocId=247759&DT=NTV
Emergency Response Task Force Terms of Reference	September 9, 2014	Transport Canada	http://www.tc.gc.ca/eng/tdg/safety-menu-1196.html ; or RDIMS 9971077
<i>Mississauga Railway Accident Inquiry</i>	1981	Samuel G.M. Grange	http://epe.lac-bac.gc.ca/100/200/301/pco-bcp/commissions-ef/grange1981-eng/grange1981-eng.htm
Protective Direction no. 32	November 20, 2013	Transport Canada	http://news.gc.ca/web/article-en.do?nid=829079
Protective Direction no. 33	April 23, 2014	Transport Canada	https://www.tc.gc.ca/eng/mediaroom/protective-direction-33-7494.html
<i>Railway Investigation Report R99H0010</i>		Transportation Safety Board of Canada	http://www.tsb.gc.ca/eng/rapports-reports/rail/1999/r99h0010/r99h0010.asp
<i>Rail Safety Recommendations R14-01, R14-02, R14-03</i>	January 23, 2014	Transportation Safety Board of Canada	http://www.tsb.gc.ca/eng/recommendations-recommendations/rail/2014/rec-r1401-r1403.asp
<i>Railway Investigation Report R13D0054</i>	August 19, 2014	Transportation Safety Board of Canada	http://www.tsb.gc.ca/eng/rapports-reports/rail/2013/r13d0054/r13d0054.asp
“Assessment of the Response to Rail Safety Recommendation R14-03 – R13D0054 – Emergency Response Assistance Plans for transporting liquid hydrocarbons.” <i>Rail Recommendation R14-03</i>	2014	Transportation Safety Board of Canada	http://www.tsb.gc.ca/eng/recommendations-recommendations/rail/2014/rec-r1403.asp?pedisable=true
<i>Report and Recommendations of the Transportation of Dangerous Goods General Policy Advisory Council (GPAC) Emergency Response Assistance Plan (ERAP) Working Group Relating to Class 3 Flammable Liquids</i>	January 31, 2014	ERAP Working Group	http://www.tc.gc.ca/media/documents/tdg-eng/5807-2014-3477-F-BT8821720-ERAP-WG-Report-and-Recommendations-FINAL-21-en-rev-AAA-rev.pdf

ANNEX A: List of Acronyms used in Quarterly Report

AHJ	Authority Having Jurisdiction
CANUTEC	Canadian Transport Emergency Centre
CP Rail	Canadian Pacific Rail
CSS	Centre for Security Science
DRDC	Defense Research and Development Canada
EERC	Ethanol Emergency Response Coalition
EMS	Emergency Medical Service
ERAP	Emergency Response Assistance Plan
FLTA	Flammable Liquids Technical Advisor
HazMat	Hazardous Materials (also see Dangerous Goods)
ICS	Incident Command System
IMS	Incident Management System
MASAS	Multi-agency Situational Awareness System
NFPA	National Fire Protection Association
PD 32	Protective Direction no. 32
PD 33	Protective Direction no. 33
RAC	Railway Association of Canada
RMS	Remedial Measures Specialist
SERTC	Security and Emergency Response Training Center
Task Force	Emergency Response Task Force
TDG	Transportation of Dangerous Goods
TDG Act	<i>Transportation of Dangerous Goods Act, 1992</i>
TDG Directorate	Transport Dangerous Goods Directorate
TDG-GPAC Council	Transportation of Dangerous Goods General Policy Advisory Council
TDG Regulations	<i>Transportation of Dangerous Goods Regulations</i>
TSB	Transportation Safety Board of Canada
U.S.	United States of America

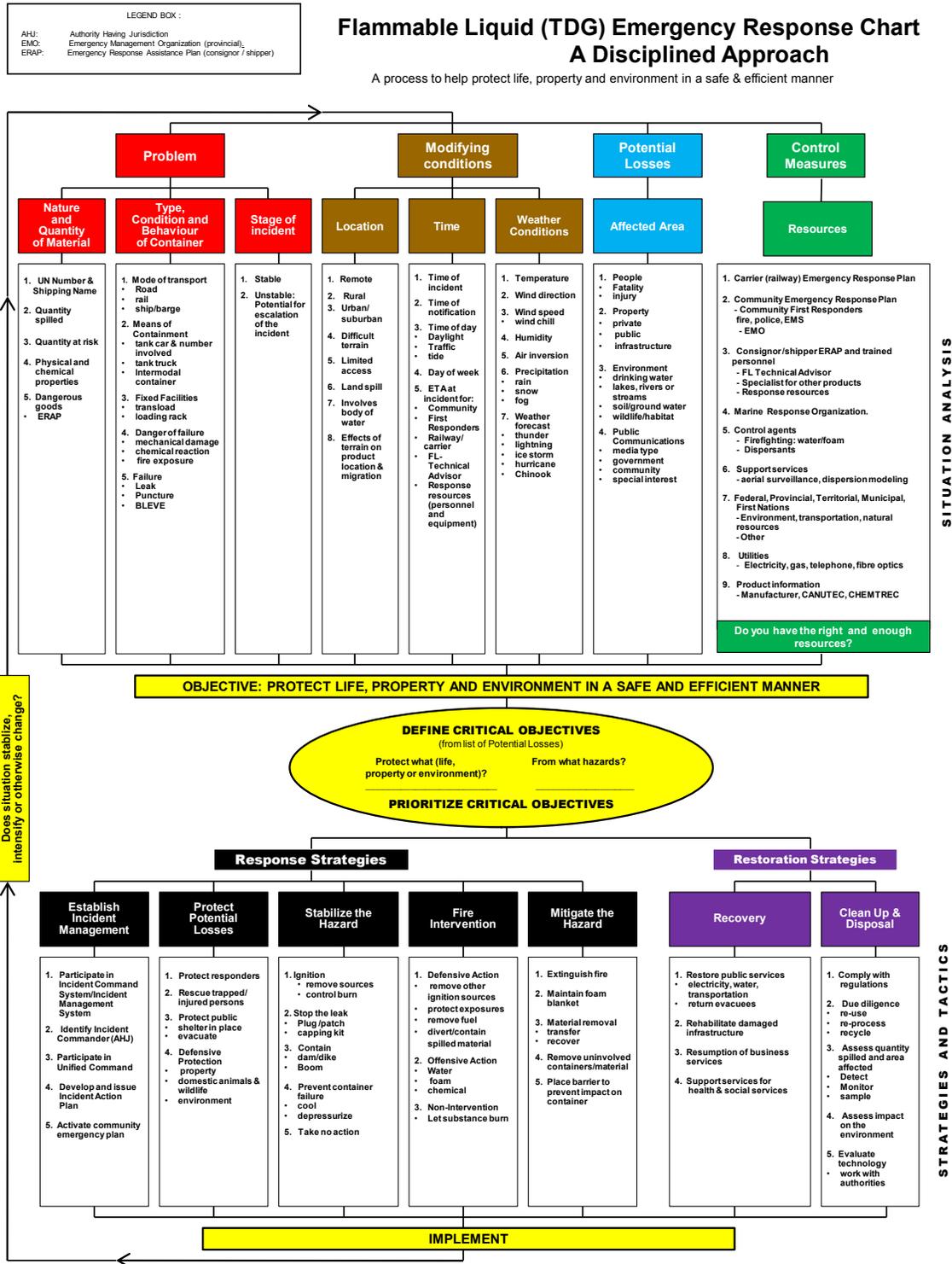
ANNEX B: Updated List of Emergency Response Task Force Members and Observers

Membership	Name	Alternate(s)	Representing
Chair	Chris Powers		Transport Canada
Vice-Chair	Louis Laferrière		Transport Canada
Member	TBA	Blaine Wiggins	Aboriginal Firefighter Association of Canada
Member	Jim Bird	Mark Jasper	Canadian Association of Chemical Distributors (CACD)
Member	Mark Ford	Murray Knowles	Canadian Association of Chiefs of Police
Member	Denis Lauzon Erika Adams	J.P. Cody-Cox Corey Schram	Canadian Association of Fire Chiefs (Canadian Volunteer Fire Services Association)
Member	Brian Ladds Kevin Clifford		Canadian Association of Fire Chiefs (CAFC)
Member	Blake Williams	Michael Gadde	Canadian Association of Petroleum Producers (CAPP)
Member	Dennis Gannon	TBA	Canadian Council of Fire Marshals and Commissioners
Member	Bob Goodfellow	JC Morin	Canadian Emergency Response Contractors Alliance
Member	Adrian Michielsen		Canadian Fuels Association (CFA)
Member	Eric Torunski		Canadian Interoperability Technology Interest Group (CITIG)
Member	Danny Simpson	Lee Nelson	CN Rail
Member	Jim Kozey	Darlene Nagy	Canadian Pacific Railway
Member	Fiona Cook		Chemistry Industry Association of Canada (CIAC)
Member	Spencer Buckland	Patrick Knight	Emergency Response Assistance Canada
Member	Trudy Iwanyshyn		Federal/Provincial/Territorial Task Force (TDG)
Member	Andrée Chenard		Federation of Canadian Municipalities
Member	Brian Moore		International Association of Emergency Managers - Canada
Member	TBA		Paramedic Chiefs of Canada
Member	Andy Ash	Jean Pierre Couture	Railway Association of Canada (RAC)

Membership	Name	Alternate(s)	Representing
Member	Kristy Moore	Missy Ruff	Renewable Fuels Association, (United States)
Member	Glen MacDonald		Teamsters Canada
Member	Clive Law	Louis Marcotte	Transport Canada - TDG
Observer	Dennis Redford	Laurie Boyle D'Arcy Segó	British Columbia Ministry of Environment
Observer	Giulia Brutesco	Ron Lutzer	Canadian Fertilizer Institute
Observer	Mélanie Levac		Canadian Propane Association
Observer	Geoffrey Wood	Barrie Montague	Canadian Trucking Alliance (CTA)
Observer	James Panasiuk	Dr. Glenn Millner	Center for Toxicology and Environmental Health (United States)
Observer	David Matschke		Defense Research and Development Canada, Centre for Security Science
Observer	Lo Cheng	Simon Despatie	Environment Canada
Observer	Peter Grootendorst		Justice Institute of British Columbia
Observer	Scott Davies		Manitoba Conservation and Water Stewardship, Environmental Compliance and Enforcement, Government of Manitoba
Observer	Gilles Desgagnés	Jacques Brouillette	Ministère de la Sécurité Publique du Québec
Observer	Brian Mullen		Public – Subject Matter Expert
Observer	Ernie Wong		Transport Canada - Subject Matter Expert
Observer	Michael Cloutier		Transport Canada - Subject Matter Expert
Observer	André Laflamme	Josée Lamoureux	Transport Canada – Marine Safety
Observer	Kirby Jang		Transportation Safety Board of Canada
Advisor	Sara Devereaux		Transport Canada, Atlantic Region
Advisor	Josée Boudreau		Transport Canada, Pacific Region
Advisor	Paul Driver		Transport Canada, Prairie and Northern Region
Advisor	Dan Olech		Transport Canada, Ontario Region
Advisor	Ève Poirier		Transport Canada, Quebec Region
Advisor	Fred Scaffidi		Transport Canada, HQ
Advisor	Nicolas Cadotte		Transport Canada, HQ
Advisor	Angelo Boccanfuso Pierre Manseau	Denis Foisy	CANUTEC, Transport Canada
Advisor	Peter Coyles		Transport Canada, Transport of Dangerous Goods

Membership	Name	Alternate(s)	Representing
Advisor	Nathalie Belliveau		Transport Canada, Transport of Dangerous Goods
Director General, TDG	Nicole Girard		Transport Canada, Transport of Dangerous Goods
Task Force Secretariat	Mylaine Desrosiers		Executive Director
Task Force Secretariat	Kathie Keeley		Senior Policy Advisor
Task Force Secretariat	Lindsay Jones		Policy Researcher and Advisor
Task Force Secretariat	Anastasia Karvounis		Intergovernmental Liaison Officer
Task Force Secretariat	Rachele Renaud		Project Coordinator

ANNEX C: Flammable Liquid (TDG) Emergency Response Chart – A Disciplined Approach



Based on *The Disciplined Approach to Emergency Response* originally developed by Imperial Oil and supported by the Chemistry Industry Association of Canada (2010).
 This version is sponsored by the Chemistry Industry Association of Canada (2015).

ANNEX D: Recommendations by the Task Force to Date

For ease of reference, please find below a list of sequential recommendations made by the ERTF to Transport Canada to date.

Recommendation 1

Task Force members are recommending that Transport Canada support a request to include basic information on the ERAP program in the reference section of the *2016 Emergency Response Guidebook* and mark products that are required to have an ERAP with a Canadian logo for ease of reference.

(First Quarterly Report, November 2014: <http://www.tc.gc.ca/eng/tdg/first-quarterly-report-1212.html>)

Recommendation 2

The Task Force is recommending that Transport Canada work with Opportunity for Collaboration with the Defense Research and Development Canada - Centre for Security Science (DRDC-CSS)

(First Quarterly Report, November 2014: <http://www.tc.gc.ca/eng/tdg/first-quarterly-report-1212.html>)

Recommendation 3

Task Force members are recommending that Transport Canada proceed in including Ethanol being shipped under UN 1987 as part of the primary ERAP requirements for Class 3 Flammable Liquids, and that Transport Canada proceed with advising those shippers that may be impacted by this recommendation so they may act accordingly with respect to ERAP requirements.

(First Quarterly Report, November 2014: <http://www.tc.gc.ca/eng/tdg/first-quarterly-report-1212.html>)

Recommendation 4

Task Force members are recommending that Transport Canada further promote and improve knowledge and understanding of various aspects of TDG activities and programs with an Outreach and Awareness program as an ongoing activity that will address, among other topics, the following:

- ERAP Program;
- Roles of TDG RMS;
- CANUTEC;
- PD 32;

- PD 33;
- Emergency Response Task Force; and
- TDG-GPAC.

(First Quarterly Report, November 2014: <http://www.tc.gc.ca/eng/tdg/first-quarterly-report-1212.html>)

Recommendation 5

Support the concept of a standardized ICS, based on the ICS Canada program and that the Incident Commander in charge of a railway or other dangerous goods incident will be a representative of the local authority having jurisdiction working within a unified command structure.

Recommendation 6

Require ERAP documents to include identification of ICS and a Unified Command structure as part of the planning requirements for response to incidents.

Recommendation 7

Require ERAP Technical Advisors to complete, at a minimum, the following ICS Canada incident command courses, appropriate to their roles in an incident:

- ✓ I-100 Introduction to ICS
- ✓ I-200 Basic ICS for Single Resources and Initial Action Incidents
- ✓ I-300 Intermediate ICS for Expanding Incidents

Recommendation 8

Require railway companies to provide copies of their Emergency Response Plans to the TDG Directorate, with details on how the ICS System is incorporated within those plans for dangerous goods incidents and, that the information in the railway Emergency Response Plans is immediately available to CANUTEC during an emergency incident.

Recommendation 9

Require railway companies to have company managers, supervisory staff and contractor supervisors, who attend dangerous goods incidents, complete at a minimum, the following ICS Canada incident command courses, appropriate to their roles in an incident:

- ✓ I-100 Introduction to ICS
- ✓ I-200 Basic ICS for Single Resources and Initial Action Incidents
- ✓ I-300 Intermediate ICS for Expanding Incidents

Recommendation 10

Include in the Transport Canada Training Program for TDG Inspectors and Remedial Measures Specialists the following ICS Canada courses, appropriate to their role in an incident:

- ✓ I-100 Introduction to ICS
- ✓ I-200 Basic ICS for Single Resources and Initial Action Incidents
- ✓ I-300 Intermediate ICS for Expanding Incidents

The CANUTEC representative indicated that this training should also be included in their plan so CANUTEC Advisors could get training on ICS.

Recommendation 11

Review and define the roles and responsibilities of TDG Inspectors and RMS to include consultation and advice with the Incident Commander to help in developing an Incident Action Plan. Transport Canada should make those roles and responsibilities well known to both the public sector and private sector as part of their Awareness and Outreach Program.

Recommendation 12

Facilitate the development of a template for a Community Dangerous Goods Emergency Response Plan that can be incorporated in Community Emergency Plans.

Recommendation 13

Work in collaboration with Public Safety Canada, Senior Officials Responsible for Emergency Management (SOREM), Railway Association of Canada (RAC), Canadian Association of Petroleum Producers (CAPP), Canadian Fuels Association (CFA), Aboriginal Firefighters Association of Canada (AFAC) and the Canadian Association of Fire Chiefs (CAFC) as well as other stakeholders in a comprehensive outreach and education program that provides information and training/reference materials for dangerous goods ICS “best practices”, as well as recommending the use of ICS Canada training courses for First Responders.

To increase awareness and as part of the Communication and Outreach Strategy, it is further recommended that these documents be developed and completed by Transport Canada to be distributed in conjunction with the *2016 Emergency Response Guidebook* to all first response agencies and community/First Nations emergency planners in Canada.

Recommendation 14

Complete the development of and production of the following concept documents:

- Community Emergency Planning Guide for Dangerous Goods
- The Emergency Planning and Response Cycle Chart
- ICS Structure Using Unified Command for Railway Dangerous Goods Incidents Chart
- Railway Dangerous Goods Incidents – Roles and Responsibilities Table and Chart
- Flammable Liquid (TDG) Emergency Response Chart - A Disciplined Approach
- The Disciplined Approach work sheets for developing an Incident Action Plan (IAP) with ICS
- Provide a dangerous goods lexicon with standard names and terminology

Recommendation 15

Work with the Centre for Security and Science (CSS), First Responders, emergency planners, RAC member companies, ERAP holders, CANUTEC and Transport Canada RMS representatives to develop response exercises to test and evaluate the effectiveness of the ERAP program and identify opportunities for improvement.

Recommendation 16

Encourage and support training, exercises, networking and interaction between railway personnel, First Responders, emergency planners and Transport Canada to build experience, trust and communications in application of the ICS and unified command at dangerous goods incidents.

Recommendation no. 17

Further develop a Flammable Liquids Technical Advisor (FLTA) Competency Profile that can be used as a tool during the review and approval process of an ERAP for Class 3 Flammable Liquids.

Recommendation no 18

Include the Response Tier and Timelines Best Practices as a standard addition for outreach activities.

Recommendation no. 19

Include the Flammable Liquids Technical Advisor (FLTA) Competency Profile in the TDG Directorate planning for outreach activities.

ANNEX E: Emergency Response Task Force: Incident Management - Subgroup Report and Recommendation

Note: This document can be provided by contacting the ERTF Secretariat by email at TC.ERTFSecretariat-SecretariatGTIU.TC@tc.gc.ca and quoting RDIMS 10287819.

ANNEX F: Railway Dangerous Goods Incidents - Roles and Responsibilities Table and Chart

AGENCY/SECTOR	ROLES AND RESPONSIBILITIES AT AN INCIDENT	AUTHORITY (LEGISLATION, REGULATION OR MANDATE)
RAILWAYS	<p>Notifications, conducts damage assessment and coordinates railway response efforts; have an Emergency Response Plan, provides information on what is in rail cars - Consist (Bill Of Lading); part of unified command; provides knowledge of rail cars; provides safety oversight; participate in investigation process;</p> <p>When an incident occurs Railways respond through internal Emergency Response Plans (ERPs).</p> <ul style="list-style-type: none"> • Train Crew reports incident and a callout process is initiated • First Responders – police, fire, ambulance are notified immediately <p>Reporting Responsibilities to (as required by regulation):</p> <ul style="list-style-type: none"> • Transportation Safety Board • TDG (Transport Canada – CANUTEC) • Environmental Authorities • Local authorities • Product identification and emergency handling information is secured • Operations, engineering, mechanical, environmental services, claims and 	<i>Railway Act, TDG Act</i>

	<p>community relations are mobilized to the site, as required</p> <ul style="list-style-type: none"> • Consignor is notified. If commodity is Dangerous Goods, the consignor or contractor will mobilize to site <p>Depending on incident severity and type, specialized contracted services are notified and mobilized to the site.</p> <p>Incident Command</p> <p>Railways are prepared to function in any capacity within any ICS structure.</p> <p>The Senior Transportation Officer or his designate at the scene is the On Scene Reponses Coordinator (OSRC) for the RR to interface with the Incident Commander under Operations Branch of ICS.</p> <p>The Train Crew will provide the train documents to the IC. In absence of the Train crew the documents can be obtained via the RTC, RR Police, or the RR OSRC.</p> <p>A RR Incident/Operations Command Centre is set up. Major Organization Components in a typical railroad structure (under Operations Branch in ICS):</p> <ul style="list-style-type: none"> • Transportation – protect incident scene from trains – arrange movement of cars 	
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	<ul style="list-style-type: none"> • Mechanical – heavy equipment for wrecking operations • Engineering – re build track and build track to support re-railing/transload operations • Safety/Risk Management <ul style="list-style-type: none"> • Environment & HazMat Team • Works within ICS • Conduct damage assessment and mitigate leaks and spills • Arrange for transloading of product, if required. • Activate ERAP, if required • Work with ERAP holder/contractor, as required • Public Affairs – address public dislocated or evacuated • Accident Investigation • Railways have comprehensive train accident cause finding programs <ul style="list-style-type: none"> • Relevant evidence is gathered and analyzed to identify root causes • Corrective actions identified <p>Debriefing</p> <ul style="list-style-type: none"> • Incidents are “debriefed” among railway personnel and regulators • If serious incidents occur with impact to the 	
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	<p>community, railway participates in debriefings with Community representatives, local leaders and first responders</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> • Protect life and health • Protect property and the environment • To ensure and provide for the continuity of business 	
<p>FIRE SERVICE</p>	<p>First responder , usually Authority Having Jurisdiction</p> <ul style="list-style-type: none"> • Assess situation, establish incident command, make notifications, secure scene with Police, rescue of persons at risk, if possible, consider evacuations or shelter –in-place, develop Incident Action Plan, call for additional resources • Fire suppression, rescue, traffic control • Fire control, incident stabilization • Fire service decontamination <p>First Nations (FN) fire services, through their funding agreements with AANDC, are primarily funded for the suppression of fires in residential occupancies and facilities that are funded through AANDC.</p> <p>Many FN fire services provide protection above and beyond those that are identified as part of the funding formula to include additional fires and rescue.</p> <p>It is incumbent on the FN's to determine an appropriate level of service provision, and as such</p>	<p>Provincial or Territorial Legislation (Protection of life, property & environment-e.g <i>Fire Protection and Prevention Act, Fire Department Establishing and Regulating By-laws, Emergency Management Act, Municipal Government Act, etc.</i>)</p> <p>First Nations Fire Services have federal regulations to consider. However, there are no specific pieces of legislative control that provide for the FN's to govern their department activities.</p>

	<p>where financial, policy, etc. implications come into play it is their responsibility to provide for those provisions.</p> <p>There are FN's that are advanced and certified, others have a fire truck, a garage with the hope that in the event of a fire someone takes it to the fire and provides assistance. So in summary; FN's fire services are limited based on many factors - such as financial, human capital, etc. and may not be able to adequately provide protection.</p>	
POLICE SERVICE	<p>On-scene Security, Traffic/Crowd Management, Investigation, Evacuation,</p> <p>Family/Community Support, Incident Command (depending on nature of Incident)</p> <p>Support – manage security, zones, evacuation,</p> <p>Victim Identification, assist Coroner</p> <p>Investigation under Criminal Code</p>	<p><i>Criminal Code</i>, Various Provincial Laws/Regulation- also linked to location of incident.</p>
EMERGENCY MEDICAL SERVICE	<p>Support – medical services – treat, triage, transport</p>	<p>Provincial/Territorial EMS Legislation</p>
CANUTEC	<p>Provides TDG technical and scientific advice and communicates to first responders ERAP information such as MSDS information, arranges conference calls with industry experts and others.</p> <p>Provides information on plume dispersion.</p>	<p><i>Transportation of Dangerous Goods Act (TDG Act) and Regulations</i></p>
TRANSPORT CANADA	<p>TC TDG Inspectors or Remedial Measures Specialist (RMS)</p>	<p><i>TDG Act and Regulations</i></p>

	<p>provides advice and expertise to Incident Command on emergency response, provides technical support and understands the ERAP requirements, works with Industry and Contractors who hold ERAP. Reports to IC, may be part of Unified Command;</p> <p>Public safety and security oversight</p>	
TRANSPORTATION SAFETY BOARD	<p>Investigation of incident</p> <p>Incident prevention and response recommendations</p>	Federal Legislation
ERAP HOLDER	<p>If the product is ERAPable, the consignor /importer needs to be able to provide technical knowledge on product and ensure response assistance is available (either directly or via contracted service)</p>	<p><i>TDG Act and Regulations</i></p> <p>Part 7 ERAP</p>
ERAP EMERGENCY RESPONSE ORGANIZATION	<p>Provides the response coordination as per the approved ERAP, these may include:</p> <ol style="list-style-type: none"> 1. Emergency Call Centre 2. Initial response support via over the phone support from a Technical Advisor 3. On-site assistance with response tactics, logistics, safety and communications provided by a Technical Advisor and/or response team 4. Establish and maintain training and records for competency standards and responses 	
EMERGENCY RESPONSE CONTRACTOR (S)	<p>Provides for hire, hands-on, on-scene emergency response within the railway operations</p>	ERAP Requirements

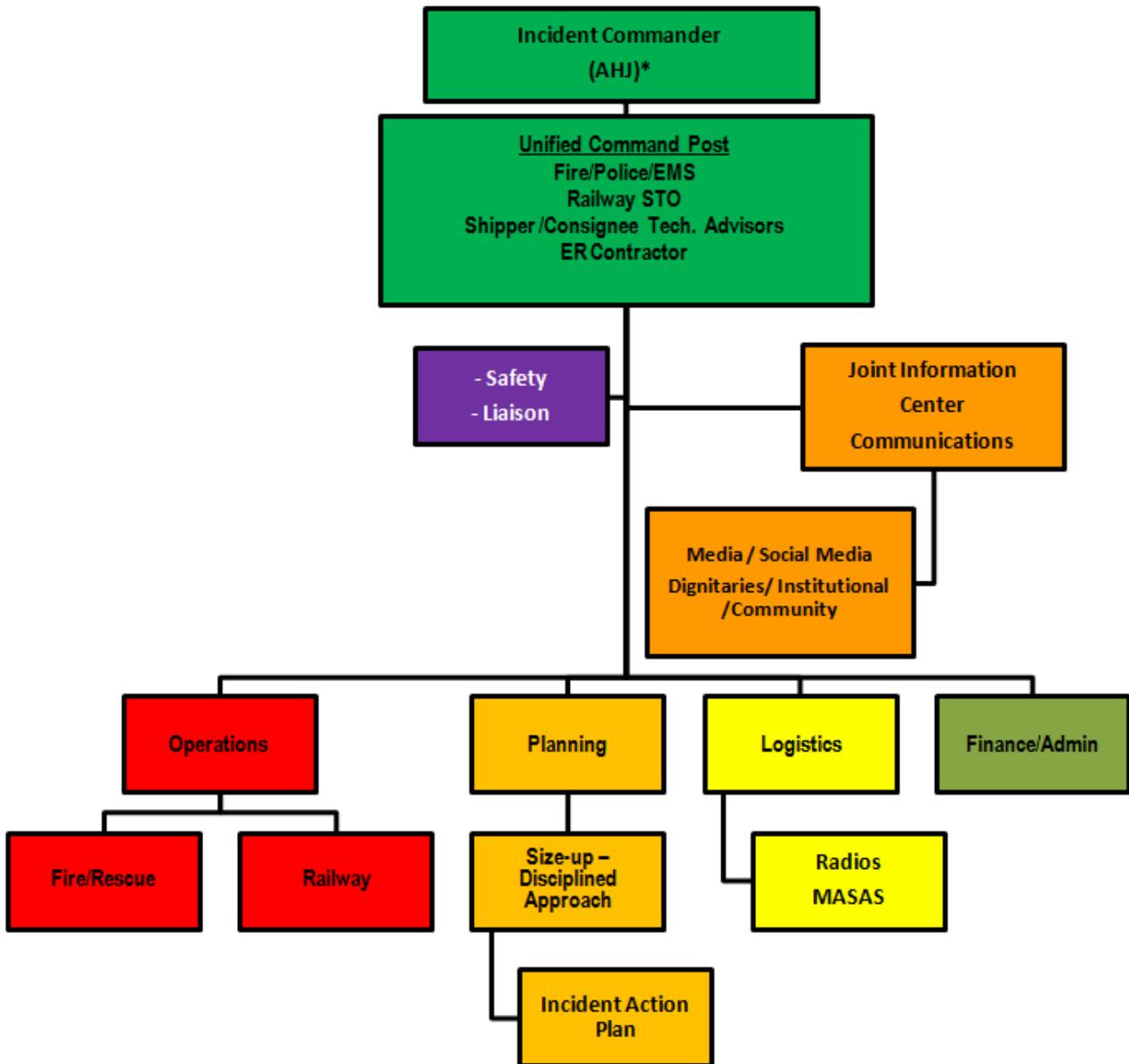
	sector. Conducts recovery, mitigation and clean-up activities	
PROVINCIAL/TERRITORIAL MINISTRY OF ENVIRONMENT	Inspection & investigation of environmental impacts (if leaves federal site or if there is a possibility of an adverse effect on the environment off federal site); Provides advice on environmental concerns to Incident Command; provides local technical knowledge, responsible for organizing/directing mitigation of environmental impact of incident in areas under Provincial/Territorial jurisdiction.	<i>Environmental Protection & Enhancement Act</i> Provincial/Territorial Environmental Legislation
ENVIRONMENT CANADA	Through its National Environmental Emergencies Centre (NEEC) available 24/7, provides scientific and technical advice on environmental concerns to Incident Command; Provides local technical knowledge, responsible for organizing/directing mitigation of environmental impact of incident in areas under federal jurisdiction such as: <ul style="list-style-type: none"> • weather forecast, contaminant dispersion and trajectory modelling, fate and behaviour of hazardous substances, the establishment of clean-up priorities and techniques, as well as the protection of sensitive ecosystems and wildlife such as migratory birds and fish; • on-site sampling, monitoring and chemical testing by trained and equipped subject 	-Federal Environmental Legislation <i>Canadian Environmental Protection Act, 1999</i> <i>Fisheries Act</i> <i>Migratory Birds Convention Act, 1994</i> <i>Release and Environmental Emergency Notification Regulations</i> <i>Deposit Out of the Normal Course of Events Notification Regulations</i> <i>Criminal Code</i> (Peace Officer

	<p>matter experts</p> <ul style="list-style-type: none"> laboratory analysis including targeted research specific to the incident in support of the departmental mandate and/or incident decision-makers; Issues directions to the responsible party to take all reasonable and appropriate measures to minimize the potential or real impacts to the environment and human life or health; 	Powers)
MINISTRY OF LABOUR/CSST IN QUEBEC	Provides advice on health and safety requirements for emergency responders at the incident.	Provincial/Territorial OH& S Legislation
MINISTRY OF HEALTH, BOARD OF HEALTH	Provides technical assistance and evaluates possible public health concerns such as fumes, smoke, water quality etc. and notifies public.	Provincial/Territorial Public Health Legislation
LOCAL AUTHORITY/ EMERGENCY PLANNING	<ul style="list-style-type: none"> Emergency planning, activation of MEP, declaration of SOLE (if necessary); Responsible for everything outside of specifically reserved federal/provincial jurisdiction. Coordinates emergency response assistance for public and Incident Command. 	Provincial/Territorial Emergency Management Legislation, Municipal By-laws.
PROVINCIAL/TERRITORIAL EMERGENCY MANAGEMENT AGENCY	<p>Coordinates provincial resourcing;</p> <p>Coordinates provincial communication strategy, passage of information to provincial/territorial officials, field officer liaison;</p> <p>Supports local emergency response; provides technical</p>	Provincial/Territorial Emergency Management Legislation

	knowledge, additional resources.	
PROVINCIAL TDG AUTHORITY	<p>CIC – information & coordination;</p> <p>Response (if requested by TC for federally regulated line); technical advice/resource coordination</p> <p>Liaison b/w CANUTEC, TC, POC, province, municipalities, emergency responders, ER teams, etc.;</p> <p>Inspections & Investigations;</p> <p>Supports local emergency response for areas of provincial/territorial responsibility.</p>	<p>- <i>TDG Act & Regs</i></p> <p>- <i>DGTHA & Regs</i></p> <p>- Provincial/Territorial TDG Legislation</p>
OTHER PROVINCIAL RAIL SAFETY	<p>For provincially regulated sites</p> <ul style="list-style-type: none"> • CIC – information & coordination; • Technical advice/coordination; • Investigations. 	<i>Railway (Alberta) Act & Regs</i>

ANNEX G: ICS Structure Using Unified Command for Railway Dangerous Goods Incidents Chart

Pre-Incident Planning & Preparedness



ANNEX H: A Sample of a Unified Command Post Roles and Responsibilities Chart

Incident Response:

1. Rescue & Stabilization
2. Mitigation
3. Restoration



ANNEX I: Flammable Liquids Technical Advisor Competency Profile

Purpose

Under Part 7 of the *Transportation of Dangerous Goods Regulations*, an organization may be required to have an Emergency Response Assistance Plan (ERAP). When an organization applies for an ERAP and receives approval by the TDG Directorate, that organization is then referred to as an ERAP-holder. The ERAP-holder's documentation must contain a description of the capabilities of a Technical Advisor.

With the intent to improve the understanding by ERAP-holders, rail carriers, First Responders and public safety authorities, the basic role and responsibility of the Technical Advisor is to provide or be able to identify resources or information necessary for effective incident mitigation. This role - which may be filled by more than one individual but with only a single point of contact within the Incident Command System – will be to provide assistance via the telephone and at the scene of the incident.

The purpose of this document is to describe the capability/competency (expected knowledge, training, and experience) of a specific type of Technical Advisor, one for a Flammable Liquids ERAP namely a Flammable Liquids Technical Advisor (FLTA).

Scope

This document applies to all ERAP-holders who offer, transport, import or are responsible for a TDG Class 3, Flammable Liquid, ERAP in Canada and therefore, have a FLTA as required by the ERAP. The following description applies to both ERAP-holder company employees and contracted transportation emergency response service providers acting as FLTA on behalf of an ERAP holder.

Role and Responsibilities

A FLTA must be available 24 hours a day, 7 days a week.

The FLTA must be able to provide initial assistance by telephone.

The FLTA must have the authority to provide advice and assistance as well as engage necessary resources in accordance with the ERAP for the safe and effective resolution of the incident.

The FLTA must attend a transportation incident scene, as required, including requests by carrier, public authorities or mutual aid/contracted transportation emergency response service provider.

The FLTA must be able to assess a flammable liquid railway incident and provide advice on tactics and strategies for spill and firefighting response within the Incident Command System, in the areas:

- a) hazards associated with the flammable liquid;
 - reactivity and compatibility with other chemicals, materials and the physical environment
 - physical characteristics
 - flammability, explosivity, by-products of incomplete and complete combustion, and
 - consequences of personnel exposure (contact, inhalation, ingestion).
- b) behaviour characteristics if the flammable liquid is released;
 - physical state (solid, liquid, gas) and appearance (colour, odour)
 - density in air, water
 - solubility, and
 - mobility in water, soil and air
- c) hazards associated with the incident;
 - ignition sources
 - threats to
 - response team
 - population in the area
 - environment
 - equipment and property, and
 - adjacent means of containments
- d) knowledge of the means of containment;
 - specifications, safety and relief valves, stenciling and safety marks

- rail tank car damage assessment, and
 - receiving means of containment
- e) response options;
- isolation zones
 - spill
 - installation of plugs, capping of valves, stabilization, containment
 - transfer, recovery, and
 - fire suppression
 - defensive, offensive, non-intervention
- f) response resources and contacts as identified in the ERAP;
- transportation emergency response service providers (i.e. in-house, for hire, ER contractor, consultant, mutual aid).

Furthermore, the FLTA must have ready access to individuals that can provide information such as 1) potential environmental impacts of both the spill and the implemented response techniques, and 2) air dispersion modeling.

Knowledge

Working knowledge means having training and experience necessary to provide technical assistance to the on-scene responders as well as having resources identified to obtain more specific technical information.

FLTAs must have working knowledge for those materials for which they are responsible in a transportation incident:

- a) Safety practices at an incident scene
- b) TDG Regulations, GHS/WHMIS
- c) safe handling for Flammable Liquids
- d) suitable detection equipment technologies and their limitations
- e) Incident Command System
- f) personal protective equipment requirements

- g) railway tank car damage assessment
- h) response techniques (options) available for the material and means of containment,
- i) Flammable Liquids firefighting,
- j) Flammable Liquids (TDG) Emergency Response Chart, A Disciplined Approach, and
- k) ERAP.

Training and Experience

The training and experience qualifications of a FLTA must be documented and records maintained by the ERAP holder. The required training and experience or equivalent credentials for the FLTA must include the following at the minimum frequency shown in parenthesis:

- a) Communication skills and devices
- b) Company Safework Guidelines/Practices (three years)
- c) TDG Certification (three years)
- d) WHMIS (three years)
- e) ERAP-holder's ERAP (three years or sooner if major changes occur)
- f) Incident Command System, ICS 100 and 200 are mandatory, ICS 300 is preferred (formal review/training every three years; annual exercise or participation in an incident utilizing ICS)
- g) spill and firefighting response techniques – this includes response to an actual incident or taking part in a mock/drill exercise (annual)
- h) NFPA 472 HazMat Technician with Tank Car Specialty or Advanced Tank Car Specialty
 - flammability and toxicity detection equipment and limitations (annual)
 - personal protective equipment requirements (annual)
 - tank car damage assessment (three years)
- i) Selected Requisite Knowledge or Requisite Skills from the following:

- NFPA 1001 Firefighter level 1 or 2, and
 - NFPA 1081, or
 - NFPA 472.
- j) Trained in rail safety for emergency response operations
- Valid eRail Safe card (for contractors hired directly by a rail carrier)
 - ERAP-holders FLTAs shall be vetted and documented separately (to be determined)
- k) Crude By Rail (one time, 3-day course, SERTC, Pueblo)
- l) Technical working knowledge of the physical and chemical characteristics of the material and anticipated hazards at an incident scene
- m) Technical working knowledge of suggesting stabilization and mitigation measures that could be implemented at the incident scene, and
- n) Technical working knowledge of the means of containment.

Response Tier and Timelines

FLTAs shall provide technical or emergency response advice immediately over the telephone within 10 minutes of the initial request.

FLTAs shall attend the incident scene immediately but no more than six hours of the initial request.

A response team and equipment shall attend the scene within 12 hours of the initial request.

Best efforts are expected, however, consideration must be given to natural disasters, weather conditions, site accessibility, or other circumstances such as acts of terrorism which may interfere with the above timelines.

DEFINITIONS

Credential

A document that provides an attestation or proof of standard qualification, competence, or authority issued to an individual by a recognized, accepted third party that is granted the authority to do so.

Emergency Response Assistance Plan-holder

An organization that has an approved ERAP.

Equivalency

Alternative that meets or exceeds the requirements of a credential, referenced standard, accepted operating procedure or guideline, or certificate granted by a recognized institution that has the authority to do so.

Mitigation

Mitigation includes operational activities directed towards assessment and initial product recovery by means of product displacement. Product displacement includes, but is not limited to, neutralization, deactivation, repackaging or over-packing, flaring or depressurization.

Response team

A response team has capable resources (i.e. people, training, experience and equipment) on a 24-hour basis to provide on-scene response to a transportation incident. The response team should be able to:

- Execute initial stabilization of the incident thereby immediately reducing the risk of chemical exposure to people and the environment (independent of response time and site access);
- Execute mitigation once an incident has been stabilized to remove the immediate risk of chemical exposure to people and the environment; and

Stabilization

Stabilization includes operational activities directed towards ensuring the incident will not escalate by being able to detect, assess, stop and contain chemical leaks or spills (or potentials thereof) caused by a transportation incident involving dangerous goods or other goods.

Transportation Emergency Response Service Provider

A for-hire organization such as a consultant or a contractor which specializes in on-scene TDG transportation emergency response activities of stabilization and mitigation.

National Fire Protection Association (NFPA) Standards

NFPA 1001: *Standard for Fire Fighter Professional Qualifications*

NFPA 1081: *Industrial Exterior Fire Brigade Training*

Selected Topics of Interest to FLTA Competency:

- Fire science and behaviour
- Emergency service communications
- Personal protective clothing
- Firefighter Safety/personnel protection
- Self-Contained Breathing Apparatus
- Fundamentals of firefighting
- Fire service hose
- Fire Streams and appliances
- Advanced fire attack
- Overhaul and salvage
- Incident Command System
- Hazardous materials
- Reports and records
- Pre-incident planning
- Rescue operations
- Dry chemical agents and applications
- Pre-emergency planning

- Strategies and tactics

NFPA 472: Standard for Competence of Responders to hazardous Materials/Weapons of Mass Destruction Incidents

Selected Topic of Interest to FLTA Competency:

- Chapter 16, Flammable Liquids Bulk Storage Fire Fighting

ANNEX J: NFPA Letter of Introduction and “New Project Initiation Form” Submission



January 27, 2015

Ms. Dawn Bellis
Manager, Codes and Standards Administration
National Fire Protection Association (NFPA)
1 Batterymarch Park
Quincy, MA 02169

Dear Ms. Bellis,

On behalf of Transport Canada's Emergency Response Task Force (ERTF), I wish to submit the attached New Project Initiation Form to the NFPA Standards Council for due consideration. The purpose of this Project Initiation Request is to propose a Standard on **Competencies for Responders to Incidents of Flammable Liquids in Transport – High-Hazard Flammable Trains (HHFT)**.

The creation of the ERTF under the Transport Canada, Transport Dangerous Goods Directorate was announced by Canada's Minister of Transport in April 2014. The mandate of the ERTF is to make recommendations to Transport Canada on improving public safety at dangerous goods incidents with a specific focus on flammable liquids transported by rail and in particular, Crude Oil and Ethanol which are now being transported in very large volumes through many Canadian and American communities. In light of the catastrophic derailment in Lac Mégantic in July 2013 that claimed 47 lives, this presents new and serious challenges to first responders.

Task Force members, who represent the key stakeholders across Canada and also some from the U.S., have identified many issues and have been providing recommendations to Transport Canada to address them. One area identified as a major issue is the need for a single comprehensive reference/standard to address the unique emergency response requirements needed to deal with major rail incidents involving flammable liquids. At the Task Force meeting on January 15, 2015, members supported the submission of the "New Project Initiation Form" to NFPA.

NFPA standards are currently used for firefighter training across Canada. However, it appears that none of the existing standards comprehensively address the unique emergency response requirements needed to deal with major rail incidents involving flammable liquids. Because of the scale and complexity of these incidents, the ERTF respectfully submits that there is a need to develop a single reference standard that would define the knowledge, skills and training required by technical advisors from industry, public first responders (including incident command staff and firefighters), federal government specialists (Remedial Measures Specialists) etc. to be qualified to safely mitigate these large scale incidents involving flammable liquids in transport.

The members of the ERTF hope that the details contained within the “New Project Initiation Form” will help set the stage for collaborative discussion. The Task Force members are looking forward to hearing from you and working with you. In the meantime, I invite you to consult our website at <http://www.tc.gc.ca/eng/tdg/safety-menu-1186.html> should you wish to learn more about the Task Force, its members or its mandate and activities.

Please feel free to contact myself or Mylaine DesRosiers, Executive Director, ERTF Secretariat at mylaine.desrosiers@tc.gc.ca should you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "C. J. Powers".

Chris Powers
Chair, Emergency Response Task Force
Transport, Dangerous Goods (TDG)
Transport Canada
613-991-0058
chris.powers@tc.gc.ca

New Project Initiation Form

(To be completed by proponent of new project/document)

Additional pages may be attached if necessary.

a.	<p>Explain the Scope of the new project/document:</p> <p>Proposed Standard on Competencies for Responders to Incidents of Flammable Liquids in Transport – High-Hazard Flammable Trains (HHFT) *</p> <p>The document should specify the factors to be considered and competencies required when responding to railway incidents (derailments) involving multiple tank cars of flammable liquids (HHFT) including crude oil, ethanol and other Class 3 products.</p> <p>This standard could include: - knowledge of physical and chemical properties of the product(s), type, condition and behavior of tank cars, railway safety for first responders, stability of the incident, risk factors – fire spread, explosion, toxic gases, resources needed and available from both government and private sector, intervention or non – intervention strategies, environmental factors and impacts, downstream potential for fire spread/contamination from flowing product, damming or diking possibilities, evacuation considerations, foam types, volumes required, large capacity foam equipment operation, application techniques, containment and securement of unburned product. A section on pre-planning and exercises with first responders, railroads, shippers and other resources (CANUTEC, CHEMTREC, etc.) should also be included.</p> <p>Because of the scale and complexity of these incidents there is a need to develop a single reference standard that includes all these factors and more and then defines the knowledge, skills and training required by technical advisors from industry, public first responders (including incident command staff and firefighters), federal government specialists (Remedial Measures Specialists) etc. to be qualified to safely mitigate these large scale incidents involving flammable liquids in transport.</p> <p>*NOTE: PHMSA is proposing to add a new definition to 49 CFR 171.8 defining ‘high-hazard flammable train’ (HHFT) as “a single train carrying 20 or more carloads of a Class 3 flammable liquid”.</p>
b.	<p>Provide an explanation and any evidence of the need for the new project/document:</p> <p>On July 6, 2013 a 73-car Montréal, Maine and Atlantic train carrying Bakken crude oil from North Dakota rolled away from where it had been parked and derailed in downtown Lac Mégantic. The equipment that derailed included 63 of the 72 tank cars. The Lac Mégantic fire service responded to this incident and asked for and received mutual aid assistance from numerous fire departments in Quebec and the State of Maine. Hundreds of firefighters were eventually deployed for many days and most were volunteer firefighters. The large volume of fire and the heat generated created tremendous safety risks for these firefighters. Firefighting foam was brought from Valero refinery in Lévis, Quebec, and was used to control remaining fire and suppress vapors from unburned crude oil. The Chaudière River was contaminated by hundreds of thousands of liters of oil as was the sewer system and soil in the vicinity of the derailment. Over 5,000,000 liters of crude oil spilled and either burned, ran in to the lake and river or contaminated large areas of the ground in the vicinity.</p> <p>This incident resulted in the death of forty seven (47) individuals and destruction of the downtown core of the town. The financial costs will run into the hundreds of millions of dollars.</p> <p>Following the Lac Mégantic incident additional incidents involving derailments of High-Hazard Flammable Trains (HHFT) occurred including:</p> <ul style="list-style-type: none">• November 8, 2013 - Pickens County, AL• December 30, 2013 - near Casselton, ND• January 7, 2014 - near Plaster Rock, NB• April 30, 2014 - Lynchburg, VA <p>From the Transportation Safety Board of Canada the following comments:</p> <p><i>In recent years, the transportation of crude oil by rail has increased dramatically in North America such that the amount of crude oil that is now being shipped by rail is staggering. In Canada, shipments of crude oil by rail have increased from a</i></p>

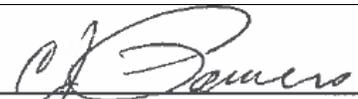
	<p>mere 500 car loads in 2009 to 160,000 car loads in 2013. In the United States, crude oil shipments have increased from 10,800 car loads in 2009 to about 400,000 in 2013.</p> <p>According to the Rail Energy Transportation Advisory Committee and data from the North American Freight Car Market, longer-term projections for crude oil and its shipment by rail include:</p> <ul style="list-style-type: none"> • The United States could produce as much as 11.6 million barrels per day (b/d) of crude by 2022. • The Canadian production is expected to reach as much as 5.6 million b/d of crude by 2025. • In North America, roughly 1.0 million b/d of crude is currently moved by rail and the total volume of crude transported by rail is expected to grow to 4.5 million b/d in the next 10 years. <p>Given this significant projected growth, the TSB is concerned that infrastructure and operating conditions may not ensure a safe rail system now and in the future. With the introduction of unit trains, which can consist of 80 tank cars or more carrying large volumes of liquid hydrocarbons over long distances and through urban areas, the risks to the public and the environment along the train's route have increased significantly.</p> <p>April 23, 2014, the Hon. Lisa Raitt, Minister of Transport, announced the establishment of the Transportation of Dangerous Goods - Emergency Response Task Force to conduct further research, assess, evaluate and make recommendations to advance and make improvements to the Emergency Response Assistance Plan (ERAP) program to enhance emergency response and public safety.</p> <p>In developing improved emergency response to train derailments involving large quantities of flammable liquids, members of the Transport Canada, Emergency Response Task Force identified the lack of a single, comprehensive standard to reference that provides both industry and municipal response personnel with the information needed to identify the knowledge, skills and training required to safely and effectively mitigate these incidents.</p>
c.	<p>Identify intended users of the new project/document:</p> <p>Municipal and First Nations fire services. Provincial/State Fire Marshals or Fire Commissioners, Railway emergency response personnel, Petroleum/Ethanol/Chemical industry response personnel, emergency response contractors, Municipal, State, Provincial and Federal Emergency Management agencies, Federal government regulatory agencies, e.g. (Transport Canada, U.S. DOT, PHMSA), State, Provincial and Federal Environmental Ministries/Departments. Fire Training organizations including Fire Colleges/Academies/Schools both government and private.</p>
d.	<p>Identify individuals, groups and organizations that should review and provide input on the need for the proposed new project/document; and provide contact information for these groups:</p> <p>Municipal and First Nations fire services. Provincial/State Fire Marshals or Fire Commissioners, Railway emergency response personnel, petroleum/ethanol/chemical industry response personnel, emergency response contractors, municipal, state, provincial and federal Emergency Management agencies, Federal government regulatory agencies, (Transport Canada, U.S. DOT, PHMSA), State, Provincial and Federal Environmental Ministries/Departments. Fire Training organizations including Fire Colleges/Academies/Schools both government and private.</p>
e.	<p>Identify individuals, groups and organizations that will be or could be affected, either directly or indirectly, by the proposed new project/document, and what benefit they will receive by having this new document available:</p> <p>Municipal and First Nations fire services. Provincial/State Fire Marshals or Fire Commissioners, Railway emergency response personnel, petroleum/ethanol/chemical industry response personnel, emergency response contractors, municipal, state, provincial and federal Emergency Management agencies, Federal government regulatory agencies, (Transport Canada, U.S. DOT, PHMSA), State, Provincial and Federal Environmental Ministries/Departments. Fire Training organizations including Fire Colleges/Academies/Schools both government and private.</p>
f.	<p>Identify other related documents and projects on the subject both within NFPA and external to NFPA:</p> <ul style="list-style-type: none"> • NFPA 11 – Standard for Low-, Medium- and High-Expansion Foam

	<ul style="list-style-type: none"> • NFPA 472 – Competencies for Responders to Hazardous Materials/Weapons of Mass Destruction Incidents • NFPA – 1001 - Firefighter Professional Qualifications • NFPA – 1081 - Industrial Fire Brigade Member Professional Qualifications • 2012 Emergency Response Guidebook – Transport Canada, U. S. DOT, Mexico, Secretariat of Transportation and Communication. • Transport Canada – Transportation of Dangerous Goods Act 1992 and TDG Regulations – Part 7 – Emergency Response Assistance Plans (ERAP) • Transportation Safety Board of Canada – Rail Safety Recommendations, January 23, 2014, to Hon. Lisa Raitt, Minister of Transport, Transport Canada and Ms. Cynthia L. Quarterman, Administrator, Pipeline and Hazardous Materials Safety Administration (U.S.) • NTSB Safety Recommendation R-14-005 - TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise the spill response planning thresholds contained in Title 49 Code of Federal Regulations Part 130 to require comprehensive response plans to effectively provide for the carriers’ ability to respond to worst-case discharges resulting from accidents involving unit trains or blocks of tank cars transporting oil and petroleum products. • Report and Recommendations of the Transportation of Dangerous Goods - General Policy Advisory Council (GPAC) Emergency Response Assistance Plan (ERAP) Working Group Relating to Class 3 Flammable Liquids, January 31, 2014 - http://www.tc.gc.ca/media/documents/tdg-eng/5807-2014-3477-F-BT8821720-ERAP-WG-Report-and-Recommendations-FINAL-21-en-rev-AAA-rev.pdf • Transport Canada, Protective Direction 33 – ERAP requirements for specified Class 3 Flammable Liquids (now a regulation under Canada Gazette Vol. 148, No. 27 — December 31, 2014 SOR/2014-306 December 12, 2014 TRANSPORTATION OF DANGEROUS GOODS ACT, 1992 - Regulations Amending the Transportation of Dangerous Goods Regulations (Lithium Metal Batteries, ERAPs and Updates to Schedules) • Transport Canada, Emergency Response Task Force, Terms of Reference, Membership List, Decision Records, Reports and Reference Documents http://www.tc.gc.ca/eng/tdg/safety-menu-1186.html • “Flammable Liquids (TDG) Emergency Response Chart (A Disciplined Approach) and Guide” Canadian Fuels Association and Chemistry Industry Association of Canada • “Crude Oil Emergency Response – Lessons Learned Roundtable” - Pipeline and Hazardous Materials Safety Administration, July 1, 2014 http://www.phmsa.dot.gov/pv_obj_cache/pv_obj_id_0903D018579BF84E6914C0BB932607F5B3F50300/filename/Lessons_Learned_Roundtable_Report_FINAL_070114.pdf • Ethanol Emergency Response Coalition – Renewal Fuels Association – training programs and other resources. http://www.ethanolresponse.com • Many other documents, news reports and media coverage of this issue are available from the NFPA Charles S. Morgan Technical Library
g.	<p>Identify the technical expertise and interest necessary to develop the project/document, and if the committee membership currently contains this expertise and interest:</p> <p>The Transport Canada, Emergency Response Task Force membership includes individuals with the technical expertise or they have access to that expertise within their sector/organization. Additional participation from other organizations could be facilitated as required.</p> <p>See attached membership list for the Emergency Response Task Force.</p>
h.	<p>Provide an estimate on the amount of time needed to develop the new project/document:</p> <p>Using existing information/standards /expertise from the petroleum/ethanol/chemical industries, railroads, fire service and environmental sectors working on a dedicated task force it is estimated that 8-10 months could result in a draft document</p>

	being completed.
i.	<p>Comment on the availability of data and other information that exists or would be needed to substantiate the technical requirements and other provisions of the proposed new project/ document:</p> <ul style="list-style-type: none"> • Current NFPA Standards including 11, 472, 1001, 1081 have various sections related to the information/data required. • Transport Canada, PHMSA, TSB Canada, NTSB and others are currently collecting data, conducting testing of crude oils, and investigating various aspects of these incidents. • Data on transportation of crude oil, ethanol and other flammable liquids by rail will assist in establishing communities at risk • Location of resources (foam, equipment, railway resources, etc.) are being identified and will be mapped using GIS • Petroleum industry has data and information on both crude oil types and refined product including Safety Data Sheets • Renewable Fuels Association has data and information for developing ethanol response procedures • American Association of Railroads, Railway Association of Canada have both data and training materials (e.g. Rail 101) and are working on developing additional training for HHFT incidents • Canadian Association of Fire Chiefs has members working with educational institutions on identifying curriculum for a three level program of awareness, operations and technician level firefighter training.

Please send your request to:

NFPA
Codes and Standards Administration
1 Batterymarch Park
Quincy, MA 02169
Sids_admin@nfpa.org
Rev. 10/09

Signature: 

Name: C.J. POWERS

(please print)

Affiliation: TRANSPORT CANADA

EMERGENCY RESPONSE TASK FORCE
LIST OF MEMBERSHIP
Membership as of January 21, 2015

Membership	Name	Alternate(s)	Representing
Chair	Chris Powers		Transport Canada
Vice-chair	Louis Laferrière		Transport Canada
Member	TBA	Blaine Wiggins	Aboriginal Firefighter Association of Canada
Member	Jim Bird	Mark Jasper	Canadian Association of Chemical Distributors (CACD)
Member	Mark Ford	Murray Knowles	Canadian Association of Chiefs of Police
Member	Denis Lauzon Erika Adams	J.P. Cody-Cox Corey Schram	Canadian Association of Fire Chiefs (Canadian Volunteer Fire Services Association)
Member	Brian Ladds Kevin Clifford		Canadian Association of Fire Chiefs (CAFC)
Member	Blake Williams	Michael Gadde	Canadian Association of Petroleum Producers (CAPP)
Member	Denis Gannon	TBA	Canadian Council of Fire Marshals and Commissioners
Member	Bob Goodfellow	JC Morin	Canadian Emergency Response Contractors Alliance
Member	Adrian Michielsen		Canadian Fuels Association (CFA)
Member	Eric Torunski		Canadian Interoperability Technology Interest Group (CITIG)
Member	Danny Simpson	Lee Nelson	CN Rail
Member	Jim Kozey	Darlene Nagy	Canadian Pacific Railway
Member	Fiona Cook		Chemistry Industry Association of Canada (CIAC)
Member	Spencer Buckland	Patrick Knight	Emergency Response Assistance Canada
Member	Trudy Iwanyshyn		Federal/Provincial/Territorial Task Force (TDG)
Member	Andrée Chenard		Federation of Canadian Municipalities

Membership	Name	Alternate(s)	Representing
Member	Brian Moore		International Association of Emergency Managers - Canada
Member	TBA		Paramedic Chiefs of Canada
Member	Andy Ash	Jean Pierre Couture	Railway Association of Canada (RAC)
Member	Kristy Moore	Missy Ruff	Renewable Fuels Association, (United States)
Member	Glen MacDonald		Teamsters Canada
Member	Clive Law	Louis Marcotte	Transport Canada - TDG
Observer	Dennis Redford	Laurie Boyle	British Columbia Ministry of Environment
Observer	Giulia Brutesco	Ron Lutzer	Canadian Fertilizer Institute
Observer	Mélanie Levac		Canadian Propane Association
Observer	Geoffrey Wood	Barrie Montague	Canadian Trucking Alliance (CTA)
Observer	James Panasiuk	Dr. Glenn Millner	Center for Toxicology and Environmental Health (United States)
Observer	David Matschke		Defense Research and Development Canada, Centre for Security Science
Observer	Lo Cheng	Simon Despatie	Environment Canada
Observer	Peter Grootendorst		Justice Institute of British Columbia
Observer	Scott Davies		Manitoba Conservation and Water Stewardship, Environmental Compliance and Enforcement, Government of Manitoba
Observer	Gilles Desgagnés	Jacques Brouillette	Ministère de la Sécurité Publique du Québec
Observer	Brian Mullen		Public – Subject Matter Expert
Observer	Ernie Wong		Public – Subject Matter Expert
Observer	Michael Cloutier		Public – Subject Matter Expert
Observer	André Laflamme	Josée Lamoureux	Transport Canada – Marine Safety
Observer	Kirby Jang		Transportation Safety Board of Canada
Advisor	Sara Devereaux		Transport Canada, Atlantic Region
Advisor	Josée Boudreau		Transport Canada, Pacific Region

Membership	Name	Alternate(s)	Representing
Advisor	Paul Driver		Transport Canada, Prairie and Northern Region
Advisor	Dan Olech		Transport Canada, Ontario Region
Advisor	Eve Poirier		Transport Canada, Quebec Region
Advisor	Fred Scaffidi		Transport Canada, HQ
Advisor	Nicolas Cadotte		Transport Canada, HQ
Advisor	Angelo Boccanfuso Pierre Manseau	Denis Foisy	CANUTEC, Transport Canada
Advisor	Peter Coyles		Transport Canada, Transport of Dangerous Goods
Advisor	Nathalie Belliveau		Transport Canada, Transport of Dangerous Goods
Director General TDG	Nicole Girard		Transport Canada, Transport of Dangerous Goods
Task Force Secretariat	Kathie Keeley		Senior Policy Advisor
Task Force Secretariat	Lindsay Jones		Policy Researcher and Advisor
Task Force Secretariat	Anastasia Karvounis		Intergovernmental Liaison Officer
Task Force Secretariat	Rachele Renaud		Project Coordinator
Task Force Secretariat	Chantal Roy-Dagenais		Special Projects Officer