

REPORT

SYMPOSIUM ON LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BC



**MARCH 25-27, 2013
VANCOUVER, BC**



PREPARED BY:



EXECUTIVE SUMMARY

As part of British Columbia's commitment to a world leading preparedness and response regime for land based spills, the Ministry of Environment hosted a symposium March 25-27, 2013 in Vancouver, BC. Over 200 participants representing more than 130 organizations and the Ministry of Environment attended the event. The symposium objectives were to: determine world leading spill preparedness and response practices relevant for BC; to identify communication, coordination and collaboration opportunities to achieve world class practices; and to determine key actions to support the development of world leading practices in BC. The symposium involved plenary and break out group presentations, as well as small group discussions addressing key questions. The Symposium Report, as well as links to presentations and related materials, can be downloaded in pdf format from the [Ministry of Environment's webpage for symposium participants](#).

On **day one** of the symposium, **Councillor Carleen Thomas** of the Tsleil-Waututh First Nation provided a welcome to traditional territories of the Coast Salish peoples and blessing to participants. In his opening remarks the **Honourable Terry Lake**, Minister of Environment, affirmed Government commitment to ensuring that BC maintains a world leading land based spill preparedness and response regime – and to developing policies through communication, cooperation and collaboration.

The first plenary session addressed response standards and world leading spill response with presentations by four speakers followed by questions from participants. **Brian Lamond** provided information about the CSA Group, an association that develops standards accredited by the Standards Council of Canada, and current work to establish a standard for emergency preparedness and response for the petroleum and natural gas industry. **Linda Pilkey-Jarvis** reviewed the effort to achieve a regulatory standard of “best available protection” in oil spill planning for Washington State under the Department of Ecology. **Al McFayden** summarized the role of Western Canadian Spill Services in supporting the upstream petroleum industry spill preparedness program in BC and neighbouring provinces. **Scott Wright** provided a history of the development of response organization regulations and standards under the *Canada Shipping Act* and current capacity of the Western Canada Marine Response Corporation in serving BC coastal and inland navigable waters.

The second plenary session considered spill preparedness and response funding with presentations by three speakers followed by questions from participants. **Jim Donihee** provided an overview of the pipeline industry in Canada and British Columbia, including industry oversight, operations and spill response capacity. **Ian Brown** reviewed a report commissioned by the Ministry of Environment to evaluate funding mechanisms supporting activities to prevent, prepare for, respond to, recover from and remediate spills of petroleum hydrocarbons and hazardous materials. US Coast Guard **Captain Scott Schaefer (Rtd.)** provided background to the *California Oil Spill Prevention & Response Act* (1990) and a summary of the provisions in the Act.

The lunchtime keynote presentation by **Al Richie** and **Hugh Harden** outlined current practices for the energy pipeline industry in BC and reviewed a 2007 spill incident in Burnaby for lessons learned in improving practices.

The afternoon of Day One involved breakout discussion group presentations on two topics followed by small group discussions addressing key symposium questions for each topic.

The first discussion group addressed spill response standards. **Louis Laferriere** summarized the development of the Transportation Emergency Assistance Program (TEAP) and the Response Care program of the Chemical Industry Association of Canada. **Geoff Morrison** of the Canadian

Association of Petroleum Producers outlined spill prevention, preparedness, response and recovery efforts of the upstream oil and gas industry in BC. **John Skowronski**, the final presenter, summarized Canadian Fuels Association member guidelines and practices for petroleum product land spill prevention, preparedness and response. Small group discussions addressed four questions related to the topic. Comments on the first question – *What are the key attributes or principles of world class or world leading response standards?* – included: professional accreditation of responders; risk based standards of response; stakeholder involvement, harmonization and commitment; and confidence in regulator capability. The second question set concerned *consistency between voluntary and mandatory standards and across industry sectors*. The summary of comments on this topic included: transition from voluntary to regulatory standards as they are developed and implemented; support world class standards; pool and scale response where appropriate and relative to risk; and enforce standards. The third question set asked breakout group participants to consider *characteristics of a world class spill response model*. Comments included: consistent goals, objectives and standards; citizen participation; integrated governance; a process for continuous improvement and evaluation; clear funding mechanisms; and a risk based tiered approach. The final question set asked about *means to ensure continuous review and improvement of standards and responses*. Summary points raised in small group discussion included: inclusive; sharing; compliance and verification; and setting objectives to guide and lead standards.

The second discussion group addressed spill preparedness and response funding principles and models. **Mark Johncox** outlined the role of Western Canada Marine Response and Canada's marine spill system funding model. **Dale Jensen** summarized the funding mechanism used for Washington State oil spill prevention and response. The final speaker, **Frank E. Holmes**, reviewed the history of the industry funding model used in Washington State to institute an emergency response rescue tug/towing vessel stationed in Neah Bay. Small group discussions addressed four questions related to the topic. The first question considered the *key principles necessary to establish the appropriate level of funding to undertake spill preparedness (planning and testing), and response*. The summary of small group comments on this topic included: conduct a gap analysis (to know what is needed); make sure the fund is easy to administer; funding must be associated with risk; establish joint custody (by industry and government) to ensure the fund is used for its dedicated purpose; and ensure that the “polluter pays” principle is applied. The second question set related to the *role of an integrated response organization in addressing risk*. Comments in the summary of small group discussions included: there may be a need for coordination across sectors and/or for an information hub; auditing is an essential element of any funding of an integrated response organization; and consistency in incident response should be the goal. The third set of questions considered the *spill preparedness and response activities that would be appropriate to address through a fund*. Summary comments of small group discussions included: baseline studies; immediate loss of resources (e.g., fishing, harvesting); training and equipment at more remote community locations; utilization of local knowledge and capacity; and oiled wildlife capabilities. The final question set asked about the *principles that should be considered to determine who pays and how much they pay* into a spill trust fund. The summary of small group discussions noted that it is important to first make sure that the need and support for a fund is demonstrated. Suggested principles included: relevant, complementary and risk based; sector and performance based; fees and thresholds should only be determined following demonstrated need and engagement of key stakeholders; all materials that could cause an impact should be considered; ensure an independent controller of the fund; and consider the Washington State model as a start – with additional BC-specific elements.

Day two of the symposium addressed the topic of effective and efficient environmental restoration. The morning keynote speakers, **Curtis Myson**, **Kevin Houle** and **Normand Pellerin**,

provided an overview of spills management and emergency response programs in the railway sector. The morning plenary presentations focused on effective planning. **Chip Boothe** reviewed the changing risk picture in the Salish Sea (Washington-BC boundary waters) presented by current and proposed port and marine traffic in the region. **Josie Clark** shared her experience in spill contingency planning as an area planning committee coordinator with the US Environmental Protection Agency. **Mike Munger** provided an overview of the process and role of citizen advisory committees in developing and maintaining geographic response strategies in Alaska. The final speaker of the session, **Dr. Ziad Shawwash**, outlined a research program to develop a decision making framework and risk management techniques for land based hazardous material spills in BC.

Speakers in the second plenary session of day two addressed effective environmental remediation, restoration and monitoring. **Ian Zelo** provided an overview of the Natural Resource Damage Assessment (NRDA) process and funding, as well as an assessment of federal concerns and challenges with the process. **Dave Byers** summarized Washington State's NRDA program. **Greg Challenger** reviewed the challenges in shoreline cleanup assessment faced during response to a 2011 pipeline rupture at the Yellowstone River.

The lunchtime keynote presentation by **Captain Scott Schaefer** (Rtd.) provided insights on the Deepwater Horizon spill from an incident commander's perspective. The incident command post for the incident coordinated the effort of the 26,800 personnel involved in the response.

The afternoon of day two involved breakout discussion group presentations on two topics followed by small group discussions addressing key symposium questions for each topic.

The first discussion group addressed risk assessments, spill contingency planning and geographic response plans. Speakers **Todd Hass**, **Chad Bowe chop** and **Fred Felleman** provided a summary of a collaborative project to assess risk associated with vessel traffic in the boundary waters between Washington State and British Columbia. Speakers **Elise DeCola** and **Brian House** reviewed their experience with the Massachusetts Marine Oil Spill Program in building an integrated spill response system for first responders. The final speaker, **Randall H. Scott**, described the value of a self-assessment process to enhance the effectiveness of emergency plans. Small group discussions addressed four questions related to the topic. The first question set considered the *key factors that constitute a world class risk assessment*. The discussion was summarized as “world class – means scientifically defensible, broad involvement (inclusive), coordination and buy-in, awareness of other jurisdictions and cross border/jurisdiction cooperation, ensuring that all parameters are met or exceeded, decisions are informed by the risk assessment and – sustainable funding (for continuous improvement, as well undertaking specific risk assessment activities)”. The second question asked about lessons learned regarding *who needs to be involved* in planning processes. Summary points from the discussion noted that while all stakeholders whose interests are impacted need to participate, the right people need to be involved at the right time – local interests need to be involved early in risk assessment and contingency planning and additional participants with expertise, knowledge or related responsibilities included as needs arise. The third question set related to *approval of risk assessments and contingency plans*. The summary of discussion included: baseline standards should be developed by regulatory agencies – contingency plans need to be approved to ensure accountability; plans need to be coordinated and consistent; and the approving organization needs to have technical expertise, staff, funding and resources, legal expertise and public accountability. The final question asked *how plans should be evaluated*. Summary discussion points included: ability to execute the plan; defined performance measures and set standards; and currency and continuous improvement.

The second discussion group addressed Natural Resources Damage Assessments (NRDA) and science, technology and monitoring. The presentation by **Cindy Ott** outlined an approach to assessing public health risk during spill events involving risk assessment, monitoring plans and the collection of reliable and appropriate data for immediate and long term needs. **Curtis Brock** provided a case study of response and remediation using treatment endpoints following a 2012 pipeline spill to the Red Deer River, Alberta. **David Campbell** discussed the potential role of the CSA Group in developing consensus based standards for environmental protection in oil spill response. Small group discussions addressed four questions related to the topic. The first question asked about *best practices to monitor impacts to human health and the environment during a spill event*. Summary points from the discussions included: pre-planning and collection of baseline data (included in geographic response plans); training and equipping first response teams; community engagement; occupational and offsite monitoring for human health; and continuous and long term monitoring initiated at first response. The second question asked about the *advantages and disadvantages of adopting a Natural Resources Damage Assessment process* similar to that in the US. Advantages identified in small group discussions included: allows for clarity, transparency, collaboration and flexibility for restoration; more accepting of public input for determining endpoint (of remediation); may reduce litigation; provides a systematic approach to address “injury concerns”; and may assist in filling gaps not currently addressed with current restoration processes. Identified disadvantages included: potential for complexity; could be seen as a penalty rather than compensation for restoration; could be used as a government funding sources or become politicized; and may create an expectation that restoration efforts will be over and above to the true level of injury. The third question set considered *principles to guide restoration and level of restoration*. Discussion points noted in summary included: strive to achieve “Net Environmental Benefit”; suggested principles – fair, achievable and scientifically defensible; need some form of liability closure; and strive for pre-incident conditions of the environment. The final question asked: *If a NRDA process was adopted in BC, what factors need to be considered to determine if funds are to be managed by government or industry?* The summary of discussion included: flexibility, transparency of use and efficiency; public input with government oversight; clear understanding of what purposes the fund could be used for; third party funds held in trust by an independent group.

Day three of the symposium focused on communications, cooperation and collaboration.

Speakers at the final plenary session of the symposium addressed engagement and communications – the importance of building relationships and meaningful dialogue. **Leah George-Wilson** provided a Tsleil-Waututh First Nation (located along the shores of Burrard Inlet in the Lower Mainland of BC) perspective on risks of spills and response to spill incidents. Asserting constitutionally protected aboriginal rights includes development of relationships and inclusion of Tsleil-Waututh in decision making processes involving traditional territory. **Timothy (TJ) Greene** and **Chad Bowechop** summarized the Makah Tribe (Washington State) experience and perspective on engagement related to spill prevention and response. **Chris Battaglia** reviewed wildlife recovery lessons learned from the 2010 Kalamazoo River pipeline leak. **Coleen Doucette** outlined the need for oiled wildlife response planning and some suggested best practices for BC. The final speaker, **Nhi Irwin**, described the volunteer coordination system established in Washington State as a result of 2011 legislative direction to the Department of Ecology.

Small group discussions involving two to six person groups developing and posting comments on charts for plenary review addressed four topics: collaboration; strategic direction; effective communications; and; volunteers.

Under the topic of *collaboration*, participants identified best practices and principles to guide the development and approval of planning documents. Suggested best practices included: clear lead

authority with (the full time job of) planning and integration of response plans; an inclusive and facilitated process for involvement of all stakeholders; a tiered set of plans with a framework for integration; clear and comprehensive identification of risks and hazards, as well as resources and stakeholders for preparation and response; a system that provides opportunities for and encourages participation and relationship building; and funding to support planning and training.

Suggestions for providing *strategic direction* to ensure an effective spill preparedness and response regime included:

- ♦ Build on existing standards – legislate standards and establish an accountability framework
- ♦ Harmonize between different levels of government and agencies – clarify roles, ensure funding for preventative measures and plans, focus on first responders
- ♦ Clarify and communicate definitions and focus on “world class outcomes”
- ♦ Undertake an analysis of current regulation and practices for duplication and gaps
- ♦ Compile data from reported spills and analyze trends to inform planning and other processes
- ♦ Use risk informed approaches – establish and provide stable funding for advisory committees for high risk/value areas

Comments and suggestions regarding *effective communications with the community during a spill event* included: have a plan and tools in place before the event; be familiar with the tools and have designated personnel to rapidly address queries; provide an accessible one window approach for the public to obtain timely information; recognize that remote communities have explicit needs and distinct communications methods; make direct contact with concerned parties through public meetings and question & answer sessions; and have back up plans and redundancies.

Suggestions by symposium participants for *effective involvement of volunteers* included:

- ♦ Pre-spill community outreach and identification of volunteer tasks and protocols – a simple registration system, followed by ICS training and worthwhile use of volunteers’ time
- ♦ Work with non-profit organizations to leverage volunteers (with agreements in place before an event) – coordinate on-site training and equipment distribution
- ♦ Establish and follow privacy guidelines for volunteer information, draw on local knowledge, utilize convergent volunteers when appropriate
- ♦ Manage expectations and messages (e.g., handling oiled wildlife, measures to protect sensitive sites) – keep public engaged and aware of current situation
- ♦ Well funded volunteer coordination with alternatives for compensation (e.g., registration, credits, non-profit organization support)
- ♦ Contingency planning – in the event that a spill requires additional capacity
- ♦ Inventory/capacity – linked to training and preparation (skill sets, needs, registration and tracking of volunteers before, through and after an event)
- ♦ Communication and awareness of risks involved with volunteering – role of volunteer, liabilities, security (equipment, other)

Closing remarks for the symposium were provided by the *Honourable Terry Lake*, Minister of Environment. Minister Lake commented that planning is the foundation for effective spill preparedness and response and emphasized that the British Columbia government is not interested in duplicating efforts, creating overlapping jurisdictions or undermining existing systems that are working well in the province. The Minister concluded with reference to the theme of the symposium – that this is a process based on communication, cooperation and collaboration – and thanked participants and presenters for contributing their expertise as we build a world class land based spill regime for British Columbia.

Symposium on Land Based Spill Preparedness and Response – Symposium Report Table of Contents

EXECUTIVE SUMMARY	1
1 INTRODUCTION AND BACKGROUND	1
2 SYMPOSIUM OBJECTIVES AND KEY OUTCOMES	2
2.1 Symposium Objectives	2
2.2 Symposium Discussion Groups and Key Outcomes	2
3 SUMMARY OF SYMPOSIUM SESSIONS	4
Day One – World Leading Spill Preparedness and Response Regimes	4
3.1 Coast Salish Blessing and Opening Remarks	4
3.2 Plenary Session 1: Response Standards and World Leading Spill Response – Understanding Response Organization Roles and Standards	4
3.3 Plenary Session 2: Spill Preparedness and Response Funding – Understanding Industry Funding Mechanisms and Government Spill Funds	6
3.4 Keynote Presentation: Achieving World Class Performance Through Improved Practices.....	7
3.5 Discussion Group 1: Spill Response – Response Standards and World Leading Spill Response	8
3.6 Discussion Group 2: Spill Preparedness and Response Funding Principles and Models	13
Day Two: Effective and Efficient Environmental Restoration	18
3.7 Morning Plenary Presentations: The Canadian Railway Approach to Spill Preparedness and Response	18
3.8 Plenary Session 3: Effective Planning – Risk Assessments, Spill Contingency Planning and Geographic Response Plans.....	19
3.9 Plenary Session 4: Effective Environmental Remediation, Restoration and Monitoring	21
3.10 Keynote Speaker: Deep Water Horizon – An Incident Commander’s Perspective	23
3.11 Discussion Group 3: Risk Assessments, Spill Contingency Planning and Geographic Response Plans	24
3.12 Discussion Group 4: Natural Resources Damage Assessments and Science, Technology and Monitoring	27
Day Three – Communications, Cooperation and Collaboration	31
3.13 Plenary Session 5: Engagement and Communications – The Importance of Building Relationships and Meaningful Dialogue	31
3.14 Discussions – Spill Preparedness Collaboration	34
3.15 Discussions – Strategic Direction to ensure an effective spill preparedness and response regime	35
3.16 Discussions – Effective Communications with the community during a spill event	36
3.17 Discussions – Volunteers	37
3.18 Closing Remarks	37
4 APPENDICES	39
4.1 Acronyms and Abbreviations	39
4.2 Symposium Agenda.....	41
4.3 Symposium Participants.....	46
4.4 Speaker Presentations: Comments, Questions and Replies.....	48
4.5 Discussion Group Notes	54

1 INTRODUCTION AND BACKGROUND

The Province of British Columbia (BC) is committed to a world leading preparedness and response regime for land based spills. In keeping with the established polluter-pay principle, and recognizing the increase in development activities across the province, the Ministry of Environment (the ministry) is reviewing industry funded options for strengthening BC's spill preparedness and response policies and capacity. Land based spill refers to any spill impacting the terrestrial environment, including coastal shorelines, regardless of the source.

This review addresses three aspects of land based spill preparedness and response:

- ♦ World leading regime for land based spill preparedness and response
- ♦ Effective and efficient rules for restoration of the environment following a spill
- ♦ Effective government oversight and coordination of industry spill response

As part of British Columbia's commitment to a world leading preparedness and response regime for land based spills, the ministry hosted a symposium March 25-27, 2013 in Vancouver, BC. Due to the high interest in the symposium, attendance was by invitation, with over 160 participants representing 131 organizations attending the event.

This document – as well as links to presentations and related materials – can be downloaded in pdf format from the [Ministry of Environment's webpage for symposium participants](#).

2 SYMPOSIUM OBJECTIVES AND KEY OUTCOMES

2.1 SYMPOSIUM OBJECTIVES

- ♦ To determine world leading spill preparedness and response practices relevant for BC.
- ♦ To identify communication, coordination and collaboration opportunities to achieve world class practices.
- ♦ To determine key actions to support the development of world leading practices in BC.

2.2 SYMPOSIUM DISCUSSION GROUPS AND KEY OUTCOMES

DAY ONE: WORLD LEADING SPILL PREPAREDNESS AND RESPONSE REGIMES

DISCUSSION GROUP 1: RESPONSE STANDARDS AND WORLD LEADING SPILL RESPONSE

- ♦ Identify response standard principles (e.g., minimum versus best available, voluntary versus mandatory)
- ♦ Identify spill response capability and capacity factors (e.g., worst case spill, most probable spill)
- ♦ Identify key response standard aspects (e.g., planning, training, equipment, exercises, bio-remediation, in-situ burning, chemical dispersants, oiled wildlife, sunken and submerged materials, and salvage, environmental restoration set points, dedicated versus contracted responders, qualitative versus quantitative performance measures)
- ♦ Identify key actions/questions for the Working Group

DISCUSSION GROUP 2: SPILL PREPAREDNESS AND RESPONSE FUNDING PRINCIPLES AND MODELS

- ♦ Identify key principles for industry spill preparedness and response funding
- ♦ Identify advantages/disadvantages to funding of an Integrated Response Organization model versus individual company or sector response organizations
- ♦ Identify principles for funding government's spill preparedness, response and recovery programs
- ♦ If an industry funded "Spill Trust Fund" was to be established, identify principles to guide government activities funded by the "Trust Fund"
- ♦ Identify key actions/questions for the Working Group

DAY TWO: EFFECTIVE AND EFFICIENT ENVIRONMENTAL RESTORATION

DISCUSSION GROUP 3: RISK ASSESSMENTS, SPILL CONTINGENCY PLANNING AND GEOGRAPHIC RESPONSE PLANS

- ♦ Identify objectives and principles for planning processes – from risk assessment through to geographic response plans
- ♦ Identify who needs to be involved in the planning process
- ♦ Define key considerations for the planning process flow – from development through to approval
- ♦ Identify key factors to evaluate the effectiveness of the plans

DISCUSSION GROUP 4: ENVIRONMENTAL MONITORING, NATURAL RESOURCE DAMAGE ASSESSMENTS, AND ENVIRONMENTAL REMEDIATION AND RESTORATION

- ♦ Identify best practices to monitor impacts to human health and the environment during a spill event
- ♦ Identify principles for the restoration of impacted environments/natural resources
- ♦ Identify key factors to determine whether restoration is undertaken by the “responsible party” or government
- ♦ If a NRDA process was adopted in BC, what factors need to be considered to determine if funds are to be managed by government or industry?
- ♦ Identify key actions/questions for the Working Group

DAY THREE: COMMUNICATIONS, COOPERATION AND COLLABORATION

DISCUSSION GROUP 5: SPILL PREPAREDNESS COLLABORATION

- ♦ Identify best practices for collaboration and integration for planning processes
- ♦ Identify principles to guide development and approval of planning documents

DISCUSSION GROUP 6: STRATEGIC DIRECTION TO ENSURE AN EFFECTIVE SPILL PREPAREDNESS AND RESPONSE REGIME

- ♦ Identify methods/approaches to be used to provide strategic direction to spill preparedness and response regimes
- ♦ Identify factors to be considered in determining who needs to be involved in providing strategic direction

DISCUSSION GROUP 7: EFFECTIVE COMMUNICATIONS WITH THE COMMUNITY DURING A SPILL EVENT

- ♦ Identify communication methods/tools can be used to support timely dissemination of information
- ♦ Identify key information needs to be disseminated during a spill event
- ♦ Identify best practices for engagement and communication during a spill event

DISCUSSION GROUP 8: VOLUNTEERS

- ♦ Identify key principles to be considered for public involvement in spill response

3 SUMMARY OF SYMPOSIUM SESSIONS

DAY ONE – WORLD LEADING SPILL PREPAREDNESS AND RESPONSE REGIMES

3.1 COAST SALISH BLESSING AND OPENING REMARKS

An opening welcome to traditional territories of the Coast Salish peoples and blessing was provided by **Councillor Carleen Thomas** of the Tsleil-Waututh First Nation.

Opening remarks were provided by the **Honourable Terry Lake**, Minister of Environment. The Minister affirmed government commitment to ensuring that British Columbia maintains a world leading land based spill preparedness and response regime – and to developing policies through communication, cooperation and collaboration with industry, First Nations, environmental non-government organizations, response organizations, and other key stakeholders. Minister Lake referred to the policy intentions paper released in November 2012 which included three key aspects for strengthening how spills are dealt with in the province: (1) establishing a world leading regime for spill preparedness and response; (2) developing effective and efficient rules for restoration of the environment following a spill; and (3) ensuring effective government oversight and coordination of industry spill response.

3.2 PLENARY SESSION 1: RESPONSE STANDARDS AND WORLD LEADING SPILL RESPONSE – UNDERSTANDING RESPONSE ORGANIZATION ROLES AND STANDARDS

Speakers:

Brian Lamond (CSA Group) – [*Development of CSA spill preparedness and response standards for the petroleum and natural gas sectors*](#)

Linda Pilkey-Jarivs (Washington State Department of Ecology) – [*Best Available Technology legislation*](#)

Al McFadyen (Western Canadian Spill Service) – [*Spill preparedness and response in Alberta and NE British Columbia through a cooperative approach*](#)

Scott Wright (Western Canada Marine Response Corporation) – [*Role and response standards for a legislated marine response organization*](#)

Summary of presentations:

Brian Lamond (CSA Group) provided information about the CSA Group, an independent not-for-profit membership association that develops standards accredited by the Standards Council of Canada. CSA standards are voluntary documents – with mandatory compliance only when the standard(s) are referenced by government or a regulatory authority. Brian outlined the process for developing standards, focusing on the petroleum and natural gas industry systems program. Work to establish a standard for emergency preparedness and response for the petroleum and natural gas industry (Z246.2) is currently underway. A technical subcommittee that includes members of provincial and federal government agencies held an initial meeting in April 2012 and is presently drafting materials for public review and comment prior to further internal and technical reviews and approvals.

Linda Pilkey-Jarvis (Washington State Department of Ecology) reviewed the history and development of current effort to achieve a regulatory standard of “best available protection” in oil spill planning for Washington State. The standard includes best technology, staffing levels, training procedures and operational methods. Rule changes as a result of the effort include: proven technology effective in higher currents; earlier notification (“threat of spill”) for initiation of response; damage claims procedures; aerial surveillance; addressing sinking oils; and support for vessels of opportunity. In terms of plans, “the best from Washington” are based on risk, thorough in detail and include public review and access to information. With respect to people, “the best [guidance] from Washington” includes: having people trained to specific assignments, maintaining training records, establishing spill management teams and instituting a common management system. A systems approach has been taken to equipment, with a centralized list (to support awareness and access if needed) and verified maintenance (to ensure that the equipment is available when needed). Washington State drill procedures include a drill calendar, drills designed with specific purpose in mind, varied drills in terms of location and scale, independent evaluation and a formalized system for identifying and incorporating lessons learned. Policies have been developed for community involvement, liaison, response tools and pre-designed strategies.

Al McFayden (Western Canadian Spill Services – WCSS) summarized the role of WCSS in supporting the upstream petroleum industry spill preparedness program in Alberta, northeast BC and parts of Saskatchewan. WCSS is an incorporated non-profit owned and directed by shareholders representing petroleum producers, pipeline companies and association, as well as independent representatives. Members include almost 600 licensees of wells and pipelines providing funding through a cost sharing formula. Membership services include contingency plans, equipment, training and spill support. WCSS resources, such as contingency plans, are supplemental to individual corporate plans and resources. Specialized equipment available from regional equipment locations includes boats, skimmers, booms, wildlife response units, winter units, shallow water response equipment and an air curtain incinerator. Training includes a minimum number and type of exercises (per coop area), registration courses and contract training. The field improvement program is currently focused on heavy oil skimmers, effects and behaviour of DilBit in fresh water and use of nets/fabrics to recover submerged oil. Advantages of a cooperative approach outlined by Al include: satisfies legal requirements, enhances response capability; provides continuity, cost effective, provides focus, establishes priorities and fosters positive relationships. Al also provided insights and advice on establishing and operating a cooperative based on WCSS experience.

Scott Wright (Western Canada Marine Response Corporation – WCMRC) provided a history of the development of Response Organization (RO) regulations and standards under the *Canada Shipping Act*. WCMRC is one of two response organizations in Canada certified to the highest level (10,000 tonnes) by Transport Canada under the Act’s regulations. Associated standards set out requirements for booming, skimmers and owned storage capacity, as well on water and on shore oil recovery and shoreline treatment. Transport Canada inspections include equipment inspections, table top and on water exercises. Response plans must be updated annually and revised every (three year) certification period. The spill response network maintained by WCMRC includes full and part time staff, marine contractors, a fishermen oil spill emergency team (FOSET), a vessels of opportunity skimming system and mutual aid partners.

The geographic area of response covered by WCMRC includes all BC coastal and navigable inland waters. Office and warehouse facilities are maintained in Burnaby, Duncan and Prince Rupert, as well as ten response equipment caches in communities from Victoria to Kitimat and Haida Gwaii. Response plans identify geographical areas of response and response time planning standards, with primary and enhanced response areas and designated ports for response deployment. WCMRC is presently undertaking a benchmarking study to identify best management practices used by response organizations around the world that are relevant to the west coast of Canada and to develop a strategy to address any gaps that are found. The study should be completed by the end of 2013.

3.3 PLENARY SESSION 2: SPILL PREPAREDNESS AND RESPONSE FUNDING – UNDERSTANDING INDUSTRY FUNDING MECHANISMS AND GOVERNMENT SPILL FUNDS

Speakers:

Jim Donihee (Canadian Energy Pipeline Association) – [*Canadian Pipeline spill preparedness and response funding model*](#)

Ian Brown (PricewaterhouseCoopers) – [*Funding mechanisms and uses for spill funds*](#)

Captain Scott Schaefer (US Coast Guard (Ret)) – [*Establishing a terrestrial spill fund in California*](#)

Summary of presentations:

Jim Donihee (Canadian Energy Pipeline Association) provided an overview of the pipeline industry in Canada and British Columbia, regulatory oversight of the industry, operations of members in the Canadian Energy Pipeline Association, internal funding and insurance provisions and the role of Western Canadian Spill Services in spill preparedness and response. Pipelines transport 97% of the natural gas and onshore crude oil produced, and operate 110,000 kilometres of below ground pipelines in Canada. Association members collectively operate 8,600 kilometres of pipelines in BC (6,000 natural gas, 2,600 liquids). Federal and provincial regulatory oversight includes BC Oil and Gas Commission and Ministry of Environment provisions for full cost recovery of spill response. National Energy Board regulations for federal pipelines include the provision that “there are no limits on liability for the prevention, remediation and clean-up of spills.”

Funding is required to: ensure preparedness for any potential pipeline incident, ensure timely and efficient response to incidents, cover all liabilities and comply with regulations, restore property and public access and restore the environment. Current funding is in place to provide immediate mobilization of people and equipment, as well as action to protect the public as required. Existing insurance provisions for each member company cover up to \$800M for cleanup, remediation and compensation, as well as any other eventualities. Insurance policies are reviewed and recalibrated annually and considered in toll (cost) arrangements by each company. The pipeline industry is committed to a strong legacy and future based on taking responsibility for releases from their assets (regardless of culpability), endorsing the polluter-pay principle, ensuring capacity to respond and proper clean up and remediation and ongoing improvement in leadership and management systems. The industry has an excellent record of reliability, response readiness supported by cooperatively funded Western Canadian Spill Services, and a keen desire to apply science and world leading practices, including engagement of cross-industry partners, first responders, key stakeholders and First Nations peoples.

Ian Brown (PricewaterhouseCoopers – PwC) reviewed recommendations of a 2008 report commissioned by the Ministry of Environment to evaluate funding mechanisms supporting activities to prevent, prepare for, respond to, recover from and remediate spills of petroleum hydrocarbons and hazardous materials. The [report](#), a follow up [addendum](#) and a [summary of changes](#) since the 2008 report can be downloaded from the Ministry’s symposium website. State level preparedness and response funds, with levies for specified funds, summarized in the report include Alaska, Washington, Oregon and California. Findings of the 2008 report included: “funding to support government prevention and preparedness activities was generally lacking [in BC] for both marine and terrestrial spills”, “there were no funding mechanisms, initiatives or organizations involved in prevention and preparedness for marine spills of non-persistent oils and hazardous materials”... [and] “existing legislation did not establish liability for longer term recovery or restoration of natural resources damaged or destroyed by a hazardous materials release”. PwC

made six recommendations “for funding mechanisms to address apparent or potential deficiencies in BC and to support the initiatives of the [ministry]”. Ian concluded his presentation with some “comments for consideration: reduce regulatory burden by standardizing and amalgamating... any (new) requirements should avoid unnecessary additional work and costs; include all parties contributing to the risk and seek their contribution to the costs of preparedness... consider utilizing (and/or complementing) existing programs and organizations... preventing spills is the ‘real answer’ but increasing overall spill response capacity/ reducing response time and costs should be the ‘benefit’ of such a fund... [and] consider ‘other’ jurisdictions... and implement a mechanism that brings the best together but build a model that is ‘BC’ [specific]”. Further considerations include “[developing] a stand alone funding mechanism... separate from government’s operational need... [and] a suite of eligible activities under the ‘preparedness’ fund... [using an] ‘insurance’ model [as a] baseline for all fund contributors... [and] a ‘gap analysis’ to determine what currently exists and what is needed... [and] determine an adequate fee/levy structure”.

Captain Scott Schaefer (US Coast Guard (Ret)) – Captain Schaefer provided background to the *California Oil Spill Prevention & Response Act* (1990) and a summary of the provisions in the Act. California has an Oil Spill Prevention and Administration Fund (addressing prevention and preparedness) and an Oil Spill Response Trust Fund (that includes response and an oiled wildlife care network). The response fund involved a one time fee of \$0.25/barrel with a cap of \$54,875,000 (at present). If the fund is utilized, reimbursement is sought from any responsible party and through the separate liability trust fund. The prevention and administration fund is supported from a per barrel levy and non-tank vessel fee. In 2012 the levy was 6.5 cents per barrel with biennial non-tank vessel fee of \$3,250 (\$5 million/year is raised for every 1 cent/barrel of levy). The prevention and administration fund is the primary funding source for the Office of Spill Prevention and Response and the State Lands Commission, as well as funding the Coastal Commission, the Bay Conservation and Development Commission and the Office of Emergency Health Hazard Assessment. Contingency plans are required for marine facilities, tank ships and barges and non-tank vessels greater than 300 gross tons. Oil spill response organizations are also regulated and required in contingency plans. The California inland spill program presently has no ongoing funding source and no prevention or preparedness authority. This issue is recognized with effort to identify the “nexus” for risk of spills and funding sources (between fee payers and services) – 84% of the costliest inland spills in the state involve oil (first step in identifying a nexus). In conclusion, reaching best achievable protection involves government/industry cooperation, a level [i.e., fair] playing field and allowing competition [among service providers].

3.4 KEYNOTE PRESENTATION: ACHIEVING WORLD CLASS PERFORMANCE THROUGH IMPROVED PRACTICES

Speakers:

Al Richie (Spectra Energy) and **Hugh Harden** (Kinder Morgan Canada) – [*Achieving world class performance through improved practices*](#)

Summary of presentations:

Al Richie (Spectra Energy) and **Hugh Harden** (Kinder Morgan Canada) outlined current practices for the energy pipeline industry in BC and reviewed an incident example for lessons learned in improving practices (see also the Jim Donihee presentation and notes from plenary session 2 (section 3.3 above) for a summary of the pipeline industry in BC). The industry collectively operates about 8,300 kilometres of transmission pipeline in BC. In 2011 member operators paid \$156.4 M in property taxes and \$38.3 M in corporate taxes, as well as investing \$248 M in capital projects and spending more than \$30 M obtaining

personnel, services, supplies and equipment from local sources. The industry has decades of operational experience in BC, with a safe transportation rate of between 99.998 and 99.999%.

Prevention of spills involves good construction practices, effective monitoring of rights-of-way and conditions, preventative maintenance and prevention of damage from third-parties. Spill response planning and training procedures are audited by regulators. Incident Command System (ICS) is a central element of response – with the BC Emergency Response Management System in place to ensure ties between industry, regulators and other government agencies. Western Canadian Spill Services is an existing industry funded response organization operating in northeast BC – with potential for expansion into the rest of BC.

In reviewing the 2007 spill incident in Burnaby involving a line punctured by an excavating contractor installing a sewer line, Al and Hugh summarized the response and remediation actions, as well as lessons learned from the incident. Approximately 1,700 barrels were released to the environment, the worst spill for Trans Mountain [operations] in the last 50 years. Immediate response involved Kinder Morgan, the BC Ministry of Environment and National Energy Board representatives acting in a unified command structure in place for approximately two weeks. This was followed by further clean up and remediation completed to the satisfaction of residents, municipal government and provincial and federal regulators. Kinder Morgan accepted full responsibility for response and clean up, as well as remediation, costs. Lessons learned and actions resulting from the experience included instituting more rigorous requirements for parties working near transmission lines, the need for strict enforcement of damage prevention regulations and the need to continue to improve early leak detection and methods for clean up and remediation. The industry continues with efforts to improve practices, including leak detection, developing consistent national standards, implementing a net environmental benefit analysis (NEBA) approach to remediation and restoration, and supporting effective government oversight. Further information from the Canadian Energy Pipeline Association can be found at: www.aboutpipelines.com.

3.5 DISCUSSION GROUP 1: SPILL RESPONSE – RESPONSE STANDARDS AND WORLD LEADING SPILL RESPONSE

Note: detailed notes of individual discussion groups are provided in an appendix to this report.

Speakers:

Louis Laferriere (Chemical Industry Association of Canada) – [*Transportation Emergency Assistance Program \(TEAP III\)*](#)

Geoff Morrison (Canadian Association of Petroleum Producers) – [*CAPP Response standards model*](#)

John Skowronski (Canadian Fuels Association) – [*CFA response standards model*](#)

Summary of presentations:

Louis Laferriere (Chemical Industry Association of Canada) summarized the background to and continuing development of the Transportation Emergency Assistance Program (TEAP). The Chemical Industry Association of Canada represents over 50 leading companies engaged in the business of industrial chemical and resin manufacturing. As about three-quarters of production is exported to US and offshore markets, the industry relies on safe and efficient transportation to receive raw materials and to ship products. The association has established a Responsible Care program that includes transportation elements. The TEAP program has evolved to include a 24-hour national telephone reporting system, an on scene mutual aid response network and (currently through TEAP III) a program that includes standards for association members and on scene service providers. The mandate of TEAP III is to maintain an

identified emergency response network with the capability to safely and efficiently respond to the impacts of a chemical transportation incident. The program applies to road and rail transportation modes (and does not include air transport or pipelines). The program team also includes the Railway Association of Canada, Canadian Association of Chemical Distributors, as well as response associations and regulators. Standards have been developed for transportation emergency response service providers that include requirements for management, resources, preparedness and training. Current effort is focused on assessing member locations (for response capacity and equipment), strengthening the assessment management process (including training and corrective actions) and website posting of TEAP III documentation and reports. As the chemical industry continues to strive to have zero incidents, the continuing challenge for shippers and carriers is how to sustain a competent private sector transportation emergency response capability. Further information about TEAP III can be found on the Chemical Industry Association of Canada website under the [transportation safety](#) link.

Geoff Morrison (Canadian Association of Petroleum Producers) summarized spill prevention, preparedness, response and recovery efforts of the upstream oil and gas industry in BC. The industry is represented by the Canadian Association of Petroleum Producers (CAPP). Members of the association produce about 90% of Canada's natural gas and crude oil, part of a national industry with revenues of about \$100 billion per year and paying royalties of about \$700 M per to the Government of BC. The association also includes associate members that provide services to the upstream oil and natural gas industry. CAPP has a "Responsible Canadian Energy" program representing a collective commitment to continuously improve performance in the areas of people, air, water and land, and to engage collaboratively with the communities in which industry works.

Upstream production of gas and oil in BC is regulated by the BC Oil and Gas Commission (OGC). Midstream transmission of oil from neighbouring provinces is an integrated part of the industry and is regulated by the National Energy Board (NEB). The in-house spill response capacity of individual companies is supported by Western Canadian Spill Services (WCSS). WCSS is funded through industry levies and provides equipment caches and training to support preparation and response to any incidents.

Spill preparedness and response is integrated within the functions of emergency management and is a shared responsibility. Spill prevention starts with operating rules established by industry regulators. The OGC and NEB require all BC operators to have an emergency management system that includes emergency response plans specific to spills. Government's role is to ensure that industry has spill preparedness and response plans in place – the OGC fulfills this role for the oil and gas industry in BC and already has industry levies to fund its operations. The NEB fulfills this role for pipelines which transport oil and gas produced across provincial boundaries. The current system has both training and audit components and is augmented by the participation and funding of area spill cooperatives under WCSS. WCSS performs annual training exercises, provides and requires training courses, sets minimum equipment standards and provides centralized ownership of response equipment, as well as expertise during a response. The current upstream spill management system is robust and can be used as a benchmark for a broader BC regime. There is an opportunity to build on current industry experience.

Multi-jurisdictional response (e.g., if a spill occurs off or leaves a lease site or right of way) requires coordination through unified incident command structures. In this situation, the Ministry of Environment has ultimate responsibility for establishing standards and oversight of long term recovery and remediation effort, however the OGC has the technical expertise to provide appropriate and industry specific oversight. With respect to spill recovery and remediation, current regulations provide for a risk based approach for site closure and federal legislation applies the polluter pay principle for post-incident clean up and restoration. Regulatory monitoring and reporting following an incident ensures completion.

In relation to MOE policy intentions, CAPP supports the objective of "world class outcomes" for land based spill prevention, preparedness, response and recovery and the development of national standards for emergency management (e.g., CSA). Current standards under the OGC are aligned with legislated

requirements and WCSS meets the objective of the MOE's policy intentions. British Columbia's regime must avoid duplication, seek harmonization with other jurisdictions and levels of government, build on existing models of success (e.g., WCSS) and be cost effective. CAPP supports existing regulatory standards for restoration of the environment following a spill and believes that a "natural resource damage assessment" type of mechanism is unnecessary and leads to an extensive and unproductive litigation process. British Columbia needs an overarching governance model to ensure coordination of spill preparedness and response for all regions and industries in the province. This should avoid extensive bureaucracy and build on existing processes and resources. If any additional resources are needed, funding mechanisms should be fair and equitable, recognize existing spill response capabilities and be risk based.

In summary, CAPP believes that the upstream oil and gas industry has a world class emergency management system in place. This is an effective model for spill prevention, preparedness, response and recovery – comprehensive and effective standards, a robust funding model through industry funded spill cooperatives, a clear industry risk profile and a commitment to recovery and remediation of any damages through adherence to the polluter pays principle.

John Skowronski (Canadian Fuels Association) summarized the Canadian Fuel Association's (CFA) member guidelines and practices for petroleum product land spill prevention, preparedness and response. The CFA represents petroleum refiners and marketers in Canada and has a long track record of leading edge industry performance and continuous improvement in health and safety for all aspects of operations. For example, between 1997 and 2011, carrier incident frequency performance has improved by over 100%, from 0.63 to 0.30 incidents per 1,000 deliveries. Prevention programs include driver certification and development of a petroleum products professional driver's manual to support transport carrier training programs. The lands spill emergency preparedness program is implemented and coordinated by West Coast Marine Response Corporation (WCMRC) and Eastern Canada Response Corporation (ECRC). The Land Transportation Emergency Response guideline is the core of the preparedness program, providing consistent guidance for contractors, a process for verification of contractors and an assessment process for response equipment and placement. The response component of the program includes dispatch agreements with carriers and a network of response contractors. Verification of preparedness includes measurement of response performance and provision for continuous assessment and improvement of the program.

The funding structure for the land spill emergency response program includes a base level funding agreement between CFA members and WCMRC/ECRC to coordinate the program. Carriers contract with WCMRC/ECRC through a dispatch agreement for 24 emergency access to a network of response contractors. CFA members contract with carriers for the truck transport of petroleum products. The federal and provincial regulatory framework sets out petroleum release reporting requirements and requirements for the responsible party to remedy environmental impacts of a release.

John concluded the presentation with some considerations for the working group involved in follow up to the symposium. Considerations included: understand and identify the gaps for the petroleum truck transport of petroleum products; an industry program should be performance based and demonstrate continuous improvement; any new program should build on existing industry programs and minimize redundancies when covering any gaps; any new program should be resourced commensurate with risk assessment and continuously reviewed for adequacy; maintain the principles of polluter pay and responsible party restoration of impacts as a result of a release; and harmonize any new program with other jurisdictions. Any new program should be considered as part of an extensive situational analysis to determine if additional legislation and a response fund are required.

Summary of small group discussion:

Question 1: What are the key attributes or principles of world class or world leading response standards?

Hot wash summary:

- 1. Create a professional accreditation of responders**
 - ♦ Provision of leadership, training and financial support
- 2. Risk based standards of response**
 - ♦ Scalable, achievable, measurable, defensible, outcome based
 - ♦ Proven elements, science based
 - ♦ Adaptable over time
- 3. Stakeholder involvement**
 - ♦ Common incident management system, harmonization across all jurisdictions
 - ♦ Commitment to regularly train, test
- 4. Confidence in regulator capability**
 - ♦ Collaborative approach
 - ♦ Expert auditing, continuous improvement
 - ♦ Open, transparent, flexible

Comments for further consideration:

- ♦ Define “world class” response – e.g., Norway, other jurisdictions?
- ♦ Undertake a gap analysis – what is missing from current regime?
- ♦ Make sure any standards are science based
- ♦ Check standards regularly (for implementation and currency)
- ♦ Ensure that continuous improvement (review and updates) is a component of any standards
- ♦ Improve stakeholder involvement in development of standards
- ♦ Strong regulatory oversight can detract from achieving a world class regime (e.g., discourages innovation)
- ♦ Ensure that definitions and standards are clear, consistent and scientific
- ♦ Consider a Spill Coordinating Office for land similar to the Marine Spill Coordinating Office

Question 2: Various industry standards (voluntary and mandatory) apply in BC. Consistency is a key value. How can a consistent application of standards occur within a sector when it is voluntary? How can a program be implemented consistently across industry sectors? What are the barriers to consistency? What are tools to overcome them?

Hot wash summary:

- ♦ Transition from voluntary to regulatory standards (as standards are developed and implemented)
- ♦ Support for world class standards

- ♦ Pooled and scaled response
- ♦ Standards need to be enforceable and enforced
- ♦ Administrative discretion is needed
- ♦ Insurance can be used as a de facto standard setting approach
- ♦ Community involvement and dialogue (is an important element of implementation)

Comments for further consideration:

- ♦ Should bring standards to level of the best operators – need first to know what current standards and response capacity is, what is going on now, the distribution of spill risk in specific regions, then – compare to what the rest of the world has
- ♦ Consider a third party to review standards and what is wanted for spill response
- ♦ Be clear about what problems are being addressed and why – set enforceable standards, avoid overlap and duplication, support and coordinate efficient recording and data collection

Question 3: What are the characteristics of a world class spill response model? (i.e., dedicated response organization, certification for response organizations) Why? What characteristics have the greatest impact?

Hot wash summary:

- ♦ Consistent goals, objectives and standards – appropriate standard, appropriately staffed, resources available for deployment, site specific in high risk areas, realistic and sustainable, workable, implementable and achievable
- ♦ Citizen participation (e.g., Prince William Sound Regional Citizens Advisory Council – funded)
- ♦ Integrated governance (e.g., one central government agency to coordinate response, tight tie between regulators and response organizations)
- ♦ Process for continuous improvement & evaluation
- ♦ Clear funding mechanisms
- ♦ Risk based tiered approach (i.e., not “one size fits all”)

Comments for further consideration:

- ♦ Three digit spill reporting telephone number (like the US 811 number)
- ♦ Gap – wildlife needs to be addressed – need a transparent process, flexibility based on circumstances, access to expertise, site specific response and treatment capability, sustainable funding
- ♦ Gap – common and accessible database to hold information of response resources (comprehensive and current)
- ♦ Smaller companies most often don’t have the ability to respond to spill events – need awareness, access resources and monitoring

Question 4: What is the most effective manner to ensure continuous review and improvement of standards and responses? What role might a governing body or group (e.g., government/industry/stakeholder) play? What are the key attributes and accountabilities of that organization?

Hot wash summary:

- ♦ Inclusive
- ♦ Sharing
- ♦ Compliance/Verification
- ♦ Setting Objectives to Lead Standards

Comments for further consideration:

- ♦ There is a large knowledge gap between veteran and new employees and we need to transfer this knowledge – some organizations require responsible parties to provide a debrief and lessons learned, this should also apply to training exercise debriefs
- ♦ Government needs to set minimum standards and also provide higher achievable targets as a goal for improvement
- ♦ Open up standard development with stakeholders to review and improve and avoid status quo
- ♦ Government needs to provide standards, but should not be the manager of funding
- ♦ Any governing body needs to be inclusive (of various stakeholders) but not so large that it becomes unmanageable

3.6 DISCUSSION GROUP 2: SPILL PREPAREDNESS AND RESPONSE FUNDING PRINCIPLES AND MODELS

Note: detailed notes of individual discussion groups are provided in an appendix to this report.

Speakers:

Mark Johncox (Western Canada Marine Response) – [*Marine spill funding model*](#)

Dale Jensen (WA State Department of Ecology) – [*Funding mechanism*](#)

Frank E. Holmes (Western States Petroleum Association) – [*ERTV–CG industry funding example*](#)

Summary of presentations: of small group discussion

Mark Johncox (Western Canada Marine Response Corporation – WCMRC) outlined the role of Western Canada Marine Response Corporation and Canada’s marine spill system funding model. WCMRC was established in 1976 as a cooperative among four Vancouver oil refineries and a pipeline company. In 1993 the *Canada Shipping Act* mandating the requirement for a Certified Response Organization (CRO) in five regions across Canada. WCMRC was recognized as a CRO (to 10,000 tonnes) by the Canadian Coast Guard in 1995. WCMRC has a head office and warehouse in Burnaby, regional facilities in Duncan and Prince Rupert, a mobile command centre, more than 50 equipment trailers and 31 vessels located throughout BC.

Canada’s marine spill system is administered by Transport Canada under the *Canada Shipping Act*. Under the Act, all vessels of a prescribed class operating in Canada must have an arrangement with a certified

response organization (CRO). Transport Canada designates “oil handling facilities” and requires all facilities that receive or load oil by ships or barges to have an arrangement with a CRO. The Coast Guard also has authority to assume on scene command if the responsible party is unable, unknown or unwilling.

Marine operations not regulated under the *Canada Shipping Act* (e.g., dredging or sea plane operations) can voluntarily purchase an annual “subscription” with WCMRC and any other company that may require assistance can contract services from WCMRC. Operations are funded solely through industry sources. Fees have been established through a multi-stakeholder process led in 1998 by the Canadian Coast Guard. Principles used to determine the fee structure included; efficient and administratively feasible; transparency; party that creates the risk pays their fair share; and each tonne (of material) only to be counted once. Fees include a bulk oil cargo fee, capital asset loan fee (for capital expenditures), registration fee, subscription fee and spill revenues (from incidents or contracted services). Overall, sources of funds include: responsible parties (spill costs); industry (preparedness costs); Ship Source Oil Pollution Fund (approximately \$380 M – for mystery spills or derelict vessels issues); and International Conventions (1992 Civil Liability Fund and Supplemental Fund – approximately \$1.2 billion for persistent oil spills) relevant to shipping rules and marine limits of liability.

Mark outlined elements of the land spill emergency program administered by WCMRC/ECRC in his presentation. The program uses Canadian Fuels Association (formerly the Canadian Petroleum Products Institute (CPPI)) guidelines (minimum requirements) to define equipment, personnel and other requirements for preparedness. The preparedness level must be realistic and efficient. A network of response contractors has been established to ensure availability and maintenance of equipment, training and practice exercises. Contractors are verified yearly to ensure compliance with minimum preparedness requirements. A contractor dispatch capability is also provided to materials carriers. Funding is based on a budget set by WCMRC/ECRC. Producer levies are based on volume until the fund cap is reached and then producers pay ongoing fees on a pro rata basis. Each producer then requires transport companies to have a response plan that meets CFA minimum requirements and pay a relatively low fee (e.g., \$50) for membership in the program.

In conclusion, Mark described some of the current challenges with the marine spill funding model; obtaining reports and reconciling volumes of product (rely on an honesty system); consistent and fair collection of fees; capital asset management and upgrading; dealing with ship’s agents, lawyers and other levels of bureaucracy; and coordination with federal and provincial agencies (e.g., Coast Guard, Transport Canada, Environment Canada, Fisheries, (BC) Ministry of Environment).

Dale Jensen (WA State Department of Ecology) – summarized the funding mechanism used for Washington State oil spill prevention and response. An oil spill administrative tax of five cents per barrel, established in 1991, is allocated to two dedicated accounts under the Department of Ecology. Four cents per barrel flows to the Oil Spill Prevention Account (OSPA) to fund routine oil spill prevention and preparedness work. One cent per barrel is directed to the Oil Spill Response Account (OSRA).

The OSPA is used for facility and vessel inspections, oil transfer monitoring, contingency plan reviews, spill readiness drills and natural resource damages assessment (NRDA) for spills to water. The OSRA has a cap of \$9M and is used exclusively for costs associated with responses to oil spills to water that are likely to exceed \$50,000. The Department of Ecology seeks reimbursement for all response costs from the oil spiller and all recovered costs (excluding penalties or NRDA assessments) are deposited back in the OSRA.

Changes in transportation modes and types of oil moved in the state have implications for the spills program. There is a potential decline in revenue as crude oil transported to refineries by ship is taxed while oil coming by rail and pipeline are not taxed. Regulatory authority for rail leaves a gap in prevention and response preparedness planning. “Sinking oil” poses challenges for safety of responders and current response clean up technology. Also, there are gaps in incident response framework between rail companies and the state adopted incident command system.

Challenges associated with the Washington State funding model include: the volume-based commodity tax is unaffected by the price of oil so tax revenues have not increased with oil price increases; the tax does not have a mechanism to adjust for inflation; the tax does not adequately cover program costs; the tax does not reflect equitability amongst industry sectors; and the tax structure is not flexible and able to account for a changing risk picture.

Frank E. Holmes (Western States Petroleum Association) reviewed the history of the industry funding model used to institute an emergency response towing vessel in Washington State. The effort was initiated following state legislation in 2009 directing “the maritime industry... [to] provide and fully fund at least one year-round emergency tug at Neah Bay”. State legislation was amended to require the owner or operator of a covered vessel transiting to or from a Washington port through the Strait of Juan de Fuca to establish and fund the effort by July 2010. Industry sector negotiations involved a year of monthly meetings involving both tank (ships, tugs and barges) and non-tank (container, bulk and cruise ships and fishing vessels) shipping sectors. The resulting agreements matrix includes a marine exchange (addressing enrollment, tracking, and invoicing of vessels) and an industry compliance group that manages the project and determines the fee structure. The compliance group is responsible for an administrative services agreement with the marine exchange and a delegation and loan agreement with the group operating the rescue tug. The funding formula involves a cost share split by sector based on number of vessels and worst case discharge volumes. The fee is adjusted annually based on prior year actuals. The formula also recognizes and rewards risk reduction measures such as double hull and fuel tanks, redundant systems and environmental certifications.

Summary of small group discussions:

Question 1: What key principles are necessary to establish the appropriate level of funding to undertake spill preparedness (planning and testing), and response?

Hot wash summary:

- ◆ Conduct a gap analysis – know what is needed
- ◆ Make sure it is easy to administer – simple fee structure
- ◆ Must be associated with risk – assessment by sector
- ◆ Immediacy – access and control: fund should not be able to be appropriated (by government or other party) – establish joint custody (Industry/Government)
- ◆ Scope of fund needs to be determined – relevant and complementary
- ◆ Polluter pay principle needs to apply

Question 2: What level of risk (worst case, most likely) is addressed by current funding mechanisms (individual company or sector responses organizations)? How can these risks be mitigated? What role would an integrated response organization have? What are advantages and disadvantages of an IRO?

Hot wash summary:

- ◆ Current sectors are very highly regulated and have good mechanisms and processes but there may be a need for co-ordination across sectors
- ◆ There may be a need for an information hub – e.g., geographic data (habitats, environmental sensitivities and critical information from First Nations, including their harvesting impact concerns)

- ◆ Level of risk needs to be taken into account
- ◆ Auditing is an essential element
- ◆ Consistency in incident responses should be the goal

Comments for further consideration:

- ◆ Need to determine whether an IRO can be everything to everybody – pro: an IRO can coordinate and provide communication; con: can be too big and costly being able to respond to all situations
- ◆ Initial response is an essential need
- ◆ Short and long term remediation are separate considerations
- ◆ Clarify gaps (and role, aim) then identify needs in resources, communications and standards – with understanding of state of knowledge and situation in different jurisdictions

Question 3: If a “spill trust fund” was implemented, what spill preparedness and response activities would be appropriate to address through the fund?

Hot wash summary:

- ◆ Baseline studies
- ◆ Mechanism to fund immediate loss of resources (fishing/harvesting) outside insurance type claims
- ◆ More training & equipment at more remote community locations
- ◆ More utilization of local knowledge/capacity
- ◆ Oiled wildlife capabilities

Comments for further consideration:

- ◆ There needs to be an inventory of what programs already exist and are provided by industry and associations
- ◆ What are the risks of all dangerous goods (other substances, as well as oil)
- ◆ Industry and government integration
- ◆ Need to have enhanced public communication – populate a website rapidly and continually

Question 4: If a “spill trust fund” was implemented, what principles should be considered to determine who pays and how much they pay? Any specific methods?

Hot wash summary:

- ◆ Make sure the need is demonstrated and the fund is supported
- ◆ Principles:
 - Should be relevant, complementary and risk-based
 - Who? Sector-based and performance-based (low probability/risk, performance incentives)
 - How much should parties pay (thresholds, fees, insurance, etc.)? – Too soon to say
 - Involvement/collaboration with First Nations is essential
 - All materials that could cause an impact should be considered
 - Independent controller of the fund – public perception is important (not subject to abuse/misuse)

- Washington model a good start – “PLUS” additional BC-specific elements

Comments for further consideration:

- ♦ Start now!
- ♦ Consider how to use resources in place now (e.g., existing funds, insurance, bonds) – work out arrangement for broader access
- ♦ Legislation and policy already is in place to make the above happen
- ♦ Industry has lost public licence/trust – need to demonstrate preparation and effective response capacity, and build relationships to establish credibility and understanding, trust needs to be earned
- ♦ Define the problem, gap analysis needed to make sure a trust fund is the right way to proceed, and if so, how it should be structured
- ♦ Stats are needed to establish the case: what are the problem materials and who isn't paying?
- ♦ Are there insurance requirements in place to cover spills? What would be covered by insurance and how would a trust fund meet situations not addressed through insurance?

DAY TWO: EFFECTIVE AND EFFICIENT ENVIRONMENTAL RESTORATION

3.7 MORNING PLENARY PRESENTATIONS: THE CANADIAN RAILWAY APPROACH TO SPILL PREPAREDNESS AND RESPONSE

Speakers:

Curtis Myson (Railway Association of Canada), **Kevin Houle** (Canadian Pacific Railway) and **Normand Pellerin** (Assistant Vice President, Environment & Sustainability, Canadian National) – [Overview of spills management and emergency response programs in the railway sector](#)

Summary of presentation:

The speakers shared presentation of railway sector spills management and emergency response programs. Railways in Canada are regulated under federal law – the *Transportation of Dangerous Goods Act* applies to all railways in Canada with Transport Canada, the Canadian Transportation Agency and the Transportation Safety Board of Canada providing oversight of the federal regulatory framework. The rail system is a safe way to transport dangerous goods – 99.997% of essential goods transported by rail are delivered without incident. The majority of train accidents occur in yards and do not result in the release of contaminants to the environment. Railway employees receive targeted safety and job training and railways are responsible for expenses associated with spill prevention, readiness, response and mitigation. Railways invested \$3 billion in 2012 in fleet modernization, rail tie and track replacement and improved lights and signals. In 2012 the Railway Association of Canada conducted 31 inspections and audits and 34 training sessions for railways, and 54 training sessions and/or inspections for producers and shippers. As well, 280 first responders have been trained through the Justice Institute of BC in the past four years. A Dangerous Goods Team is on call at all times and supported six events in 2012. The major railways (CN and CP) are members of the Chemical Industry Association of Canada Responsible Care program and are active participants in a program to prepare communities to respond to potential dangerous goods incidents. Over 350 responders in BC have been trained under this program in the last five years. System protection is provided by dangerous goods officers and hazardous materials field managers, dangerous goods responders and environmental officers/engineers – supported by shipper’s emergency teams, specialized emergency response contractors, long term remediation consulting firms and regulators. More than 50 spill response caches are located in BC and Alberta, and contracts are in place with environmental response teams, to ensure speedy response. Many rail lines follow river corridors, presenting challenges for response. Railways are working with Environment Canada, and BC and Alberta governments, to identify and map sensitive fish and wildlife habitat areas and control points for rail corridors. Railways staff and contractors are an integrated component of incident command systems, working with government agencies and public emergency responders.

The presenters reviewed several case studies of railway spill response. A CP locomotive derailment in 2004 led to the release of 10,000 litres of diesel fuel and oil into the Columbia River. An aquadam was deployed to contain the spill at source with response and impact and risk assessments submitted to the BC Ministry of Environment. Fish tissue sampling conducted to evaluate impact on resident fish populations identified no long term impacts. A CN locomotive derailment in 2005 led to the release of 20,000 litres of diesel fuel into the Fraser River. Spilled fuel was lost in fast moving current, residual hydrocarbons were contained using river boom and absorbent pads with fuel and impacted soil recovered from the embankment and shoreline. Subsequent impact and risk assessments undertaken by qualified consultants and submitted to the Ministry identified no long term impacts. In conclusion, railways have a proven record of mitigating infrequent spills to the satisfaction of regulators – managing and fully funding mitigation activities to world class standards.

3.8 PLENARY SESSION 3: EFFECTIVE PLANNING – RISK ASSESSMENTS, SPILL CONTINGENCY PLANNING AND GEOGRAPHIC RESPONSE PLANS

Speakers:

Chip Boothe (Washington State Department of Ecology) – [*The changing risk picture in the Pacific Northwest*](#)

Josie Clark (US Environmental Protection Agency) – [*Spill contingency planning*](#)

Mike Munger (Cook Inlet Regional Citizens Advisory Committee) – [*Community engagement in Geographic Response Planning*](#)

Dr. Ziad Shawwash (University of BC, Civil Engineering) – [*Risk informed decision making in BC*](#)

Summary of presentations:

Chip Boothe (Washington State Department of Ecology) reviewed the changing risk picture in the Salish Sea (Washington-BC boundary waters) presented by current and proposed port and marine traffic in the region. At present, about 5300 covered vessels enter and transit the Strait of Juan de Fuca yearly – 2700 destined for Washington ports in the Puget Sound and 2600 destined for BC ports. This figure includes about 600 tanker arrivals bound for US refineries and 200 bound for Vancouver BC. Nearly 15 billion gallons of oil is transferred over Washington waters every year – with less than a gallon of oil spilled for every 100 million gallons transferred. Current safety measures include: recent amendments to international safety standards, double-hulls with redundant systems as the norm for tankers; better crew staffing and personnel standards; contingency plans and financial responsibility requirements; tanker escorts and pilotage requirements; a standby emergency response vessel (tug) stationed at Neah Bay; and enhanced traffic control including buffer zones and separation schemes.

Development of the Gateway Pacific Terminal at Cherry Point, Deltaport and Neptune Terminal projects could increase cargo vessel traffic by about 670 vessel arrivals per year by 2026 (cargo and passenger vessel arrivals totalled 4110 in 2010). Expansion of the Kinder Morgan Trans Mountain pipeline could increase laden crude oil tanker traffic departing from Canadian ports by over 500% (about 400 tankers) between 2016 and 2026. Expansion of rail transport of shale oil to US refineries has the potential to change transit routes or reduce volume of oil moved by tanker to US refineries.

Risk mitigation measures presently available include enhanced investigations capability, continuing to focus on facility and vessel prevention inspections, partnering efforts to ensure railroad transport risk is understood and managed, tug escort requirements for laden tankers, voluntary standards of care and the Puget Sound Harbour Safety Committee. Additional assessments and projects underway include a Salish Sea vessel risk assessment, a vessel traffic study to assess risk of vessels calling at the (Cherry Point) Gateway Pacific Terminal, a US Coast Guard assessment of the risk of transporting Canadian oil sands and a comparability study of US and Canadian/BC standards.

Vessel safety system comparability between US/Washington and Canadian regulations shows the following gaps in Canadian regulation: product takers do not require a tug escort; larger capacity tankers may transit Canadian waters (tanker size in US waters is limited to 125,000 DWT east of Port Angeles); oil tankers in Canada are not required to boom prior to transfer; and Canada has no requirement for stationing of a standby response tug in the region. Opportunities for partnering include improvement to the cargo vessel transportation system (such as new routing schemes) and strengthening response and prevention capabilities (e.g., best available technology/prevention for spill response, additional tug escorts and/or standby emergency towing vessels).

Josie Clark (US Environmental Protection Agency) reviewed experience in the Pacific Northwest region (Washington, Oregon and Idaho) in spill contingency planning. Area Committees are legislatively mandated interagency groups charged with pre-planning for oil spills. Area Committee members include anyone who has a role in spill response (including regulators, resource trustees, tribes, scientists, industry, police and fire departments, health districts and private citizens).

Advice for maintaining an effective Contingency Plan and Area Committee includes: keep the plan current and authoritative; ensure that the layers of planning are consistent and compatible; creating a reliable forum for stakeholders to have open conversations with decision makers; and remember that “pollution motivates participation” – provide real opportunities for participation with the right scale (relevant to the interests involved) and with relevant content. Additional advice includes: “no surprises” (we can’t change reality but we can plan for contingencies); frequent reminders of risks and vulnerabilities remind members of the importance of the work; personnel churn (turnover) is common and needs to be recognized – keep committee members engaged, undertake high level outreach to maintain support and “indoctrinate” (orient) incoming response community members to ensure buy in to the plan and process; responders must follow the plan (otherwise participation is devalued); and ensure that responsible agencies (i.e., both the US Coast Guard and the EPA) employ planners to coordinate the group.

Mike Munger (Cook Inlet Regional Citizens Advisory Committee) provided an overview of the process to develop and maintain geographic response strategies in Alaska. These are field ready documents with response strategies for pre-selected sensitive areas developed by a workgroup that includes trustee and response agencies, spill responders and the public. They are public documents intended to be utilized by an Incident Command or responsible party in the event of a spill. Elements of a strategy include: maps and photographs; a tactics map with specific locations (e.g., locations of exclusion, protected water and tidal sea booming, staging areas and bear hazard); and a table summarizing response strategy, implementation guidance, response resources, staging area, access, resources to be protected and special considerations by geographic unit. Sites are selected on the basis of environmental sensitivity, risk of oil spill impact and ability to protect the site. Public meetings are held to discuss selection prior to finalization. Draft response tactics are also posted for public review prior to inclusion in plans. Geographic response strategies can be viewed at: <http://www.dec.state.ak.us/spar/perp/grs/home.htm>.

Dr. Ziad Shawwash (University of BC, Civil Engineering) – outlined a research program to develop a risk informed decision making framework and risk management techniques for land based hazardous material spills in BC. The framework is intended as an integrated modeling toolbox to be used by managers and key personnel responsible for assessing and managing incidents. Key tasks for the research program include: identifying and collecting data on high risk areas and transportation corridors; developing regional risk maps for BC; developing the risk informed decision making framework and toolbox; preparing case studies and testing spill mitigation strategies; and evaluating findings to further develop and maintain the toolbox. Modeling would include time and event considerations (event and consequence trees), for example, toxic threat plume analysis of populations at risk in schools, homes and/or office buildings at different times of day. The proposed research team involves several professors at the Department of Civil Engineering, UBC, as well as graduate students and programmers. Estimated budget is \$1 M over four years (60% from research funding agencies and 40% from industry contributions).

3.9 PLENARY SESSION 4: EFFECTIVE ENVIRONMENTAL REMEDIATION, RESTORATION AND MONITORING

Understanding Natural Resource Damage Assessments (NRDA), Principles for Environmental Remediation and Restoration, and Environmental Assessment and Monitoring

Speakers:

Ian Zelo (US National Oceanic and Atmospheric Administration) – [*Natural Resource Damage Assessment \(NRDA\) joint assessment teams*](#)

Dave Byers (Washington State Department of Ecology) – [*Washington State Natural Resources Damage Assessment*](#)

Greg Challenger (Polaris Applied Science Inc.) – [*Shoreline cleanup assessment technique \(SCAT\) and the Silvertip incident*](#)

Summary of presentations:

Ian Zelo (US National Oceanic and Atmospheric Administration) provided an overview of the Natural Resource Damage Assessment (NRDA) process and funding, as well as an assessment of federal concerns and challenges with the process. NRDA is a legal process, based in science, with a goal of determining public loss from an incident and recovering that loss through restoration. A “natural resource” is anything that occurs naturally and that has value to people or other resources. Services provided by natural resources include ecological, recreational, commercial, passive use subsistence and cultural elements. NRDA is intended to balance the injuries caused by a spill with restoration. Restoration choices include allowing natural recovery, restoration and rehabilitation, and building or buying more of services lost through the spill.

The NRDA process involves a pre-assessment phase, restoration planning (injury assessment and restoration selection) and restoration implementation. Responsibility for conducting NRDA is shared by multiple trustee agencies (including the National Oceanic and Atmospheric Administration – NOAA, US Department of Interior, state agencies and Tribal governments) operating under differing legislative mandates, as well as the responsible party. Funding is provided by the responsible party and/or through the Oil Spill Liability Trust Fund. Decision making is consensus based with a federal lead agency (i.e., NOAA) acting primarily in an administrative role. Initial funding to enable immediate work can be accessed from the NOAA Damage Assessment Revolving Fund. Cooperative assessment – encouraged under NRDA regulations – includes participation of the responsible party (following invitation and agreement), injury assessment, restoration planning and settlement agreement in a consent decree. The alternative to cooperative assessment is usually litigation – with extremely high transaction costs, a slow and adversarial process, delays in restoration and injury assessment funded by Trustees. The responsible party also benefits from a cooperative assessment by having input into the decision making process. Federal concerns with the process include addressing federally listed endangered species, liaison to the US Coast Guard fund, coordination of Trustees and international coordination, working effectively with regional partners and understanding regional and local issues. Federal involvement in the NRDA process has pros and cons. On the pro side, federal involvement can bring national experience (e.g., with large scale or similar types of incidents) and additional resources and expertise, and can support interactions with the responsible party. On the con side, federal involvement can lead to additional costs and inertia, adding complexity to the process.

Dave Byers (Washington State Department of Ecology) provided an introduction to Washington State’s NRDA program. The rationale behind a state scale NRDA process is to address resource injury associated with (relatively) small spills in an efficient manner. Most spills are small and small spills cause resource

injury. An adversarial process or a detailed assessment is not necessarily the best way to address small spills. For example, the 1985 Arco Anchorage spill of 239,000 gallons of crude oil resulted in 4,000 oiled birds and 12,468 pounds of impacted shellfish. It cost \$250,000 to assess injury yet only \$32,930.03 of damages was assessed. For spills greater than 25 gallons, NRDA process choices are: (1) State RDA Committee and a compensation; or (2) Federal/State/Tribal NRDA process under federal legislative authority. In both cases, the goal of the process is restoration. The State RDA Committee can access a Coastal Protection Fund, as well as assess spill penalties. Authority for the state process exists under the *Water Pollution Control Act* and the *Oil and Hazardous Substances Spill Prevention and Response Act*. Assessment is specified in statute - \$1-100 per gallon for spills less than 1,000 gallons and \$3-300 per gallon if the spill is 1,000 gallons or more. Assessment is determined by a Resource Damage Assessment (RDA) committee based on vulnerability of the receiving environment, oil type, schedules for specific environments (e.g., marine, freshwater, wetland, Columbia River estuary) and recovery credit. The recovery credit is intended to encourage prompt recovery of oil from the water. The Coastal Protection Fund is supported by revenues from spill and water quality penalties, motor fuel tax refund and natural resource damage assessment. The fund can be used for restoration, enhancement, GIS/data management and pollution studies – but NOT agency staff.

Collection of time sensitive and perishable (ephemeral) data is critical in the initial days of a spill. Sampling equipment and plans to facilitate initial activities need to be in place prior to an incident. Sampling kit caches, as well as trained resource teams to collect scientifically defensible data, are part of the NRDA program. Examples of restoration projects include removal of 350 tons of creosote treated wood and follow up shellfish seeding for the Doe-Kag-Wats restoration and reconnection of an estuary isolated by a roadway as part of a spill penalty. Current issues or challenges facing the NRDA program include: investigation and volume determination, updating rules, consideration of whether 25 gallons is the right limit for pursuing NRDA, concern from spillers about being “penalized twice” under NRDA and other legislation, determining fault, enforcing guidance, effectiveness of recovery credit (effort versus payback), potential increase in damage assessment (up to \$300 per gallon), “sovereign immunity” granted to defense agencies and the need to update spill vulnerability scores.

Greg Challenger (Polaris Applied Science Inc.) reviewed the challenges in shoreline cleanup assessment faced during the Silvertip incident. In 2011 a pipeline rupture at the Yellowstone River led to a discharge of about 1,500 barrels of oil. The discharge occurred at extremely high river flow. Between July and September, seven shoreline cleanup assessment teams surveyed more than 11,000 acres up to 75 miles downriver of the incident (visible oil extended to 45 miles downriver). Teams can include state and federal agency representatives, as well as local government, First Nations and historical preservation officers. Record water levels resulted in unsafe conditions for ground surveys during the initial two weeks of the response. Methods were dictated by safety constraints with initial surveys limited to aerial platforms and backwater areas. Flooding obscured river channel character and any categorization of the river bank zone. Due to massive relocation of sediments, large woody debris and landforms pre-existing maps were unreliable. New high resolution aerial photos were flown in four colour digital formats. Assessment were conducted using swift boats, small boats and on foot. Archaeologists and members of the Crow Indian Nation were embedded in the assessment teams to address cleanup in culturally sensitive areas. Adjacent lands in flooded areas were oiled resulting in third party claims. A claims liaison position as part of the assessment team was created as an interface between private landowners and cleanup operations. Oil trapped in large woody debris provided challenges for safe treatment and disposal. High powered jet boats moved assessment teams as water conditions allowed. In lightly oiled areas an operations hot shot crew was embedded with the assessment team to treat and sign off the area in a single survey. Assessment team members were given signatory authority by the unified command for determining when no further treatment was recommended – this greatly expedited cleanup and restoration.

3.10 KEYNOTE SPEAKER: DEEP WATER HORIZON – AN INCIDENT COMMANDER’S PERSPECTIVE

Speaker:

Captain Scott D. Schaefer, USCG (Ret.) – [*Deep Water Horizon – An Incident Commander’s perspective*](#)

Summary of presentation:

Captain Schaefer provided his perspective on the Deepwater Horizon spill as an incident commander for the response effort. The Mobile incident command post had responsibility for the coast of Mississippi and Alabama to Apalachicola Florida and to 60 miles offshore. First point to note is that ICS works – the structure and planning enables objective setting, establishes clear lines of responsibility for command and general staff; and allows tactical operations, as well as planning for deployment and contingencies. Other successes identified by Captain Schaefer included: offshore oil recovery effort involving 205’ Responder class vessels and 225’ buoy tenders (with spilled oil recovery system capacity); initial operational period actions (24 and 48 hour response); and use of ocean busters and a heavy oil recovery device. Technologies for shore recovery (such as oil and sand sifters) were deployed and found to be effective. Applied response technologies such as in-situ burning and dispersants were also effective. Trained oil spill response organization (OSRO) personnel effectively deployed booms to contain marine dispersal. In terms of personnel, successes included use of qualified community responders and affiliated volunteers, support from other jurisdictions such as California in particular, and BP’s emergency response team.

Challenges and insights included ensuring consistency between planning and drills, for example in the role of the National Incident Commander relative to the Mobile Incident Command Center team. Area committees also have to be current in oil spill preparedness – this can be a challenge with changes in priorities over time. Mutual aid is another important element of effective response – a compact for accessing and releasing equipment should be in place to enable utilization. An Emergency Mutual Aid Compact worked well in the Yellowstone River incident response. The size of a large scale response also presents challenges – over 1,100 people worked out of the Incident Command Post for Deep Water Horizon. All organizations need to be integrated in the command structure. For example, the US Fish and Wildlife Service had equipment and personnel under separate command structure resulting in near misses in air operations during early response effort. Media relations are also important. An early ban on press conferences and lack of engagement of field personnel resulted in an information vacuum – “Keep the Blue in View” – maintain information flow and provide daily reports with current and accurate information. Performance measures can also drive inappropriate response – look to per cent of environmentally sensitive sites protected rather than feet of boom or number of skimmers.

Overall, the Mobile Alabama Incident Command Post increased the size of response from 1,000 to 26,800 personnel. ICS works! Work together cooperatively to protect the environment. Unity of effort is important – “help me, help you”.

3.11 DISCUSSION GROUP 3: RISK ASSESSMENTS, SPILL CONTINGENCY PLANNING AND GEOGRAPHIC RESPONSE PLANS

Note: detailed notes of individual discussion groups are provided in an appendix to this report.

Speakers:

Todd Hass (Puget Sound Partnership), **Chad Bowe chop** (Makah Office of Marine Affairs) and **Fred Felleman** (Consultant – Makah Tribe) – [*A collaboratively developed vessel traffic simulation for the Boundary Waters between Washington State and British Columbia*](#)

Elise DeCola (NUKA) and **Brian House** (MER) – [*Building an integrated spill response system for first responders*](#)

Randall H. Scott (Priority Solutions & Training Group) – [*A self-assessment process: the road to enhanced emergency preparedness and response*](#)

Summary of presentations:

Todd Hass (Puget Sound Partnership), **Chad Bowe chop** (Makah Office of Marine Affairs) and **Fred Felleman** (Consultant – Makah Tribe). The speakers provided a summary of a collaborative project to assess risk associated with vessel traffic in the boundary waters between Washington State and British Columbia. Project partners include the Puget Sound Partnership, a small state agency with a legislative mandate to recover the health of Puget Sound by 2020, and the Makah Tribe. The Makah Tribe signed a treaty with the US federal government reserving the right for the Tribe to access marine resources in an area extending 40 miles offshore. The Tribe created the Office of Marine Affairs in 2008 with a mandate that included development of a tribal spill response program.

The US Environmental Protection Agency provided funding through the Puget Sound Partnership for a vessel traffic risk assessment to update data based on a proposal from the Makah Tribe. Collaboration on vessel traffic risk assessment also includes contribution from the Puget Sound Harbour Safety Committee and engagement of George Washington University, Washington DC to update the baseline traffic scenario. A steering committee integrating state and federal regulatory agencies, Tribes, industries and stakeholders was established to support system wide evaluation of relative maritime traffic risk through the vessel traffic risk assessment. A collaborative approach to oversight of a joint research team is intended to promote mutually credible results and resolution of disputed policy rather than adversarial debate that can lead to distorted communications and stalemates.

The risk management model used in the assessment considers a causal chain of situations (drawing on maritime traffic simulations), incidents (using incident data), accidents (and expert judgment) and finally oil spills (using an oil outflow model). The risk management model assesses potential interventions to reduce risk between links in the causal chain – a one-way zone to reduce incidents, escort requirements to reduce accidents, and a double hull requirement to reduce oil spills. A draft report and analysis using existing (2010) vessel traffic data has been delivered. Currently, projected traffic from potential projects in Washington and BC is being modeled with the aim of producing a report that can be used in a revised Risk Management Strategy for Puget Sound. This would inform Harbour Safety Plans, geographic response plans, regulatory changes (e.g., US Coast Guard) and related spill planning efforts.

Elise DeCola (NUKA Research and Planning Group) and **Brian House** (Moran Environmental Recovery) reviewed their experience with the Massachusetts Marine Oil Spill Program in building an integrated spill response system for first responders. Massachusetts has an oil spill prevention and response trust fund supported by a five cent per barrel levy on incoming petroleum (levied through marine terminals). The fund supports equipment, training, damage assessment, response costs (where no responsible party or federal source identified), administrative costs, research and development and claims.

Key components of the program include pre-positioned equipment trailers with supplies geared to first responders; development of responder oriented geographic response plans and a training and exercise program.

Take away insights for BC include: planning should be multi-stakeholder and consensus based; use a standard format and approach; link resources to plans and to responders; field verify tactics and strategies; get local buy-in; secure a long term funding commitment; build in flexibility to allow the program to evolve; institute after action reports and improvement plans; and use other programs and funding sources to leverage resources.

Discussion points raised by Brian and Elise included: how to build on existing programs and capacities; identifying resource needs (including equipment, mobilization, deployment, communications); logistical challenges and infrastructure needs; assessment of training needs; identifying program leads and champions; and identifying potential funding sources.

Randall H. Scott (Priority Solutions & Training Group) described the value of a self-assessment process to enhance the effectiveness of emergency plans. An effective self-assessment can serve a number of purposes – providing a gap analysis of response capacity, encouraging education within and beyond the organization, supporting two-way communication between industry and government and documenting due diligence for regulatory or legal needs. Tools are available for self-assessments, such as user friendly templates and tables. We can also learn from other organizations, for example, developing recognition programs for companies that institute self-audit and/or continuous improvement programs, within or beyond government requirements.

Summary of small group discussions:

Question 1: What are the key factors that constitute a world class risk assessment? Are these different from current practices in BC? If so, what are barriers to change? What change influencers?

Hot wash summary:

- ♦ Take a holistic, inclusive approach – identify risks then prioritize them (risks vary by sector and with geography) – will involve more than one agency and a broad base of stakeholders
- ♦ Continuous improvement – risk assessments need to be current, with a process in place to ensure they are relevant and reflective of current and anticipated activities/risks
- ♦ Risk communication – is important to get better involvement and buy-in of all stakeholders – transparent and plain language
- ♦ “World class” – means scientifically defensible, broad involvement (inclusive), coordination and buy-in, awareness of other jurisdictions and cross border/jurisdiction cooperation, ensuring that all parameters are met or exceeded, decisions are informed by the risk assessment and – sustainable funding (for continuous improvement, as well undertaking specific risk assessment activities)

Question 2: What lessons have been learned in world class programs about who needs to be involved in the risk assessment, contingency planning and geographic response planning processes in order for the process to be effective and trusted? Why?

Hot wash summary:

Who needs to be involved:

- ♦ All stakeholders whose interests are impacted, participating at the appropriate level – including responsible parties (spillers or potential spillers), contractors and response organizations – those who can add value to the process
- ♦ Federal, provincial, local governments and First Nations, as well as ENGOS.
- ♦ While broad participation is desirable, you don't want people who don't have to be there for certain aspects – involve the right people at the right scale/time (e.g., local interests don't necessarily need to be involved for everything but need to be involved early in the risk assessment and contingency planning)
- ♦ You have to include additional participants as needs arise – flexibility is important
- ♦ People with expertise.

Comments for further consideration:

- ♦ You need a leader, someone with a mandate – to undertake the risk assessment – a strong project management team and clear deliverables
- ♦ Specific roles and deliverables – e.g., common methods (questions) and templates – ensure you have someone who can speak to risk involved in the process to support communication and understanding
- ♦ Local interests are critical (need to be involved) – and may lack financial resources to participate
- ♦ Go broader than north and south (Washington and Alaska) – look around the world
- ♦ Use exercises to inform politicians – involve the media to broaden communication/understanding

Question 3: Who ultimately should approve risk assessments, contingency plans and geographic response plans? Why? What characteristics should that organization have?

Hot wash summary:

- ♦ Contingency plans need to be approved to ensure accountability – baseline standards developed by regulatory agencies
- ♦ Geographic response plans flow from contingency plans and therefore do not need formal approval but would still require thorough consultation, peer review, stakeholder participation, etc.
- ♦ Plans need to be coordinated!!!
- ♦ Approvals are needed – for consistency, public expectation, ensuring standards are met, etc. (Note that approval does not mean assuming liability)
- ♦ Characteristics of approving organization – technical expertise, staff, funding/resources, legal expertise, public accountability. Could be a third party such as contractor/CSA model

Question 4: How should plans be evaluated to ensure they are effective?

Hot wash summary:

- ♦ Ability to execute (the plan): training, realistic exercises/drills, independent evaluation
- ♦ Performance measures: defined measures, set (established) standards
- ♦ Flexible/adaptable (continuous improvement) – need to be current

3.12 DISCUSSION GROUP 4: NATURAL RESOURCES DAMAGE ASSESSMENTS AND SCIENCE, TECHNOLOGY AND MONITORING

Note: detailed notes of individual discussion groups are provided in an appendix to this report.

Speakers:

Cindy Ott, (SLR Consulting (Canada) Ltd.) – [*Risk based approach to assessing acute human health risks during and after a spill*](#)

Curtis Brock (Alberta Environment and Sustainable Development) – [*Developing and delivering remediation endpoints following an oil release to the Red Deer River, Alberta*](#)

David Campbell (CSA Group) – [*The role for standards for helping ensure environmental protection when responding to land-based oil spills*](#)

Summary of presentations:

Cindy Ott, (SLR Consulting (Canada) Ltd.) outlined an approach to assessing public health risk during spill events. Public concern arises from odours, feelings of unwellness and short term effects experienced during spill events. Reassurances of the responsible party do not necessarily allay public concerns. During a spill event, the primary exposure pathway for risk to human health is inhalation. Air monitoring is needed for acute risk assessment and to support shelter or evacuation decision making. Without proper planning and preparation, undertaking an acute risk assessment during an event is very challenging. Monitoring plans needs to be proactive rather than reactive, the assessment tailored to short term exposure scenarios, instruments sensitive and appropriate to the chemicals being monitored and monitoring specific to the product spilled. Components of a world class risk assessment include; comprehensive air monitoring plans to support the collection of accurate and reliable data, measurement of chemicals at low detection limits in real time, and screening protocols and toxicity reference sources conducted or recognized by a respected organization. Risk assessment – undertaken in a recognized and appropriate manner – is a proven method to assess human impacts during and after exposure to chemicals that can occur through a spill event.

Curtis Brock (Alberta Environment and Sustainable Development) provided a case study of response and remediation following a 2012 pipeline spill to the Red Deer River, Alberta. The spill involved about 450,000 liters of light crude oil, with visible oil product transported about 40 km downstream, as well as dissolved product further downstream. The spill impacted drinking water supplies, as well as wildlife, habitat and aquatic organisms. Environmental remediation objectives/endpoints were determined concurrently with initial response efforts. The lead provincial agency responsible for the remediation typically asks for development of specialty plans, including: short and long term wildlife plans; water quality, non-fish biota and fish monitoring plans; shoreline treatment and access plans; a waste handling plan; and a restoration and reclamation plan.

Practical challenges faced in the Red Deer River remediation effort included high water levels, current velocity, inaccessible islands, slow back channels, inundated terrestrial vegetation, pooling of product, stranded oil, moving woody debris and changing reservoir levels.

Key lessons or principles of the remediation effort include: development of regulator approved “Treatment Endpoints” for the remediation program, as well as shoreline classification, treatment techniques and access plans; a remediation program co-led and delivered by the responsible party and the lead regulatory agency; multi-agency, stakeholder and responsible party participation in the remediation program; and multi-agency assessment of treatment objectives relative to clean up progress to support consensus and public assurance regarding progress. The remediation program must address and balance environmental, social and economic impacts of the release. High resolution spatial delineation of oiling conditions and remediation progress is also required.

David Campbell (CSA Group) – discussed the potential role of consensus based standards in helping to ensure environmental protection in oil spill response. Environmental impacts from land based oil spills also relate to human health – surface and ground water quality, fish and wildlife and impacts to cultural values. Stakeholders with an interest in potential impacts include private sector firms involved in the production and transport of materials, environmental advocates, First Nations and aboriginals, research communities and government. Adequate environmental protection needs to be geographically appropriate and include interested stakeholders, as well as considering available and emerging technologies for protecting water resources.

The CSA Group is an accredited standards development organization that is responsible for 3,000 standards and codes developed in partnership with industry, regulators, government and consumers. The group has a reputation for independent and objective consensus based guidance, with 40% of standards referenced in government regulation. A standards based approach complements policy and regulations, adds value to existing initiatives and increases credibility and transparency.

David discussed three potential areas for standards development for helping ensure environmental protection in land based oil spill response: (1) establishing geographically-appropriate spill response plans; (2) establishing spill response capability and equipment capacity; and (3) establishing responder requirements.

Summary of small group discussions:

Question 1: What are the best practices to monitor impacts to human health and the environment during a spill event?

Hot wash summary:

- ♦ Pre-planning (included in Geographic Response Plans):
 - Baseline data is very important – but hard to fund
 - Operators must include monitoring in ER plans
- ♦ First response teams – multi-agency – and need training
- ♦ Community involvement/engagement
- ♦ For human health, need two kinds of monitoring:
 - Occupational
 - Public/offsite
- ♦ Long term monitoring needs should be identified at first response.

- ♦ Monitoring is needed throughout spill to adjust response and other actions if need be

Comments for further consideration:

- ♦ Establish a Centre of Excellence to determine and develop best practices
- ♦ Build long term expertise in monitoring of impacts (e.g., through the Centre of Excellence)

Question 2: What are the advantages/disadvantages of adopting a “Natural Resources Damage Assessment” process similar to that in the US?

Hot wash summary:

Overview: Much of the conversation was related to understanding what the NRDA process involves

Advantages:

- ♦ Allows for clarity, transparency, flexibility and collaboration for restoration
- ♦ Allows for local / community based input – more accepting of public input for determining endpoint (“how clean is clean?”)
- ♦ May reduce litigation
- ♦ Provides clarity and a systematic approach to address “injury concerns”
- ♦ May assist to fill in gaps not currently addressed with current restoration processes

Disadvantages:

- ♦ Can be a complex process (based upon habitat, injury degree, volume, product characteristics)
- ♦ If process is strict – it may be seen as a penalty rather than restoration / compensation – process may involve more litigation
- ♦ May be used as a government funding source or become politicized which may impact true restoration
- ♦ May be skewed to bias against RP to do more than required in reality – i.e., creates an expectation that restoration efforts will be over and above to the true level of injury

Who should lead?

- ♦ Industry pay, but led by multiple parties – mainly government (i.e., the regulator)
- ♦ Government should lead but inclusive of stakeholders, First Nations, community etc. concerns
- ♦ RP needs to pay for restoration provided it is done in accordance to science based standards

Question 3: What principles need to guide the restoration of impacted environments/natural resources? To what levels should natural environments be restored?

Hot wash summary:

- ♦ Strive to achieve Net Environmental Benefit
- ♦ Reasonable / fair
- ♦ Achievable – recognize remediation may not be the same as restoration
- ♦ Defensible by science
- ♦ Need for some form of liability closure
- ♦ Strive to achieve pre-incident conditions of environment

Question 4: If a NRDA process was adopted in BC, what factors need to be considered to determine if funds are to be managed by government or industry?

Hot wash summary:

- ♦ Public involvement/input with government oversight
- ♦ Flexibility, transparency of use and efficiency
- ♦ Need to establish understanding of what purposes the funds could be used for? (Nature of restoration activities allowed, limits, etc.)
- ♦ Third party independent group (funds held in trust)
- ♦ If government, no “raiding” of the fund!
- ♦ Role of insurance – is a fund needed?
- ♦ If industry, “which industry”?

DAY THREE – COMMUNICATIONS, COOPERATION AND COLLABORATION

3.13 PLENARY SESSION 5: ENGAGEMENT AND COMMUNICATIONS – THE IMPORTANCE OF BUILDING RELATIONSHIPS AND MEANINGFUL DIALOGUE

Speakers:

Leah George-Wilson (Tsleil-Waututh First Nation) – [*Critical incidents... critical relationships – Tsleil-Waututh Nation perspective*](#)

Timothy (TJ) Greene (Makah Tribe Chairman) and **Chad Bowechop** (Manager, Makah Marine Affairs) – [*The Makah Tribe’s perspective on engagement and communications*](#)

Chris Battaglia (Focus Wildlife) – [*Lessons learned from the Kalamazoo pipeline leak*](#)

Coleen Doucette (Oiled Wildlife Society of BC) - [*Wildlife Response Best Practices – addressing the challenges of public involvement*](#)

Nhi Irwin (Washington State Department of Ecology) – [*Volunteer coordination in Washington State*](#)

Summary of presentations:

Leah George-Wilson (Tsleil-Waututh First Nation) provided a perspective on risks of spills and response to spill incidents from the view of the Tsleil-Waututh First Nation – “People of the Inlet” – who have been living with the impacts of development since contact. The Tsleil-Waututh are connected to the land and waters with an understanding that there is an interconnectedness between the health of culture and the health of the environment – “we are healthy when our rivers, streams, beaches and forests are healthy – when we are healthy our communities are healthy”. The Tsleil-Waututh have an obligation and birth right to be the caretakers and protectors of land and waters. With over three million people living in the Georgia Basin and most of the shoreline of the [Burrard] Inlet currently industrial, challenges facing the territory include declining fish stocks, warming waters, contaminated shell fish, urban sprawl and impacts from industrial accidents. The Tsleil-Waututh vision is not to be paralyzed by bitterness or anger and to find creative means to move forward into the future – putting a Tsleil-Waututh face on the territory, seeing the environment of the territory restored and caring for the land and water. Tsleil-Waututh leaders have the responsibility to speak for the land and waters – “it is our sacred trust”.

Leah reviewed the Tsleil-Waututh experience with the 2007 Kinder Morgan [Burnaby] spill of about 1500 barrels of oil. It was critical that Tsleil-Waututh Nation be involved as early as possible in clean up decision making processes, that the Nation holds crucial information and knowledge of areas impacted by the spill and that this knowledge could aid the design and implementation of clean up efforts. The Tsleil-Waututh worked with Kinder Morgan and government agencies, as well as the Squamish Nation, to mobilize all available resources to assist with the emergency. Following the spill, with support from the Province of BC, Tsleil-Waututh began developing a Geographic Response Plan for Burrard Inlet and the lower Fraser River. As well as including response strategies tailored to specific beaches, shores and waterways, the plan considers adjacent terrestrial drainage and hydroriparian systems. Tsleil-Waututh created draft map products, such as shoreline classification and risk source mapping, that can serve as a foundation for more detailed planning.

Aboriginal rights and title in a territory that is highly urbanized is the context for Tsleil-Waututh – finding ways to assert constitutionally protected aboriginal rights involves a multifaceted approach, development of relationships and inclusion of Tsleil-Waututh in decision making processes involving traditional

territory. There is strength in working in partnership with other governments and organizations. Relationships provide a critical role in bridging gaps in capacity and ensuring that we are prepared when an incident occurs. Tsleil-Waututh are calling on leaders from all levels of government to work collaboratively with Tsleil-Waututh and other First Nations to build on existing processes to ensure that communities are prepared to deal with incidents when they occur and that communities are adequately resourced to deal with incidents. By coming together we can leverage the collective capacity that exists in communities and that our collective interests are protected over time.

Timothy (TJ) Greene (Makah Tribe Chairman) and **Chad Bowechop** (Manager, Makah Marine Affairs) provided the Makah Tribe perspective on engagement and communications related to spill prevention and response. It is important to understand legal underpinnings of tribal rights, responsibilities and role as trustees for ocean waters and lands. Recognizing and understanding this trust responsibility is fundamental for any parties interested in developing working relationships or partnerships with the Makah Tribe. The Makah have worked over many years on this basis – “learning how to talk with each other” and “learning the operational culture [of different organizations, such as the Coast Guard]”. Legal understandings at the federal and state level, and recognition of the trust responsibility, can support interactions with industry groups, such as oil and gas and ship transportation.

Shared effort over many years to establish a rescue tug based at Neah Bay provide an example. Cooperation and legislative direction have led to industry funding the operations of the tug and station – working relationships have developed and trust responsibilities recognized. The Makah are currently working with George Washington University and other partners on a vessel traffic risk assessment for the region, and with other parties to ensure response equipment (such as oil skimmers) and staging areas are in place. Evolving relationships – that include governments and industry – take time, understanding and work (“devil is in the details”). It is useful for organizations to have consultation guidelines – developed in cooperation with those parties being consulted – to provide guidance for staff and support working relationships. Partnerships can evolve from primarily working with government to working more directly with industry – provided that underpinnings (e.g., common understanding of legal and government to government relationships) are in place.

Currently, the Makah Tribe are working with partners beyond the Makah treaty area (e.g., across international boundaries) because leadership realizes that addressing risks involving our trust responsibilities is a regional issue. We need to build mechanisms to work together so that we can adequately address risks (e.g., increased vessel interactions from increased traffic) – need to build a response system that transcends national borders.

Chris Battaglia (Focus Wildlife) reviewed wildlife recovery lessons learned from the 2010 Kalamazoo River pipeline leak. The emergency response timeline included: activation (hour 2); wildlife coordinator on site and ten responders onsite (hour 24); wildlife impact assessment conducted and rehabilitation facility site inspection (hour 28); wildlife patients admitted (day 3); and over flights conducted (day 7). The responsible party provided a clear mandate for wildlife response (“do whatever you need to do”) based on a pre-existing relationship and knowledge of wildlife response and rehabilitation. Wildlife response included a liaison position with an office in the response centre, daily meetings and coordination of logistics and procurement. Coordination of wildlife response included field operations (assessment, search, collection and deterrence), management of a wildlife rehabilitation facility, rehabilitation and media relations, as well as public and internal outreach (e.g., a 1 800 wildlife call in number). Lessons learned included transparency and communications (e.g., inclusion of a wildlife branch in the unified command structure with clear lines of authority and communication to operations, planning, logistics and finance).

Effectiveness was aided by consensus building effort prior to involvement at the unified command level, reciprocal assistance with problem issues, transparency of methods and inclusion of wildlife rehabilitation at a higher level of planning. Relationships and planning in advance of an incident are important success

factors. Local stakeholders (including the hunting community, local wildlife organizations and local communities) are important – providing species specialists, local area knowledge, a workforce, ideas and information and mutually supportive capacity building. A framework in place prior to an incident provides work force procedures, workforce manager responsibilities and procedures for appropriate volunteer placement. A workforce program should include basic training (safety, overall operations, expectations, training, termination) and provisions for affiliated and convergent workforce elements. Positive results of an effective wildlife response program include increased animal care capacity, improved and achievable standards, decreased staff workload, decreased animal stress, understanding of oiled and non-oiled wildlife care, rapid scaling of response operations and local community collaboration. In conclusion, Chris noted that establishing a relationship with the responsible party prior to an incident supports effective response in the critical first 24 hours after an incident. Contingency and response planning and procedures should include full ICS integration, logistics liaison, on site liaison with the responsible party, regular and frequent meetings, common space, transparent operations and a 1 800 report oiled wildlife call in number.

Coleen Doucette (Oiled Wildlife Society of BC) outlined the need for oiled wildlife response planning and some suggested best practices for BC. Responsible parties should be aware that following an incident there will be public concern that needs to be addressed: Has wildlife been affected? Are animals humanely cared for? Who is looking after wildlife? Who is paying for it? There is a community impact from a spill – people are concerned about the suffering of “our animals” and often want to take matters into their own hands – an emotional response and effects on social culture, particularly if it appears that little is being done to address wildlife concerns. The responsible party and regulatory agencies both have responsibilities. At present however, there is no legislated responsibility for oiled wildlife response in Canada and no enforceable legislation directing regulatory agencies. A responsible party can abandon wildlife response, insurance companies may refuse to pay costs, the ship source oil pollution fund is not accessible for wildlife and weak government guidance.

International examples of potential best practices include: the US *Oil Pollution Act* (1990) that enables use of federal emergency funds for oiled wildlife response; California state funded oiled wildlife rehabilitation facilities with trained personnel, professional contracts and access to international oiled wildlife response organizations; Washington state shared funding (industry-state) of mobile facilities and equipment and trained personnel; and Alaska, with state regulated and industry funded designated facilities, equipment, personnel and access to international expertise. Integration of wildlife operations in ICS response management structure (i.e., a Wildlife Branch) is used throughout Europe, Australia, New Zealand and the US. This ensures professional operations and best practices, management of media reporting and public communications, accurate reporting for regulatory obligations and financial control.

The 2007 West Ridge [Kinder Morgan] pipeline incident is an example of a fully operational Wildlife Branch (as part of ICS structure) working well – professional standards of animal care were provided, public expectations met, NGO and oiled wildlife response organization activities were integrated, media interactions were positive and collaborative and wildlife release rate successful – at a very small percentage of overall response cost. In summary, there is great value to systematic and regulated oiled wildlife response – protection of national and globally important populations, humane treatment of animals, implementation of internationally accepted best practices, branding of industry standards and establishing an ethical and socially acceptable approach to wildlife safety and recovery.

Nhi Irwin (Washington State Department of Ecology) described the volunteer coordination system established in Washington State as a result of 2011 legislative direction to the Department of Ecology. The goal of the program is to have people pre-registered and pre-trained as part of a plan to facilitate and organize the safe and effective use of volunteers. Pre-registered and pre-trained volunteers are affiliated with an existing volunteer organization, known to the department and “ready to go” in the event of an incident. This contrasts with convergent volunteers – who show up on the day of a spill wanting to volunteer without training or affiliation with an existing organization. The department has developed a

web based system to register and communicate with volunteers, developed a volunteer management plan as part of the Northwest Area Contingency Plan, undertaken testing of volunteers in drills and engaged local emergency managers and community volunteer groups in registering and supporting volunteers. Currently, there are about 450 pre-trained oiled wildlife volunteers and training opportunities are ad hoc. An exercise to assess volunteer response using e-mail and Facebook notification had a very positive response rate (401 out of 435 volunteers) with about 100 volunteers available on the one or two days following notification and able to commit 2-3 days to the response. Challenges with using volunteers include liability coverage for volunteers, finding suitable jobs for volunteers, maintaining a level of trained volunteers and current volunteer information, and maintaining volunteer interest with little “real experience” available over time.

3.14 DISCUSSIONS – SPILL PREPAREDNESS COLLABORATION

Discussion notes for this topic are based on comments written in two to six person groups, then posted and grouped on charts for plenary review and comment. The following points are a selection from the full set of comments.

Best practices for collaboration and integration for planning processes:

- ♦ Clear lead authority with (the full time job of) planning & integration of response plans – and a framework of roles and responsibilities for all involved government agencies and other parties (e.g., facility owners, transport groups, first responders, fire/police/health authority, First Nations, local residents)
- ♦ An inclusive and facilitated process for input and involvement of all stakeholders
- ♦ A tiered set of plans – province, region, facility – with a framework for integrating, as well as minimizing overlap in plans and effort
- ♦ Documents built by consensus – supported and informed by people with expertise in their respective fields
- ♦ Clear and comprehensive identification of risks and hazards, as well as resources and stakeholders for preparation and response
- ♦ A system that provides opportunities for and encourages participation and relationship building – starting at the local level
- ♦ Funding to support planning and training – involving local communities, local government and other stakeholders – commensurate with the scope and scale of the projects/risks involved

Principles guiding the development and approval of planning documents:

- ♦ Involvement and collaboration of first responders
- ♦ Scenarios & exercises
- ♦ Transparent, science based, following clear guidelines (e.g., CSA)
- ♦ Training for local level first responders – to support initial response
- ♦ A checklist of variables that need to be addressed (in each type of planning document)
- ♦ A legal mandate – regulatory guidance and frameworks

3.15 DISCUSSIONS – STRATEGIC DIRECTION TO ENSURE AN EFFECTIVE SPILL PREPAREDNESS AND RESPONSE REGIME

Discussion notes for this topic are based on comments written in two to six person groups, then posted and grouped on charts for plenary review and comment. The following points are a selection from the full set of comments.

Methods/approaches to provide strategic direction to spill preparedness and response regimes:

- ♦ Engagement & communication – including industry, experts, First Nations and stakeholders from local communities – to test alignment with government policy objectives
- ♦ Standards – build on existing standards (e.g., oil and gas industry, CSA, CCME)
- ♦ Regulatory mandate – legislate standards to establish a level playing field, prepare and promote guidelines and policy directions, establish a clear “accountability framework” with defined roles and responsibilities, provide clear policy direction (e.g., WA “zero spill” goal)
- ♦ Oversight & collaboration – don’t duplicate what is working presently, harmonize between different levels of government and agencies, clarify roles, ensure funding for preventative measures and plans, focus on first responders (e.g., regional environmental emergency teams, communications, ICS)
- ♦ Clarity on outcomes/objectives – clarify and communicate definitions (e.g., restore, remediate), focus on “world class outcomes” (instead of “world leading regime”), alignment between legislated requirements and needs of parties involved (regulators, producers, people of BC)
- ♦ Inventory & opportunity for collaboration/gap assessment – gap analysis of current regulation and practices for duplication and gaps, understand and recognize current response capabilities across all sectors, integrate existing response groups
- ♦ Information – compile data from reported spills (e.g., impacts, response efficiency, outcomes, jurisdictions involved, clean up and other reports), analyze trends, establish a database with appropriate access and resources to maintain currency, communicate and inform planning and other processes with relevant information
- ♦ Risk Based – use risk informed approaches, focus on high risk spills, identify and address cultural interests as well as economic and environmental interests, establish advisory bodies for high risk/value areas to identify areas of local interest and contribute needed information, provide stable funding and support for advisory committees

Factors that need to be considered in determining who needs to be involved in providing strategic direction:

- ♦ Understanding of ICS – and formation of peer groups that represent all who would be involved in ICS to contribute throughout the process (strategic direction in all stages – from preparation to response)
- ♦ Jurisdiction and roles – authority, accountability, expertise, local knowledge, cultural knowledge
- ♦ Who is affected and who has expertise
- ♦ Available technology for identifying risk, mitigating risk and response

3.16 DISCUSSIONS – EFFECTIVE COMMUNICATIONS WITH THE COMMUNITY DURING A SPILL EVENT

Discussion notes for this topic are based on comments written in two to six person groups, then posted and grouped on charts for plenary review and comment. The following points are a selection from the full set of comments.

Communication methods/tools that can be used to support timely dissemination of information:

- ♦ Media or information officer with explicit function and working relationships with key interests (e.g., media, local groups, trained volunteers) – have a plan and tools in place before event
- ♦ Social media (e.g., Facebook) for specific purposes (e.g., targeted volunteers), with a responsible moderator, texts for callouts/information updates – be familiar with the tools and designated personnel to rapidly address queries and/or misinformation
- ♦ Tools and methods such as fanned notification, traditional media releases, 1-800 number (e.g., for oiled wildlife), website as part of a “one window” approach for public to obtain timely info
- ♦ Recognize remote communities have explicit needs and distinct communication challenges/methods
- ♦ Public meetings and Q&A sessions – to make direct contact with concerned parties
- ♦ Have backups and redundancies – don’t rely overly only one or two methods

Key information that needs to be disseminated during a spill event:

- ♦ Health and safety information – risks, public health implications, how to remain safe
- ♦ Who is in charge, where and how to get further and updated information, timing of updates/briefings
- ♦ Event information – where, what material(s), how much, what are the response activities and timing
- ♦ Community specific information – based on set of guiding principles and specific needs and methods identified in preparation/planning
- ♦ Volunteer protocols and contact info for reporting oiled wildlife or other information
- ♦ Transportation and access – any restrictions/closures, public access provisions, any evacuation measures

Best practices for engagement and communication during a spill event:

- ♦ Have a plan and follow it! (with allowance for flexibility to address changing situations)
- ♦ Have a communication person able to speak to risk (subject matter expert, as well as good communicator) – trusted and honest source, transparent, consistent messages
- ♦ One voice – one message – communication centre with separate public and operations communications functions
- ♦ Use established communications strategies and have relationships/contacts in place prior to the event
- ♦ Be responsive (to public queries) – accessible and immediate, consistent, factual, appropriate for audience (transparent, minimal jargon)
- ♦ Scheduled times for media briefings – recognizing filing deadlines
- ♦ Involve and utilize local contacts and parties (e.g., municipal agencies) to share communications

3.17 DISCUSSIONS – VOLUNTEERS

Discussion notes for this topic are based on comments written in two to six person groups, then posted and grouped on charts for plenary review and comment. The following points are a selection from the full set of comments.

Key principles to be considered for public involvement in spill response:

- ♦ Information – establish and follow privacy guidelines for volunteer information, draw on local knowledge, utilize convergent volunteers when appropriate
- ♦ Roles – clear roles, provide job descriptions with training and safety expectations/requirements, use non-profit organizations to leverage volunteers (have agreements with the organizations in place during preparation – before an event), coordinated on-site training and equipment distribution
- ♦ Communication – manage expectations, manage messages (e.g., handling oiled wildlife, measures to protect sensitive sites), keep public engaged and aware of current situation
- ♦ Funding – well funded volunteer coordination, investigate alternatives for compensation (registration, credits, non-profit organization support)
- ♦ Contingency planning – mechanism to involve public volunteers in the event that a spill requires additional capacity – safety and training important considerations in such a situation
- ♦ Training and preparation – safety training, aligning skill sets with available jobs, pre-spill community outreach (e.g., work with local organizations with potential volunteer cadre), pre-spill identification of volunteer tasks and protocols, ICS training, simple registration system, utilization of volunteers' time (worthwhile involvement)
- ♦ Inventory/capacity – linked to training and preparation (skill sets, needs, registration and tracking of volunteers before, through and after an event)
- ♦ Risk – communication and awareness of risks involved with volunteering – role of volunteer, liabilities, security (equipment, other)

3.18 CLOSING REMARKS

Speaking Notes for the Honourable Terry Lake, Minister of Environment

Closing remarks were provided by the Honourable Terry Lake, Minister of Environment. The Minister acknowledged that the symposium was being held on traditional territory of the Coast Salish peoples and thanked presenters, participants and organizers for their contributions over the symposium. Minister Lake commented that planning is the foundation for effective spill preparedness and response – and that a robust preparedness and response regime protects environmental, economic and social values. He emphasized that the British Columbia government is not interested in duplicating efforts, creating overlapping jurisdictions or undermining existing systems that are working well in the province. Moving forward to develop a world leading spill planning and response regime involves taking the best of existing models and programs, customized for BC's unique geography, environment and industrial activity. This will include an assessment of what's working, as well as gaps in current practices.

The Minister noted that working with First Nations on spill preparedness, planning and response is an essential element of moving forward, in acknowledgement of historical and cultural connections to the land, as well as recognition of modern discussions around treaties and capacity building. Minister Lake commented that one of the key components of successful emergency response is building strong relationships before an event occurs. A working group that includes representatives from First Nations, industry, government and stakeholders will meet immediately following the symposium to develop

recommendations to be considered by the Ministry. These recommendations will be shared publicly and the Ministry will be consulting broadly before moving forward with any specific changes.

The Minister concluded with reference to the theme of the symposium that this is a process based on communication, cooperation and collaboration. The symposium was held to learn best practices from other jurisdictions and to carefully listen to input from all participants. In closing, the Minister thanked participants and presenters for contributing their expertise as we build a world class land based spill regime for British Columbia.

4 APPENDICES

4.1 ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Term
BC	British Columbia
BPs	Best Practices
CAPP	Canadian Association of petroleum Producers
CCME	Canadian Council of Ministers of the Environment
CERCA	Canadian Emergency Response Contractors' Alliance
CFA	Canadian Fuels Association
CIAC	Chemical Industry Association of Canada
CN	Canadian National (railway)
CP	Canadian Pacific (railway)
CPPI	Canadian Petroleum Producers Institute (Canadian Fuels Association)
CRO	Certified Response Organization
CSA	Canadian Standards Association
DIBit	diluted bitumen
DWT	Dead Weight Tons
e.g.	for example
EA	Environmental Assessment
ECRC	Eastern Canada Response Corporation (Ottawa)
ENGO	Environmental Non-Government Organizations
EPA	Environmental protection Agency (US)
ERAP	Emergency Response Assistance Plans (Transport Canada)
FN	First Nations
FOSET	Fishermen Oil Spill Emergency Team
GRP	Geographic Response Plan
i.e.	that is
ICS	Incident Command System
ICP	Incident Command Protocols
IRO	Independent Response Organization
km	kilometres
M	million (dollars)
MOE	Ministry of Environment
NEB	National Energy Board

Acronym/Abbreviation	Term
NEBA	Net Environmental Benefit Analysis
NGO	Non-government Organization
NOAA	national Oceanic and Atmospheric Administration (US)
NRDA	Natural Resources Damage Assessment
OGC	Oil and Gas Commission
OSPA	Oil Spill Protection Account (WA)
OSRA	Oil Spill Response Account (WA)
OSRO	Oil Spill Response Organization
OWRO	Oiled Wildlife Response Organization
PwC	Price Waterhouse Coopers
Q&A	Questions and Answers
RAC	Railway Association of Canada
RDA	Resource Damage Assessment (Committee – WA)
REET	Regional Environmental Emergency Team
RP	Responsible Party
SCAT	Shoreline Cleanup Assessment Team
TC	Transport Canada
TEAP	Transportation Emergency Assistance Program (CIAC)
UBC	University of British Columbia
UC	Unified Command
US	United States
WA	Washington (State)
WCMRC	West Coast Marine Response Corporation
WCSS	Western Canadian Spill Services

4.2 SYMPOSIUM AGENDA

LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

Monday, March 25, 2013

DAY ONE: WORLD LEADING SPILL PREPAREDNESS AND RESPONSE REGIMES

7:30am – 8:30 am	Registration and Coffee – Stanley Park Ballroom Foyer
8:30am – 8:45am	Coast Salish Blessing Opening Remarks – The Honourable Terry Lake, Minister of Environment Stanley Park Ballroom
8:45am – 8:50am	Symposium Overview <i>Ellen Frisch, Facilitator: Review of the plan for the day and the full symposium</i>
8:50am – 10:00am	PLENARY SESSION 1 Response Standards and World Leading Spill Response: Understanding response organization roles and standards
Introduction:	Lance Sundquist, Director, Environmental Protection Division, Ministry of Environment
Plenary Session Speakers:	Brian Lamond (CSA Group) <i>Development of CSA spill preparedness and response standards for the petroleum and natural gas sectors;</i> Linda Pilkey-Jarvis (Washington State Department of Ecology) <i>Best Available Technology legislation;</i> Al McFadyen (Western Canadian Spill Service) <i>Spill preparedness and response in Alberta and NE British Columbia through a cooperative approach;</i> Scott Wright (Western Canada Marine Response Corporation) <i>Role and response standards for a legislated marine response organization.</i>
10:00am – 10:20am	Plenary Session 1 Questions and Answers
10:20am – 10:40am	Coffee – Stanley Park Ballroom Foyer
10:40am – 11:45am	PLENARY SESSION 2 Spill Preparedness and Response Funding: Understanding Industry Funding Mechanisms and Government Spill Funds
Introduction:	Jim Standen, Assistant Deputy Minister, Environmental Protection Division, Ministry of Environment
Plenary Session Speakers:	Jim Donihee (Canadian Energy Pipeline Association) <i>Canadian Pipeline spill preparedness and response funding model;</i> Ian Brown, (PriceWaterhouseCoopers) <i>Funding mechanisms and uses for spill funds;</i> Captain Scott Schaefer (US Coast Guard (Ret)) <i>Establishing a terrestrial spill fund in California.</i>
11:45am – 12:00pm	Plenary Session 2 Questions and Answers
12:00pm – 1:15pm	Lunch – Stanley Park Ballroom Foyer
12:30pm – 1:00pm	Keynote Presentation – “Achieving World Class Performance Through Improved Practices” Al Richie, VP of Field Operations, Spectra Energy Hugh Harden, VP of Operations & Engineering, Kinder Morgan Canada

“ACHIEVING WORLD CLASS PRACTICES THROUGH COMMUNICATIONS, COOPERATION AND COLLABORATION”

LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

1:15pm – 4:00pm: Discussion Groups	
<p style="text-align: center;">Spill Response: Response Standards and World Leading Spill Response</p> <p style="text-align: center;">Stanley Park Ballroom (Salon 2&3)</p> <p>SPEAKERS: Louis Laferriere (Chemistry Industry Association of Canada) <i>TEAPIII Transportation Emergency Response Standards;</i> Geoff Morrison (Canadian Association Petroleum Producer) <i>CAPP Response standards model;</i> John Skowronski (Canadian Fuels Association) <i>CFA response standards model.</i></p> <p>KEY OUTCOMES:</p> <ul style="list-style-type: none"> • Identify response standard principles, e.g. minimum vs. best available, voluntary vs. mandatory; • Identify spill response capability and capacity factors, e.g. (worst case spill, most probable spill); • Identify key response standard aspects (e.g. planning, training, equipment, exercises, bio-remediation, in-situ burning, chemical dispersants, oiled wildlife, sunken and submerged materials, and salvage, environmental restoration set points, dedicated vs. contracted responders, qualitative vs. quantitative performance measures); • Identify key actions/questions for the Working Group. 	<p style="text-align: center;">Spill Preparedness and Response Funding Principles and Models</p> <p style="text-align: center;">Presentations – Stanley Park Ballroom (Salon 1) Discussion Groups – Cypress Meeting Room</p> <p>SPEAKERS: Mark Johncox (Western Canada Marine Response Corporation) <i>Marine Response Organization Funding Model;</i> Dale Jensen (Washington State Department of Ecology) <i>Oil Spill Funding Mechanism;</i> Frank Holmes (Western States Petroleum Association) <i>Moving from a government to industry funded model.</i></p> <p>KEY OUTCOMES:</p> <ul style="list-style-type: none"> • Identify key principles for industry spill preparedness and response funding; • Identify advantages/disadvantages to funding of an Integrated Response Organization model vs. individual company or sector response organizations; • Identify principles for funding government's spill preparedness, response and recovery programs; • If an industry funded "Spill Trust Fund" was to be established, identify principles to guide government activities funded by the "Trust Fund"; • Identify key actions/questions for the Working Group.
3:00pm – 3:20pm Coffee – Stanley Park Ballroom Foyer	
<p style="text-align: center;">Spill Response: Response Standards and World Leading Spill Response continued</p>	<p style="text-align: center;">Spill Preparedness and Response Funding Principles and Models continued</p>
4:00pm – 4:30pm End of Day Hot Wash (Debrief) – Stanley Park Ballroom	
5:00pm – 7:00pm Meet & Greet Reception hosted by the Canadian Energy Pipeline Association – Marine Room	

"ACHIEVING WORLD CLASS PRACTICES THROUGH COMMUNICATIONS, COOPERATION AND COLLABORATION"

LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

Tuesday, March 26, 2013

DAY TWO: EFFECTIVE AND EFFICIENT ENVIRONMENTAL RESTORATION

7:30am – 8:00am	Coffee/Tea Service – Stanley Park Ballroom Foyer
8:00am – 8:05am	Welcome Back – Stanley Park Ballroom
8:05am – 8:30am	The Canadian Railway Approach to Spill Preparedness and Response Curtis Myson (Railway Association of Canada) Jim Kozey, (Director, Hazmat Programs, Canadian Pacific Railway) Normand Pellerin (Assistant Vice President, Environment & Sustainability, Canadian National)
8:30am – 9:40am	PLENARY SESSION 3 Effective Planning: Risk Assessments, Spill Contingency Planning, and Geographic Response Plans
Introduction:	Ian Sharpe, Regional Director, Environmental Protection Division, Ministry of Environment
Plenary Session Speakers:	Chip Boothe (Washington State Department of Ecology) <i>The Changing Risk Picture in the Pacific Northwest;</i> Josie Clark (US Environmental Protection Agency) <i>Spill Contingency Planning;</i> Mike Munger (Cook Inlet Regional Citizens Advisory Committee) <i>Community engagement in Geographic Response Planning;</i> Dr. Ziad Shawwash (University of BC, Civil Engineering) <i>Risk informed decision making for BC.</i>
9:40am – 10:00am	Plenary Session 3: Questions and Answers
10:00am – 10:20am	Coffee – Stanley Park Ballroom Foyer
10:20am – 11:40am	PLENARY SESSION 4 Effective Environmental Remediation, Restoration and Monitoring: Understanding Natural Resource Damage Assessments (NRDA), Principles for Environmental Remediation and Restoration, and Environmental Assessment and Monitoring
Introduction:	Graham Knox, Manager, Environmental Emergencies Program, Ministry of Environment
Plenary Session Speakers:	Ian Zelo (US National Oceanic and Atmospheric Administration) <i>Understanding Natural Resource Damage Assessment (NRDA);</i> Dave Byers (Washington State Department of Ecology) <i>Washington State Department of Ecology's approach to NRDA;</i> Gary Mauseth (Polaris Applied Sciences Inc.) <i>Yellowstone Spill Lessons Learned - Shoreline Clean Up Assessment.</i>
11:40am – 12:00pm	Plenary Session 4 - Questions and Answers
12:00 pm – 1:15pm	Lunch - Stanley Park Ballroom Foyer
12:30pm – 1:00pm	Keynote Speaker – Captain Scott D. Schaefer, USCG (Ret) <i>Deep Water Horizon – An Incident Commander's Perspective</i>

"ACHIEVING WORLD CLASS PRACTICES THROUGH COMMUNICATIONS, COOPERATION AND COLLABORATION"

LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

1:15pm – 4:00pm: Discussion Groups	
<p>Risk Assessments, Spill Contingency Planning and Geographic Response Plans Presentations – Stanley Park Ballroom (Salon 1) Discussion Groups – Cypress Meeting Room</p> <p>SPEAKERS: Todd Hass (Puget Sound Partnership) and Fred Felleman (Consultant for Makah Tribe) <i>Washington marine vessel risk assessment model;</i> Elise DeCola (Nuka Research and Planning Group) <i>Integrated planning, testing and funding;</i> Randall Scott (Priority Solutions and Training Group Inc.) <i>Self assessment for preparedness and response.</i></p> <p>KEY OUTCOMES:</p> <ul style="list-style-type: none"> Identify objectives and principles for planning processes – from risk assessment through to geographic response plans; Identify who needs to be involved in the planning process; Define key considerations for the planning process flow – from development through to approval; Identify key factors to evaluate the effectiveness of the plans; Identify key actions/questions for the Working Group. 	<p>Environmental Monitoring, Natural Resource Damage Assessments, and Environmental Remediation and Restoration Stanley Park Ballroom (Salon 2&3)</p> <p>SPEAKERS: Cindy Ott (SLR Consulting (Canada) Ltd.) <i>Risk based approach to assessing acute health risks during and after a spill;</i> Curtis Brock (Alberta Environment and Sustainable Development) <i>Outcome based remediation standards;</i> David Campbell (CSA Group) <i>Water quality and environmental integrity standards.</i></p> <p>KEY OUTCOMES:</p> <ul style="list-style-type: none"> Identify best practices to monitor impacts to human health and the environment during a spill event; Identify principles for the restoration of impacted environments/natural resources; Identify key factors to determine whether restoration is undertaken by the "responsible party" or government; If a NRDA process was adopted in BC, what factors need to be considered to determine if funds are to be managed by government or industry?; Identify key actions/questions for the Working Group.
3:00pm – 3:20pm Coffee – Stanley Park Ballroom Foyer	
<p>3:20pm – 4:00pm</p> <p>Risk Assessments, Spill Contingency Planning and Geographic Response Plans continued</p>	<p>Environmental Monitoring, Natural Resource Damage Assessments, and Environmental Remediation and Restoration continued</p>
4:00pm – 4:30pm End of Day Hot Wash (Debrief) Stanley Park Ballroom (Salon 2&3)	

"ACHIEVING WORLD CLASS PRACTICES THROUGH COMMUNICATIONS, COOPERATION AND COLLABORATION"

LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

Wednesday, March 27, 2013

DAY THREE: COMMUNICATIONS, COOPERATION AND COLLABORATION

7:30am – 8:00am	Coffee/Tea Service – Stanley Park Ballroom Foyer
8:00am – 8:05am	Welcome Back – Stanley Park Ballroom
8:05am – 10:00am	<p>Plenary Session 5 Engagement and Communications: The Importance Of Building Relationships And Meaningful Dialogue</p> <p>Introduction: Jim Hofweber, Executive Director, Environmental Protection Division, Ministry of Environment</p> <p>Plenary Session 5 Speakers</p> <p>Leah George-Wilson (Tsleil-Waututh First Nation) <i>Meaningful engagement of First Nation communities;</i></p> <p>Chad Bowechop (Manager, Makah Marine Affairs) <i>The Makah Tribe's perspective on engagement and communications;</i></p> <p>Chris Battaglia (Focus Wildlife) <i>Lessons learned from the Kalamazoo;</i></p> <p>Coleen Doucette (Oiled Wildlife Society of BC) <i>Wildlife Response Best Practices - addressing the challenges of public involvement;</i></p> <p>Nhi Irwin (Washington State Department of Ecology) <i>Involving volunteers in spill response.</i></p>
10:00am – 10:20am	Coffee – Stanley Park Ballroom Foyer
10:20 am – 11:30am	<p>Discussion: Engagement and Communication – Stanley Park Ballroom</p> <p>DISCUSSION GROUP TOPICS AND KEY OUTCOMES:</p> <p>Spill Preparedness Collaboration – who needs to be involved to achieve the best planning results?</p> <p>KEY OUTCOMES:</p> <ul style="list-style-type: none"> • Identify best practices for collaboration and integration for planning processes; • Identify principles to guide the development and approval of planning documents. <p>Strategic Direction to ensure an effective spill preparedness and response regime –how best to provide strategic direction to ensure a sustainable program?</p> <p>KEY OUTCOMES:</p> <ul style="list-style-type: none"> • Identify methods/approaches to provide strategic direction to spill preparedness and response regimes; • Identify factors to be considered to determine who needs to be involved in providing strategic direction. <p>Communicating effectively during a spill event – what methods can be used to ensure timely notification and information to the affected community?</p> <p>KEY OUTCOMES:</p> <ul style="list-style-type: none"> • Identify communication methods/tools to support timely dissemination of information; • Identify key information needed to be disseminated during a spill event; • Identify best practices to engage and communicate during a spill event. <p>Volunteers – how to make the best use of members of the public who want to get involved at the time of a spill?</p> <p>KEY OUTCOMES:</p> <ul style="list-style-type: none"> • Identify key principles to be considered for public involvement in spill response.
11:30am – 12:00pm	Hot wash(debrief) and Next Steps
12:00am – 12:10pm	Closing Remarks - Honourable Terry Lake, Minister of Environment

“ACHIEVING WORLD CLASS PRACTICES THROUGH COMMUNICATIONS, COOPERATION AND COLLABORATION”

4.3 SYMPOSIUM PARTICIPANTS

BC's Land Based Spill Preparedness and Response Symposium | 2013 Participants

Aboriginal Affairs and Northern Development Canada
Alaska Department of Environmental Conservation
Alberta Ministry of Environment & Sustainable Resource Development
Alberta Support and Emergency Response Team (ASERT)
ALS Environmental
Association of Petroleum Industry Cooperative Managers (APICOM)
BC Ferries Services Inc
BC Oil and Gas Commission
BC Trucking Association
BC Wildlife Federation
BEHR Energy Services
British Columbia Environmental Industry Association (BCEIA)
Business Council of British Columbia
C Rankin & Associates
California State Lands Commission
California's Office of Spill Prevention and Response
Canadian Association of Chemical Distributors
Canadian Association of Petroleum Producers (CAPP)
Canadian Chemistry
Canadian Coast Guard Environmental Response, Western Region
Canadian Emergency Response Contractor Alliance (CERCA)
Canadian Natural Resources Ltd
Canadian Energy Pipeline Association (CEPA)
Canadian Fuels Association (CFA)
Canadian National Rail
Canadian Pacific Railway
Chamber of Shipping of British Columbia
Chemistry Industry Association of Canada (CIAC)
ChemTrade Logistics
Chevron
Clean Seas LLC
Cook Inlet Regional Citizens Advisory Council (CIRCAC)
CORE6 Environmental
Council of Marine Carriers
CSA Group (Canadian Standards Association)
David Suzuki Foundation
Ellen Frisch and Associates
Enbridge Inc.
Environment Canada Environmental Emergencies Program
Environment Canada Canadian Wildlife Service
Environment Canada Emergencies Science and Technology Section
Environmental Services
ESSO
Eyford Macaulay Shaw & Padmanabhan LLP
Fraser Valley Health Authority
Friends of the San Juan
Fire Chief's Association of BC – Surrey Fire Service
First Nations Emergency Services Society
First Nations Summit
Focus Wildlife
Georgia Strait Alliance
Golder and Associates
Haisla Nation Council
Hemmera
Husky Energy
Interior Health Authority of British Columbia
International Association of Emergency Managers (IAEM)
International Bird Rescue
Ken Johnson Trucking Ltd.
Keystone Environmental Ltd
Kinder Morgan Canada
L'Heidli T'Enneh Nation
Living Oceans Society

BC's Land Based Spill Preparedness and Response Symposium | **2013**
Participants

Makah Tribal Council
Makah Office of Marine Affairs
Member of the Legislative Assembly
Ministry of Aboriginal Relations & Reconciliation
Ministry of Community Sport and Cultural Development
Ministry of Energy, Mines and Natural Gas
Ministry of Environment
Ministry of Forest, Lands and Natural Resources
Ministry of Health, Health Protection Division
Ministry of Justice
Ministry of Transportation and Infrastructure Pacific Gateway Branch
Moran Environmental Recovery, LLC
M.R Gordon and Associates
Namgis First Nation
National Energy Board
National Oceanic and Atmospheric Administration (NOAA)
Natural Resources Canada
Nuka Research & Planning Group, LLC
Oiled Wildlife Society
Oregon Department of Environmental Quality
Pacific States/BC Oil Spill Task Force
Parkland Fuel Corporation
Pembina Pipeline Corporation
Polaris Applied Sciences
Port Metro Vancouver
Practical Preparedness Services
PriceWaterhouseCoopers LLP
Prince Rupert Port Authority
Priority Solutions & Training Group Inc
Province of British Columbia Climate Action Secretariat
Public Safety Canada, Emergency Management
Puget Sound Partnership
Quantum Murray LP
Railway Association of Canada
Shell Canada
SLR Consulting (Canada) Ltd
Southern Railway of British Columbia Limited
Spectra Energy
State of Hawaii Department of Health
Suncor
T. Buck Suzuki Environmental Foundation
Tervita Corporation
Transport Canada
Transport Canada - Marine Branch
Transport Canada - Compliance, Enforcement & Cargo Services
Tsleil-Waututh Nation
Twawassen First Nation
Union of BC Indian Chiefs (UBCIC)
Union of BC Municipalities (UBCM)
Univar Canada
University of British Columbia - Civil Engineering
University of British Columbia - Earth, Ocean & Atmospheric Sciences
University of British Columbia - Fisheries Centre
University of Victoria
US Coast Guard Thirteenth District
US Environmental Protection Agency Region 10
Vancouver Airport Authority
Vancouver Airport Fuel Facilities Corporation (VAFFC)
Washington Department of Ecology Spills Program
West Coast Environmental Law Society
Western Canada Marine Response Corporation (WCMRC)
Western Canadian Spill Services (WCSS)
Western States Petroleum Association
World Wildlife Fund (Canada)

4.4 SPEAKER PRESENTATIONS: COMMENTS, QUESTIONS AND REPLIES

Day one plenary session 1: Response standards and world leading spill response:

Speakers: Brian Lamond (CSA Group), Linda Pilkey-Jarvis (Washington State Department of Ecology), Al McFadyen (Western Canadian Spill Service), Scott Wright (Western Canada Marine Response Corporation)

Q: to Linda Pilkey-Jarvis (Washington State Department of Ecology) – Evolving from voluntary to regulatory standard – are there areas that had proved to be a challenge for external reasons? A: 1. It was a court decision, in the State of Washington if you are going to have standards that you want to enforce you have to have regulations. 2. Agency perspective is that we had gone as far as we could with voluntary measures and still had some tough issues to solve. Now more used to regulatory measures – everyone involved, clear, measurable compliance.

Q: to Linda – Did you do an analysis for the railway sector? Were there any shortcomings for individual sectors? Any significant finds of gaps? A: Largely closed gaps in 2006/7 – equipment to remote areas – tailored standards to particular environment (e.g., length of boom for fast currents) very specific to specific locations. Biggest gap now is inland areas – rail, pipelines.

Q: to Linda – Please expand on (requirement to report a) “threat of spill”? A: This follows our “no surprises” approach to sharing information – better for all parties to be aware of a potential spill situation and prepare for a response than to start after the fact. An example could be loss of propulsion in a narrow channel – begin the response activities even though the no spill has happened. Another example would be a land spill that “could” affect groundwater.

Q: to panel – 1. BC does not have an effective surveillance system. Is there a way to develop standards for spill prevention surveillance? 2. What is our capacity to deal with surface spills that have the potential to threaten below the surface (e.g., contaminated aquifers) To rephrase the question – is industry prepared to know when spills occur (e.g., pipelines in a remote area)? A: There are monitors to inform if a system is losing volume or pressure (e.g., pipelines). Responses to contamination of an aquifer include pumping the water out, cleaning it and replacing it.

Q: to panel – Want to underscore importance of a quick response to any spill – important to contain, reduce damage and also economic costs. 1. In BC how are recovery times being measured (e.g., EDR – effective daily recovery)? 2. Would appreciate any comments regarding the transport of equipment across the border – *Canadian Shipping Act*. A: 1. With all spills, it is the closest people and the closest equipment that are part of the initial response. As time goes on more people and equipment arrive (in response to larger spills). It is difficult to measure recovery as environmental conditions (e.g., wind, water) affect skimmer capacity (e.g., manufacturer may say skimmer can do 10E/hr, may only be able to do 2E/hr). Also have to remember that storage determines the effectiveness of a skimmer – need to be able to store the skimmed oil. A: 2. With regard to accessing equipment across the border (United States to Canada) – aware of the issue and have agreements in place to address need if it arises. There has been a recent announcement that will fix the problem. Presently need a letter from Transport Canada (with the understanding that it will be provided if needed).

Q: to Al McFadyen (WCSS) – “How are ER Plans for the 588 licensees approved? A: The emergency preparedness and response requirements for the upstream petroleum industry in the 3 Provinces were based on the CSA Standard CAN/CSA Z-731. Provincial requirements call for Corporate ER plans that must be prepared, submitted to the ministry for approval and tested through annual exercises with a major

exercise required every 3 years. The WCSS Oil Spill Contingency manual is supplemental to a Corporate ER Plan and is not subject to formal approvals from the ministries.

Q: to Scott Wright (WCMRC) – 1. Does response include shoreline impact? 2. Benchmark study – will it be made public? A: 1. Response does include shoreline impact. A regional environmental emergency team chaired by BC MOE and Environment Canada will work with SCAT teams to document and classify shoreline impacts. Response measures are then customized to address the clean up methods. WCMRC manages the shoreline clean up crews. 2. WCMRC board of directors will make the decision on the distribution.

Q: to Scott – What is the funding mechanism for FOSET (Fishermen Oil Spill Emergency Response Team)? Is the program a requirement? A: The funding mechanism for FOSET is part of our operating budget. WCMRS will forecast the training requirements annually and the funds required. The funds will be collected through our membership and bulk oil cargo membership fees. FOSET is not required however a vessel of opportunity program is. The vessel of opportunity program is required to expand the resources of the response organization to handle tasks such as boom towing, crew accommodations, transport for supplies etc.

Q: to Brian Lamond (CSA Group) – Who is responsible for enforcement of standards? A: Enforcement only comes into play if/when a regulatory body (e.g., Oil and Gas Commission) adopts or makes reference.

Q: to Linda – How many incidents do you deal with in a year? A: 4,083 reported spills in 2012

Day one plenary session 2: Spill preparedness and response funding – understanding industry funding mechanisms and government spill funds

Speakers: Jim Donihee (Canadian Energy Pipeline Association), Ian Brown (PriceWaterhouseCoopers), Captain Scott Schaefer (US Coast Guard (Ret))

Q: to Ian Brown (PwC) – You mentioned that you had consulted response organizations, not shippers or carriers, people who have information on their costs and will be the main funders. If a gap analysis is done what do you see it covering? A: 1. Original mandate was to look at existing response organizations, very focused on what was out there at that time. 2. In a future gap analysis, if a fee or tax was to be instituted, we would need to talk to industry / other organizations to know their capacity to pay before recommendations [are given to government].

Q: to Ian – Has an analysis been done to ensure level of funding is enough (in spill preparedness or response funds in different jurisdictions)? A: Did not address this question in our initial report and survey of jurisdictions – worthwhile doing in a next step. A: Scott Wright (WCMRC) – Fees increased in California. They have \$54 million and \$54 million in insurance for a catastrophic event.

Q: to Ian – In doing an analysis for funding, do you first look to see if there is a need in BC? Has there ever been an incident of non-funding? A: There has been a lot of effort in BC to ensure that spills are covered – PwC recommends avoiding duplication.

Q: to Ian – Could you please elaborate on support of response activities, has the nature of researched needed been explored? Or the need of capacity for Universities to train responders? Dollars set aside for research? A: In my funding experience, many have different components within the fund. There is more to consider than spill response (e.g., research, community support) when building a spill response funding mechanism.

Q: to panel – A lot of the health effects are chronic (e.g., carcinogens) and costs fall to the government. Big concern is there is adequate insurance in place so that after a company is gone (e.g., Arctic mine where the company went bankrupt) there are adequate provisions to cover potential costs. Response from

facilitator – there is no panellist able to speak to this question for the BC Government. Could be covered in more detail at another time.

Q: to Capt. Scott Schaefer (Rtd.) – What is the reason that inland has not been a focus (for California effort)? A: Focus to date has been funding marine oil spill response. Gaining political and stakeholder support to fund the inland oil spill response program has been a challenge.

Q: to Scott – Missing information on a federally funded program from a trust fund? A: Pacific States Task Force – California's concern over bunker spills went west coast wide. Requirements on the West Coast are stricter than the Gulf. All Pacific States go beyond federal requirements.

Q: to panel – It seems that liability fund limits and thresholds aren't indexed to inflation. Is there a reason for this, and can this be addressed so limits don't become too low over time? No initial response/comment.

Day two morning plenary: The Canadian railway approach to spill preparedness and response

Speakers: Curtis Myson (Railway Association of Canada), Kevin Houle (Canadian Pacific Railway), Normand Pellerin (Canadian National)

Q: to panel – would like to hear more about large scale training exercises. A: Curtis Myson (RAC) Undertake simulated accidents, e.g., a school bus hit by a train for medical preparedness. Regularly doing table top exercises with communities and fire departments. Large scale exercises are done once every 1- 2 years. A: Normand Pellerin (CN) – recently did an exercise on the Skeena River. Among the lessons learned were that access can be very challenging, as well as having rapid access to trained personnel able to do that type of work.

Day two plenary session 3: Effective planning – risk assessments, spill contingency planning and geographic response plans

Speakers: Chip Boothe (Washington State Department of Ecology), Josie Clark (US Environmental Protection Agency), Mike Munger (Cook Inlet Regional Citizens Advisory Council), Dr. Ziad Shawwash (University of BC, Civil Engineering)

Q: Could you comment on the pros and cons of an area plan (e.g., engaging local interests versus coordination of agencies)? A: Josie Clark (US EPA) – We have an area plan, it is a 3-state plan. There are merits and challenges of such a large area. Typically small area plans (e.g., County) deal with area-specific issues and have more involvement of local interests and agencies. At the Federal and State level, staff is spread too thin to participate in all local plans. The trade off with the 3-state plan is that you have low connection to locals but better cooperation and working relationships among the agencies that are involved across the larger area. With a small area plan committee is easier to include locals.

Q: to Chip Boothe (WA Department of Ecology) – An observation from Chip's speech – tankers larger than the US allows are nonetheless capable of transiting through our shared waters to the BC Kinder Morgan site. This is an unresolved issue. Why has Washington State limited the size of their oil tankers? A: Washington State originally imposed 125,000 tons dead weight to limit the impact of a catastrophic event. Federal Court case struck down the State requirement as pre-empted. Federal government (U.S. Coast Guard) published federal rule imposing the same tanker size limit and was able to ensure it is enforced. Law reads only for vessels bound for US ports – and not ships transiting the waters to and from Canadian ports.

Q: to Chip – Railways as a gap – have partnerships been explored? A: Chip – There have been presentations from railways regarding their protection and risk mitigation strategies. Incidents alongside

rivers is a high concern given the projected huge increases in coal and crude oil transportation by rail. Working within Washington State to review existing contingency plans to ensure they are adequate for the increased risk of the projected scale of rail movement of oil. Exploring all risk factors to communities (e.g., accidents, coal dust, emergency rescue access).

Q: to Josie Clark (EPA) – “Lessons Learned Task Group” – how do you transpose lessons learned around the country (e.g., Kalamazoo event)? A: We don’t have a good system for doing this. That is the reason we convened that specific Task Force this year – to identify how to better translate and communicate “lessons learned” from individual events into the area plan. This is their task for this coming year.

Q: There is a difference of tracking of plans between Mike (Alaska) and Josie (EPA) – how does this affect the use of the plans? A: The Cook Inlet RCAC and associated geographic response plans are part of area contingency plans. RCAC has a stronger citizen component than the 3-state plan.

Q: Is there any plan to move the program (spill contingency planning and geographic response plans) inland? A: No, funding is drawn from a coastal program

Comment: WA has a similar program for spill preparation – e.g., trailers placed in marinas in areas where equipment isn’t generally available – this has been effective

Q: [received in writing following plenary sessions] – (1) What section within the ICS would volunteer management be placed within? A: Volunteers can be handled through the Liaison, through Ops, or through the Wildlife Branch. The policy in the NW Area Contingency Plan is that volunteers who are affiliated with a volunteer organization will be used preferentially. (2) Would there be a separate unit/branch for operation/implementation for putting volunteers to work? A: Yes, if that is what makes the most sense. The ICS structure can accommodate that

Day two plenary session 4: Effective environmental remediation, restoration and monitoring

Speakers: Ian Zelo (US National Oceanic and Atmospheric Administration), Dave Byers (Washington State Department of Ecology), Greg Challenger (Polaris Applied Science Inc.)

Comment: If you have seen an oil spill ... you have [only] seen one oil spill – no two are the same

Q: to panel – How is it possible to account for First Nations’ cultural interests to be compensated in a NRDA? A: some things (e.g., cultural values) can’t be measured. It is possible to look at the services (e.g., ecosystem services) that are lost over the period of recovery and also to look for areas (e.g., degraded eelgrass beds) where restoration efforts could replace an equivalent value of ecosystem services. However, these would not fully address or necessarily compensate for loss of particular cultural values.

Q: to panel – Are there processes to incorporate consideration of cultural values? A: Goal is to make the environment whole again. Interim loss of use, any services lost are compensative – cultural, maybe can’t be replaced. Restoration of environment is key.

Q: to panel – Key need for technical data, is there a need to share information (e.g., mapping/technical data) with First Nations and others? A: Area subcommittees could answer better, there is no replacement for local knowledge, key is engaging outside experts and local knowledge. If you are successful and don’t experience a spill for many years you could lose institutional knowledge on how (and where) to respond to a spill. There is no substitution for local knowledge. A: WA has mapped FN locations in general terms – responders need to talk to First Nation cultural archaeologists – underrepresented in present system. A: Aware of one event where a separate settlement was negotiated with the involved Tribe – however, it was a private settlement so we don’t know if the Tribe felt that it received a full settlement for all lost values.

Q: to Greg Challenger (Polaris Applied Science Inc.) – What does “restoration” mean? In Silvertip example ... surveys were terminated. Does that mean it was completed within 6 months? A: Services

were completed within that time (6 months) to determine whether more clean up was necessary (and this goes on after the initial response and assessment period). Getting areas to a condition where they can recover on its own – that is the goal. A: Depends on each spill. Restoration activities include a wide range of things that can be included in compensation. If you can identify a project to show benefits to resources impacted by a spill – that can be a project (e.g., purchase of vacuum trucks to clear storm drains of road runoff and oily materials to reduce entry into marine ecosystem – this as approved as part of one NRDA process). A: A pilot station can be another example – staffing of a pilot station located away from a vulnerable (reef) ecosystem to reduce threat.

Q: to panel – What about lifecycles (and variations in temporal distribution) of species? A: Taken into account in timeline – how much injury is done to be fully complete. For example, in Maryland, looked at over 15 years when considering impacts.

Q: to Ian Zelo (NOAA) – Regarding NRDA and the cost of research/assessment to determine the extent and costs of damage/losses – is there a precedent based on WA model so that there is not duplication of research? A: A compensation table approach is most useful with a relatively simple spill scenario. As a spill gets larger, affecting more resources and habitats, a pre-approved formula type settlement becomes less reasonable. It becomes difficult to account for all the variability using this method. In these cases a Federal approach is used and NRDA brings in resource experts to design and implement studied designed to demonstrate and scale injury. For small spills, the WA system works well. For large spills the need for the Federal process is clear. For the spills in between we have to decide which will work the best. This may even mean that we start with the WA system and transition to the Federal.

The OPA regulations define assessment costs to be reasonable if they don't exceed the cost of the restoration. Under most cases this is the standard we hold ourselves to. In some instances (like spills in very remote locations) we have to reconsider what is reasonable because very simple tasks are expensive in these places.

Q: To panel – (1) You described a 75 mile spill along a river with unique plant species – where do you get the native species for restoration? (2) How do you deal with invasive plants (i.e., prevent invasive species replacing native species)? A: “Seed banks” of native species are available. “Self design” – typically a seed plant exists in sediments, feet/boots moving along the bank can some times help with reseeded the area in wetlands (and other times disturb sensitive areas). Need to have a plan in place beforehand – sources of plants for restoration and areas where special access considerations need to be in place. A: If the native species can't be replaced, then it becomes a compensation consideration – how to balance the injury (e.g., another area that is degraded and can be restored in “compensation” for the degradation due to the spill – “no net loss” guideline). A: Invasives can sometimes prevent natives species from re-establishing – an issue. A: Invasive species management is built into NRDA project where they are a concern. For example we consider where we get soils and sediments if we have to bring them in, the quality of our seed sources, and invasive species percent cover in implemented projects. If the plant mix specified in the restoration plan is not achieved then the Trustees can require additional work. Additionally, invasive species removal is often used as part of an NRDA restoration package (e.g. removing invasive plants or rat eradication on an island). Project would track – want to know what the concerns are ahead of time – will also look downstream.

Q: Fear of NRDA becoming huge for a big spill – research costs. Is there a precedent where you come to an easy settlement using a formula? A: No, not yet, as publicity increases so does controversy. Dedicated studies provide the detailed information we need to address the concerns of the public and their representatives. As publicity increases so does controversy.

Comment: Consider the concept of a “reopener clause” – to address impacts that may only become apparent or emerge over the longer term (e.g., Exxon Valdez settlement includes this provision). A reopener is possible under a NRDA settlement. It would be part of the negotiated legal agreement between the Trustees and the Responsible Party.

Day two discussion group 3: Risk assessments, spill contingency planning and geographic response plans

Speakers: Todd Hass (Puget Sound Partnership), Chad Bowe chop (Makah Office of Marine Affairs) and Fred Felleman (Consultant – Makah Tribe); Elise DeCola (NUKA) and Brian House (MER); Randall H. Scott (Priority Solutions & Training Group)

Q: In WA Tribal Governments trained and involved in spill response planning and response – involvement and ownership are very valuable. One ongoing issue in NW region 10 is conditional approval of Tribes for application of dispersant – agreement is needed before application (and in a spill response situation decisions may need to be made very quickly). A: Local govt personnel in California are trained in ICP – share language and able to work with ICP.

Q: to Todd Hass - What is the website contact for your organization? A: Puget Sound Partnership – oil spill response information can be found at: <http://www.psp.wa.gov/oilspills.php>.

Day three plenary session 5: Engagement and communications – the importance of building relationships and meaningful dialogue

Speakers: Leah George-Wilson (Tsleil-Waututh First Nation), Timothy (TJ) Greene (Makah Tribe Chairman) and Chad Bowe chop (Manager, Makah Marine Affairs), Chris Battaglia (Focus Wildlife), Coleen Doucette (Oiled Wildlife Society of BC), Nhi Irwin (Washington State Department of Ecology)

Q: to Leah George Wilson – Given the needs of developing countries for resources to improve standard of living and recognizing the improvements made in the past 30 years in reducing risks and handling spills, do you support a pipeline going through BC to nations that really need it (e.g. China, India)? Or what would it take for you to support one? Facilitator comment: Not a subject for this symposium. A: Leah George Wilson – Strong opposition to the Kinder Morgan project/expansion. Would we support the transfer of product through our territories for people who need it – how do you define need, standard of life? Sustainability? We are in this together – as a World we should focus on sustainable ways and decrease our footprint.

Q: to panel – How can we know the long term human consequences of oil spills? What precautions are in place for people dealing with petroleum products during cleanup (e.g., oiled wildlife)? A: As it is a dangerous substance, we take every precaution for those involved in spill response (e.g., safety briefings, Tyvek suits, handling procedures) we have come along way on safety for volunteers. Education is an important element. Personally, not aware of studies on long term health effects on clean up crews. Very serious issue keeping animals *and* people safe. A: No studies have been completed that I am aware of – major reason for protocols and involvement of trained personnel and volunteers.

Q: to Nhi Irwin (WA Department of Ecology) is there insurance for volunteers? A: There is no explicit Washington state legislation to cover this. We could ask for a legislative fix to language to include coverage for oil spill volunteers, but this may not be likely since the intent of this provision is for search and rescue and natural disaster incidents. This is an issue that is still being worked out.

Additional comment (from panel member): Also issue of released animals (e.g., birds) being safe for consumption following release. In the Kalamazoo experience, animals were banded (indicating that they had been exposed and cleaned) and warning signs were posted during hunting season. Unfortunately bands became a trading item on the internet with banded birds being targeted for additional hunting effort. Lesson learned for the future – need to inform and involve local groups, including hunting groups, of clean up effort and need to protect released birds from targeted hunting effort.

4.5 DISCUSSION GROUP NOTES

Discussion group 1: Response standards and world leading spill response:

Question A.1: What are the key attributes or principles of world class or world leading response standards?

Facilitator – Tyler Keith **Recorder** – Alex Grant

Group 1:

- ♦ Effectiveness – field proven
- ♦ Consistency in applying regulations
- ♦ Proven elements based on management system – ICS
- ♦ Common ICS and language
- ♦ Efficient
- ♦ Subject management experts to oversee
- ♦ ICS in a global management system
- ♦ Consequences for failure to adhere – not just a cost of doing business for the spill
- ♦ Scalable, achievable
- ♦ Adaptable over time
- ♦ Best available technology
- ♦ Response based on outcomes
- ♦ Realistic endpoints
- ♦ Risk based standards
- ♦ Acknowledge commitment to regularly train, test, exercise
- ♦ Collaborative approach for all parties
- ♦ No benefit to top down government involvement
- ♦ Works class – do we want it? How to set standards? Where to we get role models?
- ♦ National, international, ISO – CSA standards
- ♦ The company (e.g., oil lobby) doesn't set the standards – e.g., California fuel economy by government was a success
- ♦ Professional training standards, certified energy manager
- ♦ Legislated
- ♦ Safety is a priority
- ♦ System standard includes work plan, spill response capacity including funding

Group 2:

- ♦ Meet society expectations
- ♦ Adaptive
- ♦ Science to understand
- ♦ Balance achievability with benefit
- ♦ Risk based end points

- ♦ Transparent
- ♦ Not self serving
- ♦ Emergency response – ERAP
- ♦ Must define world class
- ♦ Affordable has negative connotations
- ♦ Achievable wildlife response – New Zealand, Alaska
- ♦ No funding in Canada – for oiled wildlife
- ♦ Balance prescriptive model – must be flexible – every spill is different
- ♦ Define phases of responses and apply standard to each
- ♦ Manage expectations – think / benefit analysis

Group 3:

- ♦ Consistent auditors
- ♦ Fairness
- ♦ Outcomes realistic
- ♦ Continuous improvement
- ♦ Reputation of regulator – eliminate gaps & duplication
- ♦ All stakeholders
- ♦ Sharing of information
- ♦ Response standards

Question A.2: Various industry standards (voluntary and mandatory) apply in BC. Consistency is a key value. How can a consistent application of standards occur within a sector when it is voluntary? How can a program be implemented consistently across industry sectors? What are the barriers to consistency? What are tools to overcome them?

Facilitator: Duncan Ferguson

Recorder: Ben Vander Steen

Group 1:

How can consistent applications occur in a sector when it is voluntary?

- ♦ Clarification on what is meant by a sector was raised; differences within an industry
- ♦ Trucking has consistent training and consistent response packages, even though it's voluntary – there is consistency
- ♦ Peer pressure promotes voluntary membership
- ♦ You need a “threat” you can do it on your own, but if you're not doing it we'll enforce
- ♦ You need a fee. Register with government. To ensure consistency. Or a permitting process
- ♦ Washington State's example discussed – as they moved from voluntary to regulation. Representation from Washington State noted that you could have both. However, to ensure compliance – with those actors who are not meeting a standard – you need a hammer.
- ♦ Problem is, first thing you cut when budgets are tight is training (as it relates to emergency preparedness)

- ♦ It is a process. It starts as voluntary, until industry demonstrates voluntary doesn't work, then the regulators come in and it has to be mandatory. In early days it started as voluntary and work together, but once you have the one element that doesn't do it you need regulations.
- ♦ You can incentivize voluntary standards as well. For example: there are voluntary requirements for vessel operators – where speaker is from on East coast – to make a notification. If they chose not to make a notification, and then have an accident, then they are subject to TRIPLE PENALTIES.
- ♦ Mandatory requirements and follow-up audits are easier to enforce and ensure compliance. Enforcement is easiest where there is a mandatory requirement to refer to.
- ♦ It is welcome if there are enforceable standards – from the oiled wildlife perspective – because they we can point to a rule and know who is responsible for what. We know how many animals to save.
- ♦ A mandatory regulation makes the conversation easy to have with those being regulated, but often we also find that those we are regulating have gone above what is required (From a speaker who has tenants).
- ♦ There is a risk though, if the standard is "down here" and the industry is "up here" then the standard may keep rising and rising.... does that impact costs? Or does it reflect efforts at continuous improvement?

How can a program be implemented consistently across industry sectors?

- ♦ Get some umbrella legislation that covers all sectors (e.g., right away have ICS and responder immunity).
- ♦ Ask the question, does government have to do it, or can government?
- ♦ One way to get consistence is to ensure certain environmental standards/endpoints are met. Put more emphasis on that, ensure your standards are up to date, because right now BC has very out of date standards (e.g., pH sediment standards [1981]). Focus on endpoints.

What are tools to overcome them?

- ♦ Find the industries that aren't acting and offer them tools/approaches from other sectors - show them what they need to do. BUT – if they are not motivated then it sounds like legislation is needed.
- ♦ Is training an obstacle for some industries?
- ♦ Depends on the industry, in the pipeline sector there are people who have been working for 20 years, in small communities, it's a good job. WHEREAS – other industries don't have the same operating history, shorter term employees. It is a challenge for these sectors to buy in – how do you get the small operators into the fold and convince them it's the right thing to do. You'll need a "HAMMER."
- ♦ From the Washington State example – if you're a company with a lesser risk you do have an opportunity to argue your case and provide an alternative way to meet a standards (administrative discretion).

Where should BC be positioning itself on its standards, does it want to be world leading?

- ♦ We seem to be jumping back and forth between strategic and tactical goals here. "WHAT BC WANTS" (strategic) versus "HOW INDUSTRY MEETS IT (tactical). Should be looked at separately. [It was noted that we are working at both...]
- ♦ Will your politics allow it?
- ♦ Look at all the programs out there and pick and choose elements that are out there. At the end of the day we may be at the 90th percentile, and that'll be good.
- ♦ Standards should be linked to the risk.

One thing that is most important out of the group, what would that be [One individual's view]?

- ♦ Flexibility and enforcement. Get out a system that is flexible enough to meet a big guy or a small guy, but also have that stick at the end of the day to enforce what you've asked for.
- ♦ You need consequences. It's always the same bad actors on the list, and that's because they do not face any issues. It is hard to argue for more enforcement, but if you are a good operator you shouldn't have to worry.

Barriers to consistency?

- ♦ Various levels of sophistication of operators/resources.
- ♦ Lack of mandatory standards.
- ♦ ZC246, we expect that to be mandatory for National Energy Board regulations and will be mandatory/national.

Group 2:

How can consistent applications of standards occur within a sector when it is voluntary?

- ♦ I think there needs to be a standard of care. If people violate that standard, then you haven't met the requirements. Asked how is that voluntary? Once you check them, they could be fined for not meeting the care and doing due diligence.
- ♦ What if voluntary is not good enough? What if then spills are happening more often or being cleaned less well.
- ♦ How can we get there on the spill size? Like moving operators into one project corridor, how can we actually get things to work?
- ♦ A lot of voluntary standards are a good way to segue into mandatory requirements. Regulatory standards protect them a lot more because it is something everyone to meet. The good actors do it already, and this evens the playing field.

How can a program be implemented consistently across industry sectors?

- ♦ Need sectors to collaborate and communicate clearly and consistently. Ongoing dialogue needed. Continuous improvement process. Do analysis on what people are doing elsewhere.
- ♦ The “three C’s” of the conference [communication, cooperation, collaboration] are really key.
- ♦ Do a review of various industry standards that are out there. Which ones should we adopt? Which are voluntary now but could be mandatory in the future? Review the voluntary ones, discuss them, look at what sectors have in place, say "those are the best ones" adopt them, and let a level playing field take hold.
- ♦ Look at voluntary standards, review them, adopt the ones that are reviewed/considered the best as mandatory.
- ♦ Get industry, government together to review this stuff, and then get them to recognize the best ones.

Ultimately, does the public believe industry is doing a good job just because they say they are?

- ♦ What about an external audit by another group.
- ♦ A voluntary standard system that operators apply to and receive a certification for. Incentive to do this? The incentive becomes advertisable, sends the message – the company is going beyond.
- ♦ Insurance companies already keep operators clean, if they keep having spills then they have the financial hit.
- ♦ Community exercises get good feedback, when you engage all stakeholders in spill exercise work. Once it is done the public has positive feedback.
- ♦ People don't always know the programs that are out there to help, so communication is key.

- ♦ Need to have outreach to various communities, bring in local governments, contractors, etc. Let the community know what dangerous goods are being moved through their communities. Let them see the response capabilities that are out there.
- ♦ It's not just communication, but true engagement of letting 'them' have a say on what your plans are.
- ♦ While regulations have to be 'specific' there should be two types: one that is broad overview of what is required, and then a second set that is specific and outlines technical requirements.
- ♦ The regulatory system is a dog's breakfast, it is intentional, it is so confusing to understand what the regulations are.

What are the appropriate level for these standards to be at? World class?

- ♦ Just walk out the door, take a look at this environment, this is a place where world class should be.
- ♦ Ministry of Environment shouldn't be disengaged from the Environmental Assessment process – don't cede to the feds.
- ♦ Do it right once, get it right from the start. Pick the top level the first time
- ♦ You don't want to be so prescriptive that you then miss the best outcome. The “HOW” appears to be the best, but the “RESULT” is not necessarily achieved
- ♦ Flexibility is key.
- ♦ Be something that is modelled after, be the stepping stone, but in ten years you might be exceeded.

Group 3:

How can consistent applications of standards occur within a sector when it is voluntary?

- ♦ Include an education component with the standard – explain exactly what it is.
- ♦ Standards are developed for an industry sector. They are consistent for the people using them. How can you ensure everyone in the sector uses them?
 - There are good solid standards for those using them; they are consistent for those using them; but does everyone use them?
 - This goes to the gap analysis – make sure each member of a sector is involved in using them.
 - What about level playing field. What happens in an industry if you are in a sector and people you know aren't using the voluntary standards used by others? Industry has an important voice to set a standard, but without a regulatory component, not sure how you would have 100%.
 - Backstop for standards developed as a voluntary measure.
 - Possibly a reward program if you meet a certificate of rewards program. Reward for those who are; those who aren't meeting voluntary standards are punishing themselves by not getting compliance/achievement award.
- ♦ We talk about rewards, but what about some form of "kick" for those who are not meeting standards.
- ♦ Set standards; attach them to social and/or industry values – so that there is actual investment and commitment. Example of a value that fits in this category? Well, value of wildlife because wildlife is so high profile. How industry chooses to deal with wildlife can paint a picture about the industry.
- ♦ It can't, barrier is that it is voluntary, improvement? Make it mandatory...
- ♦ In the absence of the regulatory stick, it is almost impossible to get regulatory consistency. In voluntary, without a stick, no consistency.
- ♦ You have different levels: regulatory requirements that exist, then you have best management practices (in the framework of an association), then in that you have voluntary requirements that

members must meet and are non-negotiable on membership (99% of the time it works), but then there are gaps for people who are not part of the association.

- ♦ Those who are non-compliant can't work with members in a voluntary association, which acts as an incentive to meet voluntary standard.
- ♦ There will always be a need for enforcement work – so regulators would only need to focus enforcement efforts on those people who are not part of the voluntary.
- ♦ Focus enforcement on those who are not part of voluntary compliance.
- ♦ At some point you need a regulatory backstop.
- ♦ The market can drive people to implement voluntary standards. Negative perception from public could hurt a company and compel people to do something.
- ♦ Social license works better for some industries than others.
 - Those with a mine in a community may give it higher importance than a one-time operator, or single-ship tanker company.

How can a program be implemented consistently across industry sectors?

- ♦ There will always be outliers – even with alliances, industry associations.

What type of standards should BC consider? World class? On the leading edge? or...?

- ♦ Risk-based, what do you want to manage? You can have a world leading standards, mitigate all the risks, but no one can live up to what you want – so no lights will be on in BC (too expensive).
- ♦ World leading doesn't mean most conservative.
- ♦ Having worked in Africa and other areas, one speaker noted: this is definitely world class here.

Key message here:

- ♦ More collaboration and cross-pollination between sectors.
- ♦ Regulatory backstop is the foundation.
- ♦ The conversation is such a huge piece.
- ♦ Forums or ways to make cross-pollination happen?
 - CSA is a way to get the groups together, it doesn't have to be government-led.
 - How do you make this transparent to communities?
 - For this to work, you bring in everyone, it's not perfect, but many groups are brought in to bring in stakeholders.
 - Emergency planning doesn't start with industry, but with communities.
 - COMMUNITY INVOLVEMENT is key to cross-pollination.
 - Problem is, public may not care until it is too late, industry tried to get buy in before interest came up... hard to get people out to an event on emergency preparedness.

Group 4:

How can consistent applications of standards occur within a sector when it is voluntary?

- ♦ WorkSafe BC adopts standards as part of its regulations, Oil & Gas Commission (OGC) has regulations as part of its operations. Who doesn't have standards? Do we need a single standard? Do we need multiples?
- ♦ There are examples where regulators take voluntary standards and make them mandatory.
- ♦ Pool the resources into a single institutional spill responder – which you buy in to as much as you need.

- ♦ Ok, so you have a “mandatory plan” but you have a broader response organization, that members in the sector use. Pool response. Everyone signs in. Covers the big guys and small guys.
- ♦ Pooled response and regulatory standard. Should be: "a pooled scaled response" (example is going to be LPG emergency response corporation that acts on behalf of propane shippers).
- ♦ Sometimes it is hard for a regulator to "certify" a response contractor for a 'regulated' entity.
- ♦ Standards are set to be met. Then if companies want to be part of an association they have to meet an equipment list.
- ♦ Set your standards based on the best operators.
- ♦ Certify industry, and by default you end up covering all the contractors.

How can a program be implemented consistently across industry sectors? What type of standards should BC consider? World class? On the leading edge? or a little less or what?

- ♦ Bring your standards up to the level of the best operators.
- ♦ You have three basic principles going on right now.... the best, OGC, and then the wild west....
- ♦ You don't set out to set the worst standards. Aim high.
- ♦ Where do you set the limit....?
- ♦ Need to know what you actual have, what is used, distribution of spill risk in the region. If you ensure everyone has "that much" then compare to what the rest of the world has and then know where you stand.
- ♦ We haven't identified what the problem is. We don't really know if there's a big problem.
- ♦ This is about a pipeline or big marine spill, so who is this about? Rail.... well we've been doing it for a long time [rail spills do happen, into rivers... was brought up. We could take all the pipelines away, and should we still have spill response? Most spills are trucks]
- ♦ Question becomes... for the spills we have... are there problems with the response once it happens?
- ♦ Key message here: set enforceable standards, avoid overlap and duplication (or worse....), require appropriate recording and data collection.

Question A.3: What are the characteristics of a world class spill response model? (I.e. dedicated response organization, certification for response organizations)? Why? What characteristics have the greatest impact?

Facilitator: Kris Ord

Recorder: D'Arcy Sego

- ♦ Robust system is needed and those that have the most to lose when things go wrong have a right to say how the system is developed.
 - Whatever the world class standard develops into the system needs to provide the great confidence to the citizens of BC for effective spill response.
 - World class is making decisions quickly. Clear decision making process – not bantering back and forth to make decisions (e.g., in situ burning, dispersant use)
 - Have response tools considered upfront (risk based areas) – e.g., protocols for applying countermeasures (when you can apply then and when you cannot).
 - World class needs to be well known. People need to know about it.
 - World class to be effective needs:
 - Appropriate standard

- Appropriately staffed
- Available resources for deployment
- Realistic and sustainable, workable, implementable and achievable
- Site specific in high risk areas (risk based)
- Ability to bring order to the chaos
- Government needs to define what is world class? And what are the standards that are currently the best?
 - e.g., what is world class clean up? (defining endpoints)
- Public has the right to know and inquire (ask their own questions):
 - What area the hazards?
 - What is the response ability?
 - Public oversight is needed
 - Public big picture understanding
- ♦ Prince William Sound RCAC (Regional Citizens Advisory Council) is the model to use:
 - Prince William Sound is a funded model.
- ♦ Consistency in Governance:
 - One central government agency to coordinate response:
 - Consistence implementation of ICS
 - PEP, Wildland fires, and now something for oil and hazardous materials?
 - Foundational use of ICS
 - “ICS, ICS, ICS” (heard a lot)
 - Flexibility on approach
 - Clear funding mechanism:
 - How are response organization to be reimburses
 - Volunteer response don’t have training dollars
 - Tight tie to the regulators and the response organizations:
 - Integrated governance to bring people together
 - Communication among stakeholders
 - Sets expectations of what can be done
 - Builds trust ahead of time so second guessing contractors doesn’t occur
 - Response Organization (RO) can assist regulators with response plans
 - Industry and government working together in training and exercises:
 - Understand the flow of paper flow and approval process
 - Build in process for continuous improvement
 - Close on debriefed. Create improvement plan with SMART objectives. US Homeland Security does this.

- One size fits all models may not be best. Building blocks may be similar but tiered response may be best
- What is applicable to one organization may not be applicable to another organization:
 - Do what is best for transportation modes
 - Do what is best for specific products
 - Consistency on expectations and responses
Reasonable expectations (SMART objectives and performance measurements).
 - Consistent goals and objectives for interagency response (i.e., chemical producers and transporters).
 - What are they capable of responding to multiple products (chemicals, oil, etc.)
 - Risk Based response. Risk base with tiered supporting response.
 - Applicable to the terrain
 - Get back to ground roots for agency and regulator roles and responsibilities (government, NGO, and response orgs):
 - Clear on objectives
 - Explore what is already in place:
 - Don't reinvent the wheel.
 - Build on what currently exists.
 - Full integration of what exists. Use a model that gets people together to achieve common objectives and goals.
- ♦ Wildlife needs to be addressed
 - Transparent process
 - Flexibility based on circumstances
 - Ability to be site specific
 - Pull in expertise
 - Funding? How is it to be funded?

Certification/Criteria

- ♦ CERCA – Canadian Emergency Response Contractors Association:
 - Industry Certification
- ♦ Emergency Response Assistance Plans (ERAPS) – needs standards if performance is expected
 - What should become a mandatory standard? A lot of standards exist. How is this being addressed to ensure the little guys are operating and responding to this standard?
- ♦ Exercise no-notice drills
- ♦ What are the world class response standards/targets (mandatory standards)?
- ♦ Verification audits through a Canadian Association of Petroleum Producers (CAPP) committee.
- ♦ Equipment:
 - What are the world class response standards/targets (mandatory standards)?
- ♦ What is the process to inspect and monitor the decided upon “world class”?

- Unannounced drills

Training

- ♦ Funding needs to exist for local communities and local first responders
 - Local may not be able to do response but they can fit a tiered response as an initial response.
 - Norway – every firehouse has the ability to do initial oil booming. Then other agencies tier in to support the response, conduct clean up and remediation, etc.
- ♦ Exercise agreed upon plans.
 - Integrate levels of government with industry response
 - Northwest Area response plan

Enforcement

- ♦ Transport Canada (TC) enforces ERAPs
- ♦ Oil and Gas enforces their industry
- ♦ Not all products require an ERAP “by law”

What are the gaps:

- ♦ No 3 digit spill reporting number (like the US 811 number). Need to be universal number and consistent.
- ♦ No system for addressing wildlife
- ♦ Responder immunity (legal liability). Responder immunity. Something is needed like the “good Samaritan act)
- ♦ Lack of knowledge of what others are doing and what others need
 - No effective data base to hold information of what exists and what is available
 - Government doesn’t have this
 - Restricts ability to integrate response
 - One portal/one window to see what is out there and available via region/geographical response
 - One company to have the go to information

General Comment:

- ♦ People in this room are part of the larger organizations and are capable of responses
 - Smaller companies are not represented and don’t have the ability to respond.
 - No resources
 - Must be monitored by bigger companies.

Question A.4: What is the most effective manner to ensure continuous review and improvement of standards and responses? What role might a governing body or group (e.g., government/industry/stakeholder) play? What are the key attributes and accountabilities of that organization?

Facilitator: David Wetten

Recorder: Harold Riedler

Group 1:

- ♦ Cindy Ott – Non Governmental Organization – Help government in reviewing instruments. Role to accredit people to review contaminated sites, educate members, provide certification, work with confidence with regulated body and public.
- ♦ Best practices, guidelines e.g. Standards provide process every 5 years for example. Develop technical committee and subcommittees, to use existing groups (CSA). CSA provides input from experts to develop these standards.
- ♦ Laws, standards versus conducting self assessment, non punitive.
- ♦ Transport Canada – Ship source spills, Environmental Response - Standard and Regulations that can be applied for verification – checking once every three years, for example.
- ♦ UBC – BC Government can solicit consultants, industrial groups and provide feedback on education gaps and qualified students as part of developing experts.
- ♦ Greg Challenger – An area subcommittee brings together multi disciplinary associations and to bring common approaches and reduce the chance of stakeholder pieces falling through a gap.
- ♦ The system should start and end with the Regulator to ensure that there is inclusion and have closed gaps.
- ♦ State of Alaska uses technology to advise stakeholders and post information to allow for more effective notification. Must be a transparent process.
- ♦ Have regulator provide recognition to model performers.
- ♦ Government can serve as facilitator.
- ♦ Communication, awareness and education to share expertise. Identify data gaps and have education process adjusted to better serve process.
- ♦ Regulators set targets and allow private sector to determine how to achieve standards. Regulator to determine whether the standards are met.

Group 2:

- ♦ Drills (no notice drills) to be reactive as opposed to being proactive.
- ♦ Debriefing incidents and having an effective critique and have a subcommittee debrief.
- ♦ Determine a means of how to collect data (a process/guideline)
- ♦ Need a good data base.
- ♦ For example, it was mentioned that the Oil & Gas Commission (OGC) applying independent review process.
- ♦ Bench mark usually set by the standard regulators and should be a standard review and report to review the standard to see if/what improvements are warranted.
- ♦ Piggy back on the current Spill Reporting Regulation or Environment Canada 30 day report.
- ♦ Need to capture activities/spills that are not reported. How do non spills get captured?

- ♦ Who is capturing spill reports and catching data? Need to create access to data. Need to improve type of data collected. Easy, up to date, accessible, searchable data base.
- ♦ Sharing of information that needs to go on. If a problem trend is discovered, the government should be able to give compliance and verification in that problem trend area.
- ♦ Need to provide objectives so that the standards will address the objective.
- ♦ Higher degree of Risk to public safety determines where approvals are provided.
- ♦ Encourage Planning Standards as opposed to Performance Standards to avoid government liability.

Group 3:

- ♦ Have a broad cross section of stakeholders.
- ♦ Strong link to research and development.
- ♦ Small fulltime staff with links with organizations,
- ♦ Develop committees specific to the development of
- ♦ Need legal authorities to oversee procedure.
- ♦ Area contingency plans – federal on scene coordinators ensure that responsible party comply with their emergency response plan that was a requirement of the federal government committee.
- ♦ Start with National plans, regional plans and then influences responsible party's plans in consultation with response contractors, etc.
- ♦ Regular updating of standards in consultation with industry, journals,
- ♦ Need consistency in standards
- ♦ Planning standards, maintenance standards and response standards reviewed on regular basis.
- ♦ Response technologies haven't changed so there may not be much work to update standards.
- ♦ State committees that allows federal, state and county including provide better execution in local area planning/response.
- ♦ Have an ad-hock new technology meeting.
- ♦ Port of Vancouver has developed a centre of excellence in drawing experts and key regulators in committee.
- ♦ Need to coordinate Federal, Provincial and municipal business to prevent overlap and allow for a common method.
- ♦ Monitoring spills and learnings from around the world to improve our preparedness, prevention and response process.

Group 4:

- ♦ Responses – hotwash/debrief, what needs to be improved. Some organizations require responsible parties to provide a debrief and lessons learned. Communicate this well to all key internal/external stakeholders and a published report. Training exercise debriefs and learnings should also apply to this.
- ♦ There is a large knowledge gap between veteran and new employees and we need to transfer this knowledge. This includes knowledge gained from historical incidents and training debriefs.
- ♦ US Coast Guard requires training for new recruits and employ online training as a tool.
- ♦ Government set minimum standards but also provides higher achievable targets as a goal for improvement.
- ♦ Government needs to provide standards, but should not be the manager of funding.
- ♦ Good to open up standard development with stakeholders to review and improve – avoid status quo.

- ♦ Finding how to resolve having a government body to be inclusive in allowing stakeholder input, but not allowing this committee to become so large that it becomes unmanageable.

Discussion Group 2: Spill Preparedness and Response Funding Principles and Models

Question B.1: What key principles are necessary to establish the appropriate level of funding to undertake spill preparedness (planning and testing), and response?

Facilitator: Heather Bauer **Recorder:** Laurie Boyle

- ♦ We don't know what funding gaps exist
- ♦ What equipment/inventory exists
- ♦ What resources exist – Federal/Provincial
- ♦ What sectors are compliant? Where are risks?
- ♦ What caches/ agreements?
- ♦ Look at all sectors have risk
- ♦ There is a lot of funding in place – what known is in place?
- ♦ Is it capable to meet needs?
- ♦ If pipeline has funding in place where is rationale?
- ♦ Assessment by sector – find weaknesses
- ♦ Know what needs to be funded and look at formula to make equitable
- ♦ Shift responsible to responsible party – require (plan holder) to plan on reasonable worst case scenario – establish requirements – preparedness, drills, contract with Oil Spill Response Organization, WA (OSRO), capacity
- ♦ Question of funding – in BC are we asking for per barrel fee to pay for government services?
- ♦ One size does not fit for all Railway Association of Canada (RAC) – how do the gaps get fixed
- ♦ Administratively easy to implement
- ♦ Must be associated with risks
- ♦ Manage industries that are capable
- ♦ Set requirements so that industry does not have insurance
- ♦ Alberta – welfare fund – certificate of financial responsibility
- ♦ Enforcement
- ♦ Fee structure – simple
- ♦ A lot of programs are in place – if you don't thank we are dealing with risks then tell us and we will meet.
- ♦ Enforcement – how does it fit? Transportation Emergency Program (TEAP)/ RAC / Transport Canada – all have
- ♦ Fund cannot be appropriated!
- ♦ Custodianship must be joint
- ♦ Dedicated to spills
- ♦ Responsible party pays – recognition that short fall / lag with funding (Under funded Response Program (RP)) - must be prepared for this.
- ♦ Design fee – relevancy – need gap being filled – complementary to best practices being used

- ◆ What is current capability/capacity?
- ◆ Jurisdictional issues must be resolved – Feds or Province – must pay attention to both jurisdictions
- ◆ Risk assessment must be common in US/Canada
- ◆ Formalized inter-governmental function/coordinate – look at US Regional Response Teams
- ◆ 3 States (area) – plus Tribal participation
- ◆ Implementation of recommendations from PSOSTF cross border review
- ◆ Community involvement in consultation
- ◆ Industry should fund spill clean up – access to address immediately is vital

Question B.2: What level of risk (worst case, most likely) is addressed by current funding mechanisms (individual company or sector responses organizations) (Top Four). How can these risks be mitigated? What role would an integrated response organization have? What are advantages and disadvantages of an IRO?

Facilitator: Sagarika Saha **Recorder:** Norm Fallows

Group 1:

- ◆ Categorizing of resources prior to spills – National Resource Damage Assessment (NRDA)
- ◆ Taking inventories of resources at risk prior to spills occurring
- ◆ First Nations (FN) – Fund FN – access to deal with issues when a spill occurs to compensate for loss of habitat
- ◆ Natural Resource Damage Assessment for FN that are adversely affected
- ◆ No company that can remediate in BC
- ◆ Need funding to identify coastal communities resources at risk
- ◆ Use of consistent mandated response system – i.e., ICS to ensure commonality throughout BC
- ◆ FN lack of capability to deal with large incidents – require funding
- ◆ There are several companies / industry organizations that have in-house resources for response but not all sectors are the same and they are audited by different jurisdictions
- ◆ An IRO would use same recognized response systems thus achieve same standards
- ◆ Need for communications, gap analysis
- ◆ What is important to Canada (National) may not be important to BC thus certain components may not be addressed
- ◆ Independent Response Organization (IRO) needs to communicate roles of responsibility to public
- ◆ FN need to be more integrated in planning and response
- ◆ Needed to have more FN reps at this symposium to provide comments
- ◆ Having geographic response plans established would go a long way in preparedness to which an IRO and funding could provide
- ◆ Many organizations do planning but none of the organizations are coordinated.

Group 2:

- ◆ How do you divide up the sectors
- ◆ Focus on a sector level, develop standards for each sector better way to go

- ♦ Oil spill response organization compete with one another – a duplication of resources and some organizations not willing to share resources (competition)
- ♦ Better to set standards and let industry meet it – industry needs to demonstrate how they meet the standards – outcomes
- ♦ Determine risk – based upon risk – how will you meet to address the risk
- ♦ Response organization needs to prove capability to meet state requirements
- ♦ Disadvantage – sectors are too diverse to just have one IRO to deal with the various products
- ♦ Notable to keep up new technologies, methodologies
- ♦ California has no state resources, just provide standards and access
- ♦ Already world class in some sectors
- ♦ Need to define what integrated means – use of ICS versus sharing co-ops
- ♦ Should provincial government be overall integrated coordinator
- ♦ A lot of sector have to meet federal requirements and also meeting all the various provincial requirements – too much
- ♦ Do not consider the province to be a regulator when already governing sectors – Fed legislation
- ♦ Gap analysis – what is broken before fixing
- ♦ What areas need to be addressed – then you can designed IRO to address / these deficiencies
- ♦ US have to meet and can exceed Fed requirements – imposing more requirements adds more cost and need a cost benefit analysis to better see what the benefits are
- ♦ Divide the province into risk areas and that would determine where resources need to be placed – concern is by doing so can create disparity

Group 3:

- ♦ Certain sectors have done a real good job of planning for their sectors, they pay for this
- ♦ Question how far – end points - do industry need to go particularly Fed versus Provincial requirement, an IRO can provide consistency of end points
- ♦ *Canadian Environmental Protection Act* – finished when regulator says so
- ♦ Need to have stated end points for sector, oil & gas move clean end points
- ♦ Fear of creating duplication – some sectors very well regulated
- ♦ IRO – how would they interact at the federal level
- ♦ IRO – communications role at back end clean up – compliance and protection at the front end
- ♦ Another aspect is accountability and liability. MOE layers
- ♦ Gap analysis – needs to be complimentary and relevancy - assess whether it is required
- ♦ Program and plans prevention – mainly role of government
- ♦ How do you bridge between federally and provincially regulated industries – not same standards?

Group 4:

- ♦ Need to determine whether IRO can be everything to everybody
- ♦ Pro – IRO provide communication (coordination of information)
- ♦ Con – IRO spill level required for everything – high costs
- ♦ Response capability
- ♦ Western Canadian Spill Service (WCSS) has some resources (integrated) for oil patch – upstream
- ♦ Product versus sector – need to define – regulated or other?

- ♦ IRO – peace of mind for communities – public perception

Attached notes:

- ♦ Initial response
- ♦ Remediation (short term/long term)
- ♦ Wildlife recovery – immediate
- ♦ Responsible party and response plans – impacts extend beyond spill site
- ♦ Timely – spill caches, training, drills, regular intervals
- ♦ Clarify gaps to confirm the need /role / aim
- ♦ Address gaps in: resources, communications, standards, jurisdictions, knowledge

Question B.3: If a “spill fund” was implemented, what spill preparedness and response activities would be appropriate to address through the fund?

Facilitator – Sara Brace

Recorder – Terry Sawchuk

Group 1:

- ♦ Not clear what the ‘trust fund’ is – operational functions? Trust fund for no – Responsible Party (RP) incidents?
- ♦ What is currently funded? By who? Industry / government. For what?
- ♦ Would the fund be ‘global’ or would it be by ‘sector’?

Activities:

- ♦ Oiled wildlife was mentioned
- ♦ Ecosystems baseline studies
- ♦ Investigation & enforcement
- ♦ Long term restoration & monitoring (research)
- ♦ Geographic Response Plans
- ♦ Broad ICS training – local government, First Nations, public
- ♦ Orphan/mystery spill response & restoration
- ♦ Shared stewardship initiatives – govt./industry/FN
- ♦ Research – science based studies – products, fate, long term outcomes
- ♦ First Nations engagement – dedicated resources
- ♦ Preparedness planning
- ♦ Mechanism for capacity building for FN involvement
- ♦ IF authority of some aspects of regulation are granted to 1st Nations then access to funds can be granted to allow full participation

Group 2:

- ♦ First Nations concerns – baseline studies for pre-impact health so that end points can be appropriate
- ♦ Need to further engage 1st Nations to ensure info is adequate. Invasive species concerns as well.
- ♦ Stewardship engagement with First Nations need dedicated funding to ensure it happens
- ♦ Outreach training to people ‘on the land’ to ensure reporting of incidents is done and that there is trust that what they see and report is responsibly acted upon.

- ♦ Any programs and research opportunities should strive to utilize local knowledge and experts versus hiring (larger) consulting outfits coming from far away without local knowledge
- ♦ Funding for compensation should a harvest be cancelled or impacted as a result of an incident
- ♦ An expedited mechanism is needed versus a typical ‘insurance type claim’ that may take years and longer
- ♦ Enhanced equipment caches appropriately located based on risk and materials – perhaps enhanced local training and equipment availability beyond minimum or current standards
- ♦ Concerns that ‘unannounced’ drills do not happen

Group 3:

- ♦ California’s fund can only be used for response activities only – includes compensation if Responsible Party can’t pay
- ♦ Prevention/preparedness is funded out of a second levy/fund (admin fund)
- ♦ Two different funding streams
- ♦ There are concerns that this is a very long wish/laundry list
- ♦ A lot of the things on the list are already being done
- ♦ By industry – training / community outreach etc
- ♦ Need a comprehensive baseline studies for sensitive habitats/species also the ability to compile what data exists is very difficult to access (some kept secret)
- ♦ Have to remember this is not just about oil and not just coastal / marine

Group 4:

- ♦ Inland first responders are who? What jurisdictions exist? (Fire Departments are typically first responders in other jurisdictions)
- ♦ Better communication and rapid communication out to the public to better get out the proper information. There is a public perception the responses are delayed or ineffective
- ♦ Fund regional coordination (BC/States Task Force, etc.)
- ♦ Regional / National / International
- ♦ Need for cumulative affects. MOE is well positioned to do this.

Question B.4: If a “spill fund” was implemented, what principles should be considered to determine who pays and how much they pay? Any specific methods?

Facilitator: Jennifer McGuire

Recorder: Rob Dalrymple

Group 1:

- ♦ Big producers – bunker fuels, large volume users, cargo vessels versus tankers (marine) rail, trucks (inland) pipelines
- ♦ Oil versus other hazardous materials
- ♦ Clarification – marine or inland or both?
- ♦ Transportation versus stationary sources>
- ♦ 3500 reported spill in BC
- ♦ Materials may not be hazardous, but if spilled, can create issues re: Human Health (HH) or Environment (ENV)

- ♦ Hazardous materials or hazardous impact or both
- ♦ Scope (of fund) requires clarification

Principles

- ♦ Risk-based (who pays & how much?) – e.g., coal versus chlorine versus oil – different responses, impacts on communities, etc. – environment, social, human health
- ♦ Funding versus utilization of \$
- ♦ Establish baseline / threshold, but avoid huge total quantifies under the radar (collectively)
- ♦ Who pay? Transporters? Producers? Both?
- ♦ Re: chemicals, producers & transporters work together (e.g. Responsible Care Program)
- ♦ Fault? Should it be a factor, not in scope!!!
- ♦ Government contribution – matching formula
- ♦ Compounds/ materials? & who spills?
 - Basic statistics
 - Oil/gas/hydrocarbons versus other materials
- ♦ What about users?
- ♦ Establish needs – i.e., what will the fund pay for?
- ♦ Hypothetical discussion at present
- ♦ Industry hasn't yet bought into the concept
- ♦ Gaps? What isn't currently paid for?"
- ♦ Exercises, caches of equipment, training
- ♦ Where/what can the regulator complement?
- ♦ Whole lots being done now, want to build on what we've got, not tear down and replace (e.g., coordination of current capabilities – provincial and international)
- ♦ How often are liabilities / caps exceeded and government has to pick up the tab fort he rest – e.g., orphan sites, other unfunded expenditures
- ♦ Principles of implementation – complementarity and relevancy (expenditures) – i.e., what is the fund used for?
- ♦ Response versus preparedness, restoration, etc., drills, exercise
- ♦ Training government resources?
- ♦ Appetite of MOE for a hands on emergency response capability versus just governance and oversight – boots on the ground? Operations versus oversight – monitoring.
- ♦ How much? Volume through put/in transit

Group 2:

- ♦ Risk should be a principle, probability and consequence – e.g., low probability – high consequence
- ♦ Where are the holes?
- ♦ Clarity in purpose of the fund (needed)!
- ♦ Solution without a problem?
- ♦ Level playing field between sectors
- ♦ Preparedness by some should be rewarded
- ♦ Incentives to get more preparedness

- ♦ Organized versus not organized (bench marked against a standard – e.g., CSA)
- ♦ ‘Good sectors’ subsidizing ‘bad sectors’ – avoid
- ♦ Re: associations membership – voluntary versus mandatory
- ♦ Source of spill? In transportation, fixed facilities, pipelines
- ♦ Not just oil, but other materials that pollute
- ♦ Deleterious substances not just ‘hazardous’ – speaks to impact
- ♦ How to be equitable to all potential players?
- ♦ Re: gaps – is the funding sufficient and how accessible is it (time factor)
- ♦ Timing and sufficiency not just purpose
- ♦ Cost and recovery, how is it reimbursed when used?
- ♦ What if fund isn’t big enough for a catastrophic spill?
- ♦ First Nations – include FNs/ Tribal governments in funding implementation activities, capacity and training
- ♦ Premium breaks for insured parties (from insurance companies) if First Nations involved in response activities
- ♦ How do you prevent people from taking advantage if there being a fund?
- ♦ Response activities versus preparedness activities? Fund covers both?
- ♦ Tanker versus non-tanker (i.e., cargo / fuel tank(s))

Group 3:

- ♦ Risk based – dicey! Who determines the risk? Usually human error.
- ♦ Can’t drive without a licence, how do you audit and monitor to check that people are doing what they are supposed to do? Cost of doing business
- ♦ If you carry oil/gasoline, you pay into the fund – e.g., 5¢ /bbl
- ♦ Who? Insurance companies
- ♦ Fund should be independent of government/political influence (e.g., recovery of Queen of the North) – must be timely re access!
- ♦ Not general revenue! – i.e., a dedicated fund
- ♦ Serious business, there must be a fund
- ♦ Re: need, two perspectives: producers versus those impacted
- ♦ Optics as a factor in need – to the public, private funds are not acceptable
- ♦ Limited liability of spillers / responsible parties
- ♦ Game is changing (Asia-Pacific, raw crude oil versus finished product)

Group 4:

- ♦ In California operators required to have spill insurance so spill fund not needed if the right mechanisms are in place
- ♦ Re: land based, carriers don’t see need for a fund – federal / provincial requirements on response, etc.)
- ♦ All dangerous commodities not just ‘oil’
- ♦ Don’t really know who should pay and how much as problem hasn’t been defined
- ♦ ‘Cart before the horse’ [establish/confirm need for a fund before this conversation]

Discussion Group 3: Risk Assessments, Spill Contingency Planning and Geographic Response Plans

Response Form Question A.1: What are the key factors that constitute a world class risk assessment? Are these different from current practices in BC? If so, what are barrier to change? What change influencers?

Facilitator: Tyler Keith **Recorder:** Alex Grant

Group 1:

- ♦ Holistic – identify the management risks
- ♦ Everything is not equal
- ♦ First identify all risks, second prioritize risks
- ♦ Varies by sector – sensitivity – e.g., pipeline – risks vary with geography
- ♦ Different strategies will work in different locations
- ♦ Holistic, inclusive approach
- ♦ Not just defined by one agency (e.g., Washington State Vessel Traffic and Risk Assessment study involves a broad based stakeholder group) – study will be evaluated by a an ad hoc wide group to provide advice
- ♦ Gateway project – sector and regional differences – rail, truck versus marine
- ♦ Risks areas not all common and consistent
- ♦ Keep current and up to date – process to ensure always relevant
- ♦ Cost of quantifying everything
- ♦ Need both: 1 an analyst for numbers, 2. qualified (subject matter experts) for assessment – e.g., tug operators to prevent collision, e.g., extra personnel on bridge, traffic control, in and out bound lanes in Puget Sound
- ♦ We need to improve a world class system that exists now – pretty robust
- ♦ Mitigation after risk assessment – need action plan to mitigate risks
- ♦ Build consensus, bring in stakeholders – use collaborative approach for improving the power of the risk assessment
- ♦ Risk communication important to get better involvement and buy in of all stakeholders
- ♦ Objective must be transparent – plain language
- ♦ Probability and consequences must both be evaluated – assess gaps and vulnerabilities
- ♦ Survey of other systems worldwide that are successful/world class
- ♦ Fact based science
- ♦ How to define world class, best practices?
- ♦ Cumulatively holistic – risks not just compartmentalized, individual pieces
- ♦ Next steps for MOE – authority to require risk assessment, inventory of clear objectives (e.g., to reduce consequences, to involve spiritual cultural values)
- ♦ Constraints to best risk assessment – economic issues - multi-jurisdictional relationship a challenge
- ♦ Geographic Response Plan(s)

Group 2:

- ♦ Protection of treaty rights
- ♦ What has authority to speak to these issues?
- ♦ If not collaborative then could address or consider interest of other partners
- ♦ All speak the same language
- ♦ If evaluated right can find balance to protect and develop industry
- ♦ Common model with BC and World then can tie in all those activities
- ♦ Kinder Morgan, Gateway Coal, Cherry Point – all vessel transit – Neah Bay treaty land
- ♦ Solution – Canada & US should agree and/or adopt a single vessel traffic model
- ♦ Must find appropriate forum to raise issue
- ♦ Lead versus partners – inclusive – more cooperation, those at risk need to be involved – those that must deal with consequences
- ♦ If competing interests are discussed then can allocate resources better
- ♦ Risk must factor in seasonal effects, e.g., salmon spawning
- ♦ Local engagement required to build the risk assessment
- ♦ Barrier to change – proprietary information must be dealt with in a manner that maintains confidentiality – needs to be a means to share/collaborate
- ♦ How to involve stakeholders
- ♦ Good information will produce a good risk assessment
- ♦ Metrics required

Group 3:

- ♦ Own perception
- ♦ Risk – scientific defensible to prioritize the risk of rules
- ♦ Risk must be all inclusive to get a comprehensive structure
- ♦ Useful to get net benefit
- ♦ World class – meet / exceed all parameters
- ♦ CSA
- ♦ ERAP program looks at frequency and impact

Group 4:

- ♦ World class – always room for improvement
- ♦ Sustainable funding
- ♦ Risk assessment for an informed decision

Q: To Elise DeCola - Is Massachusetts thinking of expanding their program to inland waters?

A: No, not in the mandate

Comment: WA has a similar program

Question A.2: What lessons have been learned in world class programs about who needs to be involved in the risk assessment, contingency planning and geographic response planning processes in order for the process to be effective and trusted? Why?

Facilitator: Duncan Ferguson

Recorder: Ben Vander Steen

Recorder notes:

- ♦ All stakeholders whose interests are impacted, participating at the appropriate level.
 - Federal, provincial, local governments and First Nations, as well as ENGOs.
 - While broad participation is desirable, you don't want people who don't have to be there for certain aspects.
 - Flexibility – you have include additional participants as needs arise.
 - People with expertise.
- ♦ A strong project management team and clear deliverables.
- ♦ Local interests are critical (for Geographic Response Planning).

Important notes:

- ♦ For ENGOs in particular, financial support/other accommodations may be required.
- ♦ Use exercises to inform politicians and media.

Group: 1

Who needs to be involved with risk assessments?

- ♦ Level of risk assessments, a proponent/project always has to do its own assessment. In general, who needs to be involved? If it is a planning aspect, province/federal government, once you get to the project level then others need to be tied in.
- ♦ Once you get into the lower level plans, who would be beneficial to have in the process?
- ♦ Data gaps - spill trends and economic basis... makes risk assessment more anecdotal.
- ♦ We need data on: resources at risk. This is data from Fish & Wildlife Branch on species at risk and habitat. Not necessarily only from government, also possibly from First Nations and others?
- ♦ Local governments already do vulnerability and hazard risk assessments. There is an existing template and plan, it depends on the capacity of the local government depending on how robust those plans are.
- ♦ It is important to bring it down to a local level because they have a broader understanding of the types of risks that exist - things people at the higher planning level may not be aware of.
- ♦ Do we involve local governments? Some times and at some points.....
- ♦ It helps to have people who specialize in risk communication; it is a challenge to do effectively. Please expand on that.....? Some organizations have these people on their staff already.
- ♦ Also involve Health, Safety, and Environment people.

Who needs to be involved with contingency planning?

- ♦ Once you identify the risks, then you may need a new group of people with new expertise. With that said, you'd want to return to the people on the risk assessment side to see if they are comfortable with your results.

- ♦ You might have one larger body that breaks into sub-groups (e.g., one to deal with contingency plans).
- ♦ There's a lot of US participation here. Which may shift the focus towards joint efforts, whereas in Canada you are required for companies to have contingency plans.
- ♦ Would you see value in seeing broader participation in plan development? Depends who you want to educate, who is educating who and what is the educating being done.
- ♦ Would there be value in expanding participation to Geographic Response Plan (GRP) development, etc to a broader scope?
 - In Quebec, for example, industry got together with cities and said, why don't we pool resources so we each contribute to one plan. Keeps the momentum alive.
- ♦ How do we keep people interested in these processes? Is this an issue and if it is are there ways to maintain?
 - One way to keep it going is to make it a requirement?
 - Broad-based language on rules for local governments to have an emergency plan? It's not prescriptive, just states "you must have a plan".
 - Unfortunately, for BC we have risks from a whole bunch of things.
 - There is an expectation that the Canadian governments will be there in the event of an emergency.
 - Note that Citizen Councils were created to combat the complacency that followed the Exxon Valdez spill. Combat: reactive rather than proactive approaches.
 - We always ask – is what we are doing a good use of our valuable time? People have to feel like they are actually getting something out of the process. **PARTICIPANTS NEED TO SEE VALUE.**
 - So, once you've got a plan doesn't it have its own value? In US regulations each spill response operator has to have a plan with certain components and be reviewed every five years. The public gets to weigh in. The majority of public comments – frankly they are not very engaged in contingency planning – the process is valuable when plans are exercised, can you do what you said in the plan?
 - "Plans should be printed on absorbent material, so that when there is a spill they can be thrown down and absorb oil and therefore actually have value".
- ♦ It is more important for GRPs to have local involvement.... people who actually know where the sensitive areas are at.
- ♦ Careful not to fatigue people with planning.... you want them to come.

Group 2:

Who needs to be involved in risk assessment processes?

- ♦ From rail experience we have discovered that a large # of people have to be there. Who needs to be covered – tie in employees, partner carriers (rail). Communities need to be there, responders in the sector, regulators. Media needs to be involved to support community information.
- ♦ Need to separate it out, who needs to be involved in creating it and who needs to know about it. These are different people.
- ♦ The team creating the document has to be credible so that at the end of the day there is buy in.

- ♦ The actual work of a risk assessment is typically done by consultants, likely selected by a steering committee.
- ♦ In Canada – speaking from rail perspective – we have been responsible for doing the risk assessment, testing it and implementing it, and paying for it. Because we're responsible.
- ♦ Risk assessments are about bringing in key players.....
- ♦ From BC's perspective it would be good to know about the larger groups.
- ♦ Risk assessments vary, depends on consultants technique. It has been done, but now who is responsible for interpreting it.
- ♦ In the term "community" are we involved First Nations? They are essential to be involved. They must be included in any aspect of planning.
- ♦ Because of our relationship with federal government, First Nations would expect to see a presence of federal government. BASICALLY: all levels of government be there.
- ♦ It is important to be flexible and open. You need a broad group of people because you might not realize who all needs to be there, and you'll want to be ready to draw on them ASAP.
- ♦ You may need to draw in a broad set of subject matter experts.

Who needs to be involved in GRP creation?

- ♦ ENGOs – if they are not tied in they will "railroad" the process because they weren't involved. They will feel a need to now review the work separately from your process.
- ♦ Depends how organized the ENGO community is – that could create problems.
- ♦ Other industries that could be affected may also get exercised about these issues, in particular those that could be economically impacted. They could become a voice against other industry activity.
- ♦ Disposal of waste can also become a problem, that expands the geographic area of the spill and scope of people who need to be involved.
- ♦ Sometimes academia has some good information to weigh in on planning.

How do you keep people involved in processes like this? Has this been your experience? How do you go about it?

- ♦ Pay for it... pay for groups to attend. Or go visit their venue - where they meet, join their meeting.
- ♦ Frequent and regular communication.
- ♦ Exercises to develop participation.
- ♦ You need to design a process that allows meaningful and thoughtful participation.

Group 3:

Who needs to be involved?

- ♦ Those impacted by the risk are the ones who really need to be consulted.
- ♦ It's an educational process to understand
- ♦ Need to understand what is at risk – if you have someone in Ottawa telling you the risk, that would be a challenge, they may have a way to determine, but not know what the what is.
- ♦ You need the right mix of people. The people affected should have a voice, but in terms of content... broader, more specific, most specific... changes who needs to be there.
- ♦ Treaty. In introducing treaty interests to vessel traffic risks. We translated our treaty interests to "resource trustee." We represented our interests in a certain manner, and showed that we can participate in a positive manner. It showed that the collective had another interest to address. Treaty interests. The exercise of involving treaty interests improved the process... exponential enhancement by including - in the case being talked about - the treaty interests.

- ♦ In the US the tribes lay out their absolute interests on the table by showing their treaty. To be equals in the room – as Resource Trustees in the state of Washington, for example – we need other parties to be showing their true interests at the table.
- ♦ If we integrate treaty interests into the process, we improve it.
- ♦ How did you come to the decision – as a First Nation in Washington – that you wanted to be part of the process? First of all, view the identity as an inherent sovereign. We base everything we do on our treaty. We have been spilled on and we were the only ones who didn't know what was going on. And, those were our resources that were being oiled.
- ♦ Education + and outreach are important. You need to educate people on what the options and technology that are out there are.
- ♦ What happens is people need to understand the difference between why different government entities are in the room – what brought the other agencies in the room to the table.
- ♦ One thing done in Quebec for community contingency planning (it is called CMMIC) involves local governments, agencies, industry, and citizens – very local, no provincial or federal government involvement

How do you motivate people to be involved in these processes without the driver of a major spill?

- ♦ In California, we found we needed people in the room, so we provided small grants.
- ♦ Environmental Protection Agency (EPA) ... in efforts to get public involved, we've put in effort and then we don't hear back. It's a challenge. For now, we get materials ready so when interest does arrive - say following a spill - we are ready to provide them information.
- ♦ Public may not be the focus, general public that is, but community organizations. There's also the importance of trying.... showing you made the effort.
- ♦ Transparency is important, you need to invite public and speak in their language, making the process valuable for them and valuable for you. Keep it simple.
- ♦ Show data that is common and usable, GIS as part of planning that is available to the public. This is critical during a response as well. They want to see what is going on.

Returning to.... who needs to be involved:

- ♦ The more stakeholders you have the better.
- ♦ There are ENGOs out there with research components where they can provide value. Like with any process there is a strong need to keep things on topic and focused. There are expertise that can be brought, if you have people in the tent from start you may have a better product in the end.
- ♦ In the US, there is the National Environmental Assessment Act, which accommodates and provides a statutory role for individuals and ENGOs.
- ♦ If you have a chance - doing exercises, even table tops - that's a good opportunity to educate people on the process and what you're doing, why it is important and what you're doing in terms of risk assessment, GRPs, etc. At least let them know - it's a sales technique.
- ♦ Invite the media to exercises... open houses....
- ♦ It's all very well to have people aware of what is going on, but eventually - as part of the process - you need to have the PEOPLE YOU REALLY NEED, not everyone. You figure this out as you're going on... someone is missing..... then you gotta bring them in.
- ♦ Flexible participation and the ability to add people as you go along.
- ♦ Contractors and response organizations.
- ♦ Elected officials where you can... as an observer.

Group 4:

Who needs to be involved in these types of planning processes?

- ♦ Responsible party.
- ♦ All the technical people who know what the issues are. Subject matter experts.
- ♦ Peer working groups from industry.

Groups needed for risk assessments specifically?

- ♦ You need folks who are good at doing the modeling and analysis work – crunching the numbers
- ♦ NOTE FOR OTHER WORK: Navigational Risk analysis being conducted for Cook Inlet.
- ♦ If you don't have a risk management team – or a leader – you will have problems. Whoever is the loudest they tend to drive it all, unless you have a clear leader that allows all participants a level playing field.
- ♦ Strong project management team with specific goals that provides a level playing field for participants.
- ♦ Community organizations ... there always has to be a public buy in process for these to get public support.

Substitute GRPs for Risk Assessment, is public now more important?

- ♦ An all hazards approach may be desirable, which means you need a broad set of experts.
- ♦ You may have a requirement that states: Risk assessments are required by X Y Z groups, and public input is open at the evaluation stage.

Key message around this question for BC government:

- ♦ Whoever will be affected they need to be involved.
- ♦ If we have an incident we'd expect government at every level to be involved.
- ♦ Process manager is a big take away
- ♦ Make sure stakeholders are integrated somewhere in the process.

Question A.3: Who ultimately should approve risk assessments, contingency plans and geographic response plans? Why? What characteristics should that organization have?

Facilitator: Kris Ord

Recorder: D'Arcy Segó

Group Notes:

Process:

- ♦ When looking to operate or open a business, part of the process should be to have an approved plan in place. The plan needs to be accepted and approved.
- ♦ Geographic Response Plan (GRP) concept is similar to shoreline clean up and protection manual.
- ♦ No coordinated response plans – plans are individual to municipalities, industries, etc. The ability to coordinate a response is difficult and often missing.

Who Approves:

- ♦ Contingency plan submitted to one place and approved at one place, but the submitted plan is reviewed by multiple location – e.g., The public can comment on the plan, stakeholders should review and approve the plans through a coordinated body – e.g., 90 day approval process and the plan is made public to citizens and stakeholders.

- ♦ Risk Assessments, GRPs, & Contingency plans are developed by the industry.
- ♦ Contingency plans and GRPs are part of the process
- ♦ Submission requirement needs to be put in place.
- ♦ Standard must be followed when completing the plan.
- ♦ If there is a legal requirement for the plan:
- ♦ Standards and requirements must be met.
- ♦ Q – What does approval mean? Approval means enforcement. Who enforces that individuals hold a plan, exercise a plan, and the plan is acceptable.

Who should approve?

- ♦ Province should approve
- ♦ Some type of senior level of government
- ♦ Approval should tie to the legislation.
- ♦ Some level/designated authority needs to be the approver to ensure consistency. They need to have a risk assessment and technical response background. Not necessarily one person, but needs to be the same organization.
- ♦ Approval would need to be coordinated effort.
- ♦ Should be signed off by the person who is taking responsible. Plans need to be approved buy may have parameters. What regulators are overseeing the plan? These regulators need to sign the plan.
- ♦ Plans should be risk based. The Risk Assessment is part of the planning process:
 - Risk Assessments feed – GRPs feed into contingency plans. Not all contingency plans may need approval, but someone needs to own the responsibility to the plans and provide oversight.
 - The approver should be the person who is liable. Government should have an approval process. Approval process should incorporate a set of legal standards.
 - Risk – Risk assessment is not anyone body the risk needs to be assessing by multiply bodies to ensure a collective decision is made to determine the risks.
- ♦ The Ministry of Environment should (needs) to step up to the plate and take this on. This is a perfect role for MOE to coordinate and take responsibility for the approval process and final approval. Regulations that are prescriptive don't have an incentive for people to operate safer.
- ♦ When you spill when you are in compliance there should be less penalty that if you are not in compliance.
- ♦ If gross negligence exists = unlimited liability. If partial negligence = maybe a cap on the liability.
- ♦ Plans need to be tested.

Why is the approval needed?

- ♦ Need to be approved it you want a high level consistent approach to doing things.
- ♦ Government may not need to approve the risk assessment, but they could act as the facilitating body to coordinate the risk assessment.
- ♦ Public expectations.
- ♦ Minimal standards. Minimal needs to be high enough because some people will only do the minimal. There needs to be a base minimal standard (federal so it is consistent).
- ♦ Prevention needs to be considered. If you operate in a manner that the risk is of an incident is very low compared to someone else you should have the options to have less preparation in place???

- ♦ Planning standard versus response standard. Approval of plan does not take the liability for the plan (State of Washington signs the approval of the plan, but does not take any liability for industry ability to respond via the plan).
- ♦ If the plan is not approved, what does that mean? It should mean you cannot operate without an approved plan.

What characteristics should that organization have?

- ♦ Public accountability
- ♦ Technical background

Common:

- ♦ No one wants to have spills. They are costly, insurance increases, and its bad PR business.

Other examples of agencies that do this:

- ♦ Transport Canada accident assessments and contingency plans
 - Ultimate authority sits with TC and they assume the liability.
- ♦ Oil & Gas Commission (OGC) has a submission and approval process.

Challenge:

- ♦ Staffing - Is there enough staff to actually review and approve the plans???
- ♦ Inter-provincial movement of products - Who approves the plans in this process.
- ♦ GRPs need to be tested. You don't know the gaps unless they are tested. You really still don't know if the GRP is accurate until you actually have an incident.

Question A.4: How should plans be evaluated to ensure they are effective?

Facilitator: David Wetton **Recorder:** Harold Riedler

Group 1:

- ♦ Spill resources to be placed in locations to be most effective.
- ♦ Exercises help determine how effective a plan would be.
- ♦ Tribal government comment – need to ensure that the plan adequately provides understanding of various levels of government agencies roll in the plan to eventually benefit local/tribal government.
- ♦ Drill and exercise the plan to determine that all pieces are in place, do they provide timely support.
- ♦ Do a number of adjacent Geographic Response Plans (GRPs) relate to each other.
- ♦ Standard report card/check list above standards that can reach world class.
- ♦ Check – i.e., standards and effectiveness.
- ♦ There needs to be a common effectiveness among adjoining plans.
- ♦ Risk based approach reflected in the effectiveness of the plan?
- ♦ Planning standards used to allow more flexibility
- ♦ Use standard terminology. Can the plan be potentially used in other geographic areas
- ♦ Consider existing certification and assessment organizations – e.g., National Fire Protection Association, CSA Group
- ♦ Continuous audit, actual incident reviews, findings during training.

- ♦ Task forces and community engagement with feed back to evaluate effectiveness. Keeps it fresh and updated.
- ♦ Capitalization on local experts (fishermen, local operators)
- ♦ Post incident reviews with partners/stakeholders.
- ♦ Take as the plan owner your own initiative to review and improve the plan.
- ♦ Training and Exercises to have an effective and qualified developer of exercises to raise the effectiveness.
- ♦ Provide invites to appropriate agencies that to ensure inclusion in testing and exercise the plan.

Group 2:

- ♦ Live/realistic demonstrations are a good time to show the effectiveness and results.
- ♦ Good checklist in Oil & Gas Commission (OGC) web site as an example.
- ♦ Expect invitation and evaluation of regulator.
- ♦ Regulators (e.g., Coast Guard, EPA) conduct formal unannounced exercises to test readiness and exercised plan.
- ♦ Evaluators should be technical and/or qualified expert.
- ♦ Ensure regulator approves plans and therefore would be more inclined to evaluate plan.
- ♦ Industry partners audit each other (self regulators).
- ♦ Doing review with stakeholders (NGOs, agency stakeholders) to provide more eyes and ears and use live product.
- ♦ Live product will show whether equipment works.
- ♦ Check for potential overlaps and provide harmonization to ensure effectiveness.
- ♦ Need a dedicated regulator.
- ♦ If a plans evaluation fails, what would be the outcome?
- ♦ Peer industry self assessment.

Group 3:

- ♦ Exercises, drills and deployments with verification that the plan works.
- ♦ Unannounced exercise.
- ♦ Plan needs to be updated to capture lessons learned.
- ♦ Self assessment as well as external auditing.
- ♦ Peer review.
- ♦ Establish criteria to evaluate plans – standards (e.g., compliance statements), easy to understand and implement.
- ♦ Plans need to be concise and consistent.
- ♦ Do they comply with over-riding policy
- ♦ Routine exercises.
- ♦ Deploy and practice plans
- ♦ Table top exercises
- ♦ Plan development should have framework.
- ♦ Third party confirmation and audit.
- ♦ Orientation exercises to play devil's advocate.

- ♦ Testing multiple parties' plans in table top exercises.
- ♦ Ensure that you have adequate performance measures and provide what is a passing grade and quantify to gage improvement.
- ♦ Establish compliance levels and providing room for enhancing plan to be more adaptable to the specific need.
- ♦ Conduct unannounced drills can find big gaps.

Group 4:

- ♦ Regular status reports to authority providing what is done whether it is what was expected. Validate compliance with plan.
- ♦ Need to inspect to verify
- ♦ Exercise/test plan and provide feedback (debrief) – learnings
- ♦ Review real events to evaluate use of the plan.
- ♦ Legislate a debriefing process to real events.
- ♦ The responsible parties and participants have input to exercised plan.
- ♦ Include public information process that would encourage complying with and improving plans.
- ♦ Is the plan flexible to address needs
- ♦ Is plan reviewed and updated as needed and/or scheduled review.
- ♦ Community recognition/certification provided by that sector.