Summary Notes[1]

Oil Spills from Trucks: Prevention, Preparedness, and Response

A Public Roundtable sponsored by the
Pacific States/British Columbia Oil Spill Task Force
Portland, Oregon
March 24, 2005

ATTENDING: Wayne Coppel and Jim Roles, First Strike Environmental; Karl Vonk, Beneto Bulk Transport; Linda Kirkeby, Washington State Patrol; Bill Annen, NRC Environmental; Scott Porfily, SMAF Environmental; Jack Morris and Kevin Skow, Great West Casualty Company; John Sallak, Oregon Trucking Association; Tina Stotz and Alex Zecha, Washington State Ferries; Kerry McGuinnis, Vancouver Oil Company; Andrew Woods, Bulk Transportation; Dennis Redford, BC Ministry of Water, Land, and Air Protection; Lisa Curtis, California Office of Spill Prevention and Response; Lea Gaskill, Washington Oil Marketers' Association; Ron Schmidt, Bell-Anderson Insurance; Gary Lee, Paul O'Brien, Linda Pilkey-Jarvis, and Jason Reichert, Washington Dept. of Ecology; Keith Anderson, Wes Gebb, and Mike Zollitsch, Oregon Dept. of Environmental Quality; Janelle Brewster, Federal Motor Carrier Safety Administration, US DOT; Cholly Mercer and Brad Roberson, Rainier Petroleum; Teresa Jackson, RMCAT Environmental Services; Steve O'Toole, Oregon Petroleum Association; Traci Rohde, CHMM, NW Regional Environmental Health & Safety; Charlie Tindall, Blue Line Transportation; John Skowronski, Canadian Petroleum Products Institute; John Petersen, US Environmental Services; Jason Lewis, American Waterways Operators; Earl Liverman, US EPA, Idaho.
Staffing: Mary McLoud and Angela Parker, Oregon Department of Environmental Quality, and Jean Cameron, Pacific States/British Columbia Oil Spill Task Force

NOTE: Please reference Appendix I, the Roundtable Agenda, and Appendix II, Speaker Bios

MODERATOR'S OPENING REMARKS: Jean Cameron, Executive Coordinator, Pacific States/British Columbia Oil Spill Task Force

- Jean welcomed everyone and provided background on the Pacific States/British Columbia Oil Spill Task Force and its mission.
- She explained that the Task Force member agencies all deal with oil spills from trucks, and noted that their regional spill data for 2004 indicated that 28% of the non-crude spills were from vehicles, and more than 56% of that amount had been from trucks.
- The Task Force Members decided that one way to learn more from both the federal agencies that regulate trucking, and from the truck industry, was to host a roundtable on the issue. Jean thanked attendees for participating and invited them to introduce themselves.

KEYNOTE ADDRESS: Keith Andersen, Regional Environmental Solutions Manager, Oregon Department of Environmental Quality

- Keith noted that truck spills have the potential to do great damage to people, the environment and infrastructure.
- He also stated that the cost to address these events goes up rapidly as response is delayed, and is only likely to increase over time.
- Keith went on to offer photos of some of the significant truck spills in Oregon over the last few years, as follows:
    - A bunker oil cargo spill on Highway 20 in 2001 which impacted the Yaquina River (photo below);

[1] NOTE: This is a meeting summary and is not intended as a verbatim record of all presentations or comments made during the meeting.

- A truck spill on Highway 22 in 2002 which impacted Detroit Lake with potential impacts to downstream water suppliers;
- A spill and fire in Scottsburg on Highway 38 in 2003;
- A waste oil tanker spill on Hwy 42 in 2003 which impacted the Coquille River;
- A fire and spill (even when product has ignited, residual amounts have been found in the soil around and below the roadbeds after the event) in Amity on Hwy 99 in 2003; and
- Another event on Hwy 99, in Harrisburg, Oregon, in 2004.

- Keith noted that Eastern Oregon had also experienced a number of truck spills before these events in Western Oregon.
- He explained that response to truck spills requires:
  - Driver knowledge about what they should do and who they should notify in the event of a spill - for instance, drivers often spend too much time trying to notify their companies rather than reporting the spill to a emergency response authorities;
  - Responder knowledge– for instance, gasoline moves through the environment quickly and requires a sophisticated response;
  - Company knowledge about spill response requirements and planning – cooperative owners will arrive at solutions and see that spills are cleaned up earlier, thus reducing their overall costs; and
  - Insurance company knowledge about spill response issues and resource requirements can also affect the level of cooperation of the responsible party (RP), Keith noted.
- Keith explained that these factors are concerns because when one or more don't work well, a bad situation can get worse, a response becomes very much more resource intensive and costs go up rapidly.
- He also noted that, when it comes to DEQ's cleanup standards, the RP or their insurer often thinks that the agency wants too much and does not consider cost. On the other hand, other state and federal resource agencies or tribes may complain that DEQ wants too little, i.e., gives too much credence to costs and does not account for their needs/requirements. There are minimum cleanup standards in regulation and repairs of all damages are required for natural, public, and private resources impacted by the event, he explained.
- Keith anticipated that possible solutions to these problems would include finding other willing partners to address concerns, working together to get useful information out to stakeholders, initiating dialogue in more venues like this, being willing to recognize that for major events it is critical to respond very quickly and with adequate resources, and taking a hard look at prevention measures such as training, highway design for safety, drills, etc. DEQ is willing to talk to trucking and insurance companies regarding how they could reduce their costs and improve response. He

also noted that DEQ should talk with local emergency responders about the environmental aspects of response.

- Regarding a question about response resources, Keith noted that many times the Oregon Department of Transportation (ODOT) will call out responders. DEQ has some under contract and can do so as well if the RP does not do so. It was agreed that all parties would benefit from information regarding response resource availability in various areas of the state.

JURISDICTIONAL CASE STUDIES

Wes Gebb, State On-Scene Coordinator, Oregon Department of Environmental Quality

- Wes reiterated that there were eight tank truck spills in western Oregon from 2001 through 2004, and that there had been numerous truck spills in eastern Oregon and the NW region before that. Of those eight, two resulted in minimal releases and two in significant releases and responses. Four involved only the trailer (pup) tank and not the truck tank, three involved fires, and water was impacted in 75% of the incidents.
- Wes then reviewed the specifics of the January 27, 2001 tank truck accident on Highway 20 which released 5,800 gallons of fuel oil into the Yaquina River, as follows:
    - He noted that, while the "crises management" only lasted about 8 hours, the "consequence management" – cleanup and road repair – lasted for nine days. He reviewed the command structures during these two phases, noting that Unified Command and a Planning section were added in the second phase.
    - A total of 4200 feet of boom was deployed in 14 locations over approximately 15 miles of the Yaquina River. Crews utilized both hard boom and absorbent boom to contain and collect oil, and installed pompom strings and net at some locations for control of tar balls.

    - Both NOAA and the USCG Pacific Strike Team participated. In addition to setting up a command center, scat teams were deployed, additional cleanup crews were called in, macro-invertebrate, water, and sediment sampling was conducted, and ODOT had to repave sections of the highway which had been ruined so the road could be reopened. At least one oiled Belted Kingfisher was rescued and rehabilitated at the Oregon Coast Aquarium and then released.
- Wes then reviewed the details of a gasoline spill on December 5, 2002 on Highway 22, when 11,300 gallons of gasoline were spilled above Detroit Lake:
    - Whereas the crises management phase only lasted a few hours, the consequence management phase lasted for 12 days. Initial incident command included ODOT, local firefighters, and the police. The consequence Unified Command was more elaborate, including contractors with heavy equipment sufficient to operate around the clock.

    - Air monitoring systems were required for workers, and ODOT drilled down-gradient monitoring wells and pits. Aeration systems were installed to remove benzene from the surface waters.
    - The US Army Corps of Engineers led the Environmental Unit in the beginning of the response, then the US Forest Service took the lead. The unit had to develop dispersion information and model the spill trajectory.
- Both of these cases were investigated, Wes explained. The Yaquina River incident was caused by driver negligence and excessive speed. The Detroit Lake incident was also attributed to driver negligence since the truck driver crossed traffic lanes. He also noted that the responsible truck companies cooperated with authorities throughout both incidents.

Earl Liverman, EPA Federal On-Scene Coordinator, Idaho

- Earl presented four case studies covering truck spills on Highway 12, which runs east-west between Washington and Montana. The highway follows rugged country in the watersheds of the Clearwater and Lochsa Rivers in Central Idaho.
- The first incident was a tank truck release of 10,000 gallons of red-dyed diesel along the banks of the Middle Fork of the Clearwater River on January 6, 2002.
- The next three incidents occurred along the Lochsa River, the first on November 13, 2003. A semi-tractor with trailer released 6,300 gallons of red-dyed diesel fuel to an upslope roadside ditch which then reached the water (see photo below). Cleanup on this event took more than a month.

- The second event on the Lochsa occurred this past January; it again involved a semi-tractor with trailer which released 1,600 gallons of red-dyed diesel fuel to an upslope roadside ditch. Fortunately, there was no release to water in that instance. The spill was caused by another driver who tried to pass the truck on a blind curve. Cleanup took 45 days.
- The third Lochsa River event also happened this past January, 11 days later and 29 miles from the second event. It also involved a semi-tractor with trailer and 300 gallons of red-dyed diesel fuel released to an upslope roadside ditch which did reach the river. The cause of this event was inattention on the part of the driver.
- All these events occurred in the winter, when ice and snow can make Hwy 12 treacherous; nevertheless, many truckers use this route as an alternate to going further north or south on the interstates.

- It can take 2 to 6 hours for responders to reach these remote locations, Earl noted. Local, state, and federal responders are usually involved, plus local tribes or the US Forest Service (USFS). The Idaho State Patrol and Department of Transportation are usually first on scene.
- The USFS often provides communications support through satellite phones or landlines, since cell phones seldom work in these deep canyons; even communications during an event are complicated by the fact that the roads/rivers twist and turn and there are no straight lines involved. The USFS has also provided access to its fixed facilities with inherent amenities (i.e., ranger stations and associated buildings; conference rooms, copiers, coffee, etc.) which has been very helpful.
- The USFS also has trustee responsibilities in the area, and oversees restoration of both environmental and recreational values.
- Since the roadbeds are crushed rock that's paved over, spilled product can easily get into the road bed, requiring that several meters of the top of the bed be dug up.
- Boom is only effective in containing product in the river if put close to shore, due to the fast-flowing current (see photo above). EPA is working with the State of Idaho to develop Geographic Response Plans for inland Idaho, Earl noted.
- Earl described a number of significant environmental issues which must be dealt with during responses in these areas, including the fact that both the Clearwater and Lochsa Rivers are federally designated Wild & Scenic Rivers. Listed endangered species include bull trout and steelhead. Chinook salmon and Westslope cutthroat trout can also be found in these rivers, although they're not listed species.
- The drivers are seldom aware of the response steps that will follow and how long they will take. Earl noted. Even if an incident is caused by a third party, he replied during questions, the owner/operator of the truck is required by law to respond and cooperate in the cleanup. Earl reiterated that insurance companies could do more to reduce response costs if they promoted prompt response and thorough cooperation with the agencies involved.

<u>Paul O'Brien, State On-Scene Coordinator, Washington Department of Ecology</u>

- Paul focused on the Mid-Mac Enterprises tank truck incident on May 16, 2002, one of four truck spills in the NW Washington region lately. The Mid-Mac truck was carrying 8200 gallons of gasoline and diesel when it crashed in a residential area along Axton Road, a rural highway near Ferndale, 90 miles north of Seattle.
- 1,383 gallons of diesel/gasoline leaked from two of four cargo compartments, and 1,050 gallons of product entered Deer Creek and Ten Mile Creek, tributaries of the Nooksack River. The truck and trailer ended up laying across a private driveway. Ecology received notification from the county, not the owner/operator. The cause of the accident was attributed to excessive speed.
- Response issues included establishing incident management, initiating source control, removing remaining product from the truck, and protecting public health and safety. Truck wreck removal was also a priority, as was opening the highway, and environmental protection and cleanup. Air monitoring was required during response and removal operations.
- Unified Command included Ecology, EPA, Mid-Mac, and the local fire department. Media interest was strong from Seattle and local TV, radio and newspaper outlets.
- Public health and safety required addressing explosion, fire, respiratory and electrical hazards. 100 homes had to be evacuated and 300 people were affected. Residents were not allowed to return home until 24 hours later. Power lines which had been knocked down had to be restored, and a public drinking water intake was temporarily closed in the Nooksack River.
- Deer and Ten Mile Creeks as well as Barrett Lake are all important habitat and sensitive wetlands, and Deer Creek recently went through extensive habitat restoration efforts by the local community, so they were very concerned. Unfortunately, there was a significant fish kill both from the oil and fire fighting foam. Paul noted that fire-fighting techniques can actually spread the product into nearby streams or the use of foam can add additional contamination.

- Pads and booms remained in place for two weeks, and remediation of contaminated soil included 1,145 tons from the private driveway, which had to be rebuilt. That work required additional efforts to protect Deer Creek during excavation and reconstruction.
- Paul noted that the truck driver was very lucky overall, considering that he walked away from a serious accident, he came back a day later to the accident scene to find his wallet…..and FOUND it, and when he was charged with negligent driving the case was thrown out of court because the police officer didn't fill in the date of the accident in his paperwork. Mid Mac, the owner/operator was not so lucky; they were fined $49,500 on top of the cleanup expenses.

Lisa Curtis, Deputy Administrator, Office of Spill Prevention and Response (OSPR), California Department of Fish & Game

- Lisa first explained how spill response authority is determined in California. OSPR responds to all oil spills in the marine environment. Local fire departments, hazmat teams, or health agencies will respond to hazardous material spills off-highway or to the water. The Dept. of Fish and Game responds to HazMat spills where they occur in the waters of the state or where they could threaten the waters of the state; e.g., a dry creek bed with no water would apply as would a storm drain that ultimately ends up in state waters. Local or state police respond to spills on the highway or right-of-way.
- From 1997 to 2004, there were 1,786 incidents involving trucks in California, of which 159 involved overturned trucks and 132 involved petroleum spills.
- In an incident in Santa Clara, CA in late February of 2000, a resident called 911 and reported seeing a double tank oil truck skid across the road and into the ravine adjacent to his home. The driver was killed. Following an investigation, the cause was attributed to excessive speed.
- Two tanks ruptured in the crash were carrying a total of 7,140 gallons of crude oil, of which 6,840 gallons spilled into the Anlauf Canyon Wash.
- As the crises management phase ended and the consequence management began, the Fire Department relinquished command to Fish and Game and the CA Highway Patrol.
- According to Fish and Game Code 5650(a)(1), strict liability of the spiller for all damages and costs was established when the petroleum product passed from Anlauf Canyon Wash to Santa Paula Creek, to the Santa Clara River, and ultimately into the Pacific Ocean.
- Fish and Game personnel planned and directed response operations, including nine enforcement wardens, a supervising lieutenant, an oil spill prevention specialist, six environmental specialists, an agricultural chemist, an industrial hygienist, and a wildlife veterinarian.
- Containment dams were built and several fish ladders had to be closed during a peak period of steelhead migration. The fish ladder at Harvey Dam was shut down for eight days. Between 400 and 1000 distressed fish were observed in the fish ladder at Harvey Dam. The magnitude and extent of losses to eggs and larvae of fish are unknown.

Containment Dam #3 – Under construction more than 8 hours after the spill

- Despite these efforts, a substantial portion of the heaviest concentration of oil escaped and entered the Santa Clara River and the Pacific Ocean. The spill followed a pathway of 22 miles and caused extensive environmental damages. Approx. 2,800 sq. ft. of habitat in Anlauf Canyon Creek was severely disturbed. All vegetation on the banks was cut to ground level and required three years to recover pre-spill biotic functions. Oiled soil on the banks and stream bed had to be removed and replaced with clean materials. There was a permanent loss of 1,200 sq. ft. of habitat which had to be replaced by concreted rock rip-rap to prevent erosion.
- An estimated 5000 sq. ft. of streamside and aquatic vegetation were removed near the spill site and took one year to recover. Much of the oiled alluvium on the streambed could not be cleaned, and as a result of this significant environmental disturbance, took three years to recover.
- Macro-invertebrate communities in the area included aquatic and terrestrial insects, spiders, worms, and other crustaceans and arthropods. Macro-invertebrates form the base of a complex and critical food web, and this "web" took one year to return to pre-spill levels.
- Oiled birds - including a Hooded Merganser, a Belted Kingfisher, a Snowy Egret, and a Great Egret - were observed in the area, but were not recovered.
- Fish and Game Code Section 12011(a)(2) requires that any person convicted of violating 5650(a) is subject to paying natural resource damages. In addition, 12002(b)(4) provides for a fine of up to $2,000 plus penalty assessment of $3,400 for a total of $5,400. The county District Attorney decided to seek only $2,700.
- Approximately 1,753 gallons were recovered, meaning that a total of 5,087 gallons were lost. According to Fish and Game Code Section 12011(a)(1), Lisa explained, any person convicted of 5650(a) is subject to a fine of not more than $10 per each gallon discharged, reduced for every gallon recovered. That would have meant 5,087 X $10 = $50,870, but the local District Attorney settled for $5.15 per gallon for a total of $26,185 on top of the response and resource damage costs.
- In summary, the state recovered the following costs (total = $240, 349.08):

$5 Per Gallon of Oil	$ 26,185.00
Fish and Game Costs	$134,464.08
Damages/Environment	$ 77,000.00
Fine & Penalty Assess.	$ 2,700.00

- The total response costs were over $1.139 million.

FEDERAL REGULATIONS

Janelle Brewster, Hazardous Material Program Specialist, Federal Motor Carrier Safety Administration (FMCSA), US Department of Transportation (US DOT)

- Janelle explained that US DOT regulations requiring plans for Oil Spill Prevention and Response went into effect for motor vehicles in 1993 (49 CFR Part 130). These apply to "packagings" with a capacity of 3500 gallons or more, when they contain liquid petroleum oil. NOTE: These regulations do NOT apply to petroleum product carried as fuel rather than cargo, or to trucks carrying less than 3500 gallons.
- Liquid petroleum oil includes such products as aviation fuel, diesel fuel, fuel oil, gasoline, et fuel, kerosene, motor fuel, or petroleum. A product does not necessarily need to be identified a soil for this regulation to apply, she explained.
- The regulations have three main components. The first involves communications, as follows:
    - The shipper (offerer) must communicate with the transporter (motor carrier) that the shipment contains oil; this must be in a documented form. The transporter must have this document readily available during transport, meaning within arms' reach of the driver.
    - The second component involves the actual response plan, which must include different elements depending on the quantity of oil transported (e.g., the plan would contain more elements for transport via rail than by truck).
        - The plan must be current;
        - It must be in writing;
        - It must set forth a manner or protocol for responding to discharges during transportation;
        - It must address the maximum potential discharge possible;
        - It must identify private personnel an equipment to respond to a discharge;
        - It must identify the proper agencies and contact persons (by name and phone number) to whom a spill must be reported, including the National Response Center; and
        - This plan must be retained by the motor carrier at their primary office as well as at the place of the motor vehicle's dispatch.
    - The third component states that the plan must be implemented if a discharge occurs into or on the navigable waters of the US, or on the adjoining shorelines, or that may affect natural resources belonging to or under US federal management. Moreover, the plan must be implemented in a manner consistent with the National Contingency Plan or as directed by the Federal on-scene coordinator.
- Other US DOT regulations focus on spill prevention and the human factor, Janelle reported[2]. Regarding "packaging" there are specific, more frequent test and inspection requirements for cargo tanks. Facilities which repair and manufacture cargo tanks have to meet standards for quality control and worker education, as well.
- Regarding driver training, hazmat and tank endorsements are not required by USDOT, since states require them on drivers' licenses where appropriate. USDOT does require that drivers of cargo tanks have training in the unique characteristics of driving a cargo tank motor vehicle; this includes loading and unloading of product, compatibility and segregation of materials; understanding special features of a cargo tank such as how to operate emergency control devices, characteristics of a high center of gravity, surge characteristics of a fluid load, and the stability difference between baffled and un-baffled compartments.
- Hazmat training is required for all persons handling hazardous materials or preparing it for transportation; this training focuses on general hazmat training, safety issues, and function-specific training depending on the nature of the job.
- USDOT regulations require training appropriate employees every three years; new employees must be trained within 90 days of when employment begins.

[2] The FMCSA published a Notice of Proposed Rulemaking 1/24.05 regarding Hours of Service for Drivers. Comments were due no later than March 10, so the docket is now closed.

- USDOT has increased the hazmat registration fee, Janelle noted, and 98% of the fee goes into training for response, communications, and labeling and placarding.
- USDOT also sets financial responsibility requirements for shippers and transporters up to $5 million; actual amounts vary according to the product shipped (49 CFR part 387). Regulations also require that insurance coverage include an environmental restoration clause (MCS 90) up to $1 million.
- Regarding enforcement by her agency, Janelle explained that the FMCSA does regular on-site inspections which include reviews of the carrier's oil spill contingency plans. They consider the accident history of a carrier and records of equipment deficiencies noted when a truck was at a weigh station.
- FMCSA rates carriers as follows: "Meet/Exceed" indicates that the carrier is doing well; "Conditional" means that some improvements are needed; and "Unsatisfactory" means that a carrier has 45 days to make improvements or they can no longer operate. The FMCSA has authority to issue fines of up to $25,000/day. Company ratings are posted on the FMCSA website, http://www.fmcsa.dot.gov/.
- Janelle explained that the FMCSA "partners" with the police in every state to enforce federal regulations.
- The FMCSA does not do unannounced spill drills, but shippers often require drills of their carriers, she noted.
- The National Transportation Safety Board would be the place to go for "lessons learned" from accidents.

PLEASE NOTE: US Coast Guard LT Rom Matthews, Chief of Marine Environmental Response for Sector Portland was unable to participate in the Roundtable as scheduled because he was involved in the response to the grounding of the tank barge MILLICOMA near the entrance to the Columbia River (the barge was successfully removed from the rocks with no release of the fuel on board). Notes from his PowerPoint are available in Appendix III.

ALSO NOTE: Although Transport Canada was unable to send a spokesperson to the Roundtable due to a conflict, Mr. Doug Kittle did provide information on their program to deal with accidental releases. This information was available at the Roundtable as a handout and is included in these notes as Appendix IV.

INDUSTRY PERSPECTIVES

Charles Tindall, Vice President, Blue Line Transportation

- Charlie noted that Blue Line, which operates in Oregon, stresses spill prevention, and works with a company Safety Director to require two to three times more training for their personnel than is required.
- As a company, they know they're responsible, he stated. They strive to work with regulators and to be a part of Unified Command. He'd like to see the bad players put out of business, Charlie explained.
- Blue Line provides their drivers with handbooks which include equipment-specific training and pre-trip vehicle-inspection checklists. Charlie commented that drivers are required to learn a lot of complex information – it's not just about driving a truck! Owner/operators should take frequent steps to reinforce learning, he advised.
- Their Safety Director ensures that hazmat training requirements are met or exceeded, and the company reviews the training requirements with drivers before they are even hired in order to clarify expectations. Charlie noted the importance of a company safety director.
- Company response plans include emergency response contacts, contractors, and responders. Charlie noted that not ALL responders perform well, so a company has to do its homework and be selective. He also noted that Blue Line has an OSRO on-call when they deliver at a location over water.
- Each driver is required to maintain and carry a spill kit that includes pads, boom, and epoxy.

- Blue Line requires that drivers go through periodic "blow-hose" drills.
- Charlie recommended that all agencies work as a partner with the responsible party to stay calm and give them information that will get things moving to minimize the damages.

John Skowronski, Director of Environmental Affairs, Canadian Petroleum Products Institute

- John explained that the Canadian Petroleum Products Institute (CPPI) is an association of companies involved in the refining, distribution and/or marketing of petroleum products. CPPI's membership represents approximately 80% of Canada's total crude oil refining capacity and petroleum marketing operations.
- In western Canada, transport carriers completed more than 500,000 deliveries of petroleum products on behalf of CPPI member companies in 2004, and experienced less than 200 product spills or mixes.
- CPPI member companies include the following:

Arco Products Canada	Bitumar
Chevron Canada	Husky (including Mohawk)
Imperial Oil	North Atlantic Refining
Nova Chemicals	Onyx Industries
Parkland Income Fund	Petro-Canada
Safety-Kleen Canada	Shell Canada
Suncor Energy	Ultramar

- CPPI has developed a "Petroleum Products Professional Driver's Manual." This is a collaborative effort between CPPI and petroleum carriers, and it sets a voluntary baseline for the safe handling and delivery of petroleum products.
- The Manual is integrated into members' training programs. It addresses:
  - Hazard awareness
  - Terminal procedures
  - Loading/unloading of petroleum products
  - Emergency preparedness
  - Safety incident reporting
- CPPI maintains a data program that can record and share lessons learned from members; this would include spills and accidents.
- John explained that CPPI members have also developed a Driver Certification Program. This is an industry process for certifying drivers of bulk petroleum trucks loading and delivering products from CPPI member company terminals.
- The certification program is integrated with their Professional Petroleum Driver's Manual and is required of member companies. It sets minimum requirements for driver certification which include:
  - Regulatory qualifications and documentation;
  - Successful completion of a written examination;
  - Successful completion of terminal practical applications that includes ten supervised loads; and
  - A recertification process every 3 years.
- John also noted CPPI's guidelines for Land Transportation Emergency Response, which is linked to the Professional Driver's Manual and Driver Certification program. It covers:
  - Response guidelines (geographic/time);
  - Response equipment; and
  - Personnel capability.
- CPPI also stresses community awareness and cooperates with local fire departments by placing caches of emergency response equipment throughout the country; 45 are placed in Western Canada and are available to local emergency responders, he noted.
- CPPI's stresses continuous improvement. Ongoing collaboration through the CPPI Distribution Task Force provides a forum to improve existing guidelines/practices and develop new initiatives. Several new initiatives are underway, including:

    - A safety incident analysis to simplify and reduce the variability for drivers;
    - Above ground tank safety guidelines at customer delivery location;
    - A research study of essential skills (reading, numeracy, document interpretation) and relationships with safety incidents; and
    - Safety Awards providing recognition of improvement in safety indicators.
- John explained that attracting and retaining drivers is a challenge; demand exceeds supply at the moment, and drivers come with different skills, experiences, and backgrounds. Language barriers exist for immigrants. Simplifying and standardizing documents is an opportunity to reduce work errors.
- Moreover, every terminal is different, so the Institute is also trying to provide simple, standard operations guidelines which would make drivers' tasks easier and reduce opportunities for human error.
- CPPI members and transport carriers continuously place high emphasis on reducing safety incidents, he concluded. For more details regarding CPPI's programs, he referred the Roundtable attendees to www.cppi.ca. The guidelines noted above are available at this site under "Documents."

Cholly Mercer, President, Rainier Petroleum Corporation and Vice Chairman, Pecos, Inc.

- Cholly explained that the Pecos Group of Companies is one of the largest suppliers of distillate fuels and lubricants to the marine market on the West Coast. They own and operate marine fuel terminals, trucking fleets, tugs and barges, and small "clean product" tankers. They operate in Panama, San Diego, Long Beach, Los Angeles, Port Hueneme, San Francisco, Richmond, Portland, Seattle, and Bellingham. They also do truck deliveries into BC. They completed over 10,000 marine deliveries in 2004 without a single spill.
- Cholly also noted that Pecos, Inc. manufactures marine lubricants in California and delivers these by rail to their terminals on the West Coast, where they also store and deliver marine lubricant products for ExxonMobil, Shell, ChevronTexaco, BP, Castrol, and others. Customers have the option of docking at one of their marine terminals, receiving truck deliveries to a vessel, or receiving delivery to a vessel by barge or tanker.
- Complementing the Pacific States/BC Oil Spill Task Force for their goals of promoting regulatory consistency, Cholly noted that "consistent enforcement of existing regulations is complex due to the multiple jurisdictional issues as well as multiple rules." He noted that local fire departments sometimes regulate truck-to-vessel transfers, but this varies from port to port. Port indemnity requirements also vary.
- He explained that regulatory complexities can lead to unintended consequences. As the rules became more complex, burdensome, and expensive for fixed facilities, he noted, many operators found ways to opt out of spill prevention and planning requirements by changing to other delivery methods such as using trucks for all marine deliveries. "Trucks are cheaper to own, operate, and license," he noted, "than fixed facilities and vessels."
- Current requirements for truck-to-vessel deliveries are not stringent enough, he stated, and are selectively enforced. And he noted that a spill from trucks in a West Coast port would slow foreign trade just as much as would a vessel or facility spill.
- To avoid causing such a spill, Rainier and Pecos have Corporate Training and Operations Policies that far exceed any local, state, or federal standards, he noted and gave the following examples:
    - Noting that BC, Washington, Oregon, and California each set design criteria that limit truck weights (ranging from 80,000 lbs in California to 140,000 in BC), his companies have developed a design that allows one vehicle to carry both bulk and packaged or drummed products. In so doing, they've almost cut the number of deliveries in half, resulting in reductions in fuel use and air quality impacts, as well as the number of highway trips, thus also lowering the risk of spill events.
    - The companies closely monitor drivers' hours of service to prevent fatigue-caused human errors.

- They also work with a number of organizations to audit compliance with both voluntary and regulatory standards; these groups include the Domestic Carrier Services Branch of the US Department of Defense, the American Waterways Operators (AWO), and the Deep Draft Lubricant Association.
- Cholly explained that US federal requirements for driver training include HM 126-181 for hazmat training and placarding, HM 232 related to transportation security, and requirements for physicals every two years. While federal regulations require an 8-hour hazwopper training program, this course does not qualify a driver to be a responder in the event of an oil spill. Their company requires a 24-hour hazwopper training, which brings the driver to a technician rating, thus allowing the driver to be a first responder and initiate containment and control.
- In addition, each state sets driver licensing requirements which cover the individual's ability to drive and operate a tank truck, but do not cover pollution prevention, control, or response. He suggested that improvements are needed. Rainier uses the Washington State Facility Personnel Oil Handling Training and Certification program (WAC 173-180 (c)) to train their marine delivery truck drivers, marine terminal operators, and vessel crews. "It is only reasonable to train all employees to the highest standards and best practices, regardless of delivery methods," he stated.
- Cholly also noted that the Canadian Coast Guard has an excellent voluntary training program outlined in a publication titled "Tank Truck to Marine Vessel Oil Transfer Procedures." His companies incorporate most of the information and requirements from this manual in their training program for drivers.
- His company also meets the proprietary requirements and delivery procedures of the major oil companies; that compliance is audited by the oil companies as a contract condition for deep draft marine deliveries.

- Noting that fixed facilities and vessels are required to respond immediately to a spill, to meet a one-hour minimum standard for deployment of response equipment, and to work with a certified Oil Spill Response Organization (OSRO) to demonstrate response capabilities, Cholly pointed out that the USCG exempts mobile facilities or trucks from this OSRO requirement. A truck is only required to carry a 55-gallon drum of containment equipment, including plastic bags, pads, sweeps, buckets, shovel, and tyvee overalls and gloves. As noted above, if a driver only has an 8-hour hazwopper certification, he cannot legally deploy the equipment himself.
- Pecos has OSROs under retainer for every port or location where they make over-water deliveries. They are the only marine truck delivery company in Washington State that has an OSRO under retainer, he noted.
- Cholly also noted that US DOT regulations require that tank truck owners show financial responsibility of $1 million on their insurance policies (see Janelle Brewster comments above), but explained that these endorsement specifically address upset and overturns, but in most castes, exclude coverage for loading and unloading events. California has addressed this gap for trucks making over-water deliveries by requiring that such deliveries conform to the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act; that compliance requires an insurance policy endorsement to cover oil spill liabilities form an unloading accident up to $1 million for each incident. He noted that Washington and Oregon have no similar requirements, and do not even require pollution insurance coverage for unloading over water. "Our company," Cholly stated, "has combined pollution and oil spill insurance coverage fro trucks up to $5 million; this coverage is with "A" rated insurers and provides protection for their shareholders, employees, and the public.
- On the issue of training and keeping good drivers, Cholly noted that good salaries and benefits help, but good drivers are hard to find, and it's hard for small companies to do this and comply with the regulatory requirements.

<u>Andrew Woods, Environmental Manager, Bulk Transportation</u>

- Andrew explained that he would focus his remarks on the topics of spill source control, prevention, preparedness, and response.

- Regarding source, he noted that there are two sources with trucks: the power units and the cargo units. With regard to the power units, Andrew explained that fuel tanks can carry from 50 to 300 gallons, engines can carry 11-18 gallons of motor oil and 8 to 20 gallons of coolant, and transmissions can carry 5 to 10 gallons of transmission fluid.
- Cargo capacity can range from 3,000 to 11,000 gallons of various types of cargo such as fuels and oils (85% of most cargo), as well as petro-chemicals or corrosives.
- There are two approaches to spill prevention, he explained: engineering controls and administrative controls.
- Engineering controls include cargo tank manufacturing specifications. He also noted a US DOT rulemaking in process regarding "wet lines." Specifications for cargo tanks built after September 1st of 1995 focus on maintaining integrity of the tanks during a rollover accident, and they seem to be working. There are also new specifications which require reinforced domes and valve protection (see photo below of barriers to protect tank valves). "Wet lines" rulemaking addresses the common practice of bottom loading gasoline, which allows the flammable liquid to remain in the bottom pipes during transportation. The proposed rule would address this issue by requiring engineering controls to purge bottom pipes of the flammable liquid after loading, thus reducing the possibility of spillage from these lines in the event of a transportation accident.

- Administrative controls include a Maintenance Program, Driver Management, and Training. Maintenance should focus on keeping the vehicle safe. Driver management begins with hiring and is ongoing, including training.
- Regarding spill preparedness, Andrew emphasized the need for planning, investment in good response equipment and response contractors, and response exercises that test both OSROs and company employees.
- Effective response starts with the driver, continues through a clearly-defined notification process, and relies on the effectiveness of the response contractor, he explained.
- Andrew concluded, however, by stating that the keys to success were prevention and preparedness.

OPEN FORUM

- Since some references had been previously made to the role of insurance firms, Jean asked the insurance representatives in the audience how they understood their roles in spill prevention, preparedness, and response. Kevin Skow of Great West Casualty Company explained that they endeavor to help their clients comply with all regulations. Ron Schmidt of Bell-Anderson insurance indicated that fewer accidents result in lower rates. Even if an insurance company can file claims against insurance companies for third parties, a trucking company involved in an accident will see rate increases. It was further noted that only three or four insurance companies in the US are willing to cover petroleum pollution claims on cargo, which is not covered by standard vehicle policies.

- The question had also been raised of why the truck owner/operators have to pay response and cleanup costs if an accident is caused by a third party. It was explained by the regulators that oil and hazardous material pollution incidents invoke strict liability laws.
- Jean then asked the industry representatives in the audience, as well as the speakers, "What drives truck companies to go beyond regulatory requirements?" The replies included the following:
    - Wanting to fix problems;
    - Willingness to work with authorities before there's a crises; and
    - Willingness to work with customers in order to maintain their confidence in the integrity of the company.
- Jean then asked what states (and the Province of BC) could do to promote truck spill prevention, preparedness, and improved response. John Sallak of the Oregon Trucking Association stated that most accidents are caused by other drivers, and noted that the FMCSA has videos for automobile drivers on sharing the road with trucks. He recommended that states encourage their driver licensing agencies to incorporate those videos into driver education and testing programs.
- Participants noted that other state roles might include setting standards for insurance certificates, technical assistance with trucking companies, and working to improve isolated, rural highways. It was also recommended that the Task Force member agencies facilitate communications between agencies and the industry to address the issues raised in this Roundtable.
- Cholly Mercer warned against unintended consequences, however, noting how the regulations on oil-handling facilities drove customers to use less-regulated truck deliveries. There needs to be a balance of regulations among all oil transportation modes, he advised.

SUMMARY AND ADJOURN

Speakers, the audience, and Mary McLoud (who assisted with the audio-visual presentations) were all thanked for their contributions and wished a safe journey home!

Appendix I

Oil Spills from Trucks: Prevention, Preparedness, and Response

March 24, 2005
Holiday Inn Portland Airport
8439 NE Columbia Blvd.
A Public Roundtable Discussion Sponsored by the
Pacific States/British Columbia Oil Spill Task Force

7:30	Registration opens	
8 a.m.	Welcome and Introductions	Jean Cameron, Moderator
8:15	Keynote Address	Keith Andersen, Regional Environmental Solutions Manager, Oregon DEQ
8:45	Jurisdictional Case Studies	Wes Gebb, Oregon DEQ Earl Liverman, EPA FOSC, Idaho Paul O'Brien, Washington DOE Lisa Curtis, California OSPR
9:45	Break	Spill Response Displays
10:15	Federal regulations	US Coast Guard LT Rom Matthews, Chief of Marine Environmental Response for Sector Portland Janelle Brewster, Hazardous Material Program Specialist, Federal Motor Carrier Safety Administration
11: 15	Industry perspectives	Charles Tindall, BluelineTrucking John Skowronski, Canadian Petroleum Products Institute Cholly Mercer, Rainier Petroleum Corp. Andrew Woods, Bulk Transportation
12:30	Open Forum	Jean Cameron
1 p.m.	Summary and adjourn	Jean Cameron

Appendix II
Roundtable Speaker Bios

Keith Andersen, Regional Environmental Solutions Manager, Oregon Dept. of Environmental Quality (DEQ)
Keith has worked for DEQ since 1992. He is currently the DEQ Regional Environmental Solutions Manager for Western Region. Previously Keith was a project manager for, then manager of, the Western Region Cleanup Program. He has been involved in Emergency Response since 1996, first as an on-scene responder and project manager, and then as manager of the Emergency Response Program in the Western Region since 2000.

Janelle Brewster, Hazardous Material Program Specialist, Federal Motor Carrier Safety Administration
Janelle has earned a BS in Business Administration as well as a MBA. She joined the DOT in 1980 and has worked in the Pacific Northwest most of the past two decades. She has been working with the Hazardous Materials portion of the regulations for approximately 15 years. Janelle's territory has recently expanded from Oregon to include Washington and Alaska.

Lisa Curtis, Deputy Administrator California Office of Spill Prevention and Response
Lisa Curtis was appointed Deputy Administrator for the California Department of Fish & Game's, Office of Spill Prevention and Response by Governor Schwarzenegger in November 2004. Prior to this appointment, Curtis held the position of Chief of the Office of Spill Prevention and Response's Enforcement Branch, where she oversaw the Department's statewide pollution response and enforcement efforts. She has served in different management capacities with the Department of Fish and Game from 1997 to 2001. This included managing the sport and commercial fishing enforcement efforts, public outreach, and hunter education in southern California. From 1991-1996, she was responsible for being the Incident Commander for moderate and large marine oil spills. She also was responsible for reviewing and enforcing regulations affecting oil spill response organizations, tug escorts, oil transfers, oils spill contingency plans, and financial responsibility requirements. Lisa Curtis is also a Part-Time Intermittent Instructor for the Weapons of Mass Destruction (WMD) curriculum delivered to foreign dignitaries under the US State Department's Anti-Terrorism Assistance Program (ATAP). Lisa Curtis possesses a BS in Criminal Justice and a MA in Organizational Management. She is a recent graduate of the prestigious F.B.I. National Academy. Also, she currently maintains an Advanced Peace Officer Standards and Training (P.O.S.T.) Certification.

Wes Gebb, State On-Scene Coordinator, Oregon Dept. of Environmental Quality
Wes Gebb joined DEQ in 2000. He is a State On-Scene Coordinator with the Emergency Response Program, which focuses on providing 24-hour response to chemical and oil emergencies, as the state lead agency for cleanup of oil/hazardous material spills. He graduated from the University of California at Los Angeles, with a Bachelor of Science degree in Environmental Health, and obtained a Masters of Public Administration from California State University at San Bernardino. He has over 30 years experience in the field of environmental health.

Earl Liverman, US Environmental Protection Agency, Federal On-Scene Coordinator, Idaho
Earl Liverman is stationed in Coeur d'Alene, Idaho as an On-Scene Coordinator with the Region 10, Emergency Response Unit, US Environmental Protection Agency. He has more than 20 years of environmental response, management, and natural resources experience. His state and federal experience includes conduct of environmental site assessments and investigations; implementation of CERCLA emergency response, removal, and remedial actions; conduct of regulatory environmental review, permitting, and construction-phase permit compliance; and environmental regulatory, policy, and program analysis and evaluation. Earl possesses a Bachelor of Science degree (1975) from the College of Forestry, Oregon State University, a Master of Public Administration degree (1980) from the University of Oklahoma, a Master of Science degree (1982) in Resource Management and Policy

from the State University of New York, College of Environmental Science and Forestry, in association with Syracuse University, and a Juris Doctor degree (1991) from the University of Puget Sound School of Law.

Cholly Mercer, President, Rainier Petroleum Corporation
Cholly Mercer is Vice Chairman of Pecos, Inc. and President of Rainier Petroleum Corporation. He serves as a Board member of the American Waterway Operators Pacific Region, and is also a member of the Pacific Merchant Shipping Association and the Western States Petroleum Association.

Paul O'Brien, State On-Scene Coordinator, Washington Dept. of Ecology
Paul O'Brien has worked for the Washington Department of Ecology as the State On-Scene Coordinator in the Northwest Regional Office in Bellevue, Washington for over fifteen years. Before that, Paul worked for the Alaska Department of Environmental Conservation for twelve years, including seven years as the manager of the agency's oil pollution control program. During those years, he has worked on many oil and hazardous materials spills including three major tank truck incidents in Washington as well as spills from tank vessels, pipelines and other sources. Paul holds a Bachelor of Science degree in Physics.

John Skowronski, Director of Environmental Affairs, Canadian Petroleum Products Institute
John is Director of Environmental Affairs for the Canadian Petroleum Products Institute. The Institute is an association of Canadian companies involved in the refining, distribution and/or marketing of petroleum products. The Institute represents the views of its membership on a wide range of environmental, business, health and safety issues. John joined Imperial Oil upon graduation from the University of Alberta, where he received a BA in History & Political Science in 1973 and a Bachelor of Commerce degree in Marketing & Finance in 1975. His career with Imperial Oil included a variety of assignments in Credit, Marketing, Human Resources, Planning & Analysis, and Project Management. He was appointed to his current position at the Institute in 2003.

Charles Tindall, Vice President, Blue Line Trucking
Charlie graduated in 1966 from Benson High School. After two and a half years in the army, he came home to participate in the family business, where he was responsible for driving and complete maintenance of the truck. Over time, he became the shop foreman, and then head of Human Resources, when he initiated the company's safety programs. His family has been in business since 1963 and has gone from operating one truck to operating as many as eighty trucks. They run four trucking companies: Pelletrox Inc., Portland Motor Transport, Cascade Petroleum Transportation, and Blue Line Transportation. They haul bulk loads of all types of petroleum products and other products His companies have been members of the Oregon Trucking Association since 1986 and Charlie has served on the OTA board since 1999. His companies have also been members of Cascade Employers since 1973 and Charlie has served on their board since 2000. In addition, Charlie is a member of the Portland Freight Committee and serves on a steering committee for the new crossing of the Columbia and Willamette Rivers.

Andrew Woods, Environmental Manager, Bulk Transportation
Andrew is the Environmental Manager for Bulk Transportation and two of its affiliated companies. He has responsibility for eleven locations in five states. His responsibilities include companywide compliance with all environmental regulations; security; support to the Safety Department; and overseeing the training program for all Companies. Andrew has 29 years experience in the transportation and handling of hazardous materials. In 1992 he became associated with the California State Office of Emergency Services' training division, the California Specialized Training Institute (CSTI). Andrew is a State Certified Hazardous Materials Emergency Response Specialist and Outreach Instructor for CSTI. Over the years, Andrew has participated in various organizations, including: National Tank Truck Carriers, serving on the Western Region Safety Committee; The American Chemistry Council, serving as a Responsible Care® Coordinator; the Coastal Region Hazardous Materials Response Organization, serving on their Conference Committee; formerly with

the Chlorine Institute, helped develop advanced training curriculum for CHLOREP emergency responders in 1998; formerly with the San Francisco Bay Area Petro-chemical Mutual Aid Organization (PMAO), past-president (1997).

Appendix III

PowerPoint Notes from US Cost Guard LT Rom Matthews
Chief, Marine Environmental Response
US Coast Guard, Sector Portland, Oregon

- Areas of possible discharge: Land side accidents involving waterways; Land side accidents involving storm drains leading to waterways, and Waterside facilities.

- Response Dynamics - The GOOD things:
  - Quantity and type of product is generally known
  - Generally areas of spills are confined
    - Storm drains with a known outfall
    - On the dock containment catch basins
    - On board the receiving vessel
    - On the land or in a creek, river etc.
  - Generally spills aren't a catastrophic loss
    - In the marine transfer area it's likely to be a hose, coupling or valve manifold failure

- Response Dynamics - The NOT SO GOOD things:
  - Can be in remote locations along roadways
  - Can be catastrophic loss
  - Can involve Private Property
  - Greater potential for environmental damage to sensitive, small areas rich in wildlife and vegetation – Damage from the spill & response efforts!
  - Leads to storm drain and outfall chasing
  - Higher degree of media public interest

- Response Strategies:
  - Every response is unique!
  - Booming – containment and/or deflection to protect sensitive areas or infrastructure
  - Berming – earth, gravel or various materials accessible which won't create further damage
  - Removal – Vacuum trucks, oil skimming capable boats, oil absorbent material such as oil sorbent boom and pads
  - Joint agency Geographic Response Plans

- Response Laws
  - Laws are in the spirit of PREVENTION vice reaction – unless the discharge is willful, negligent or other special circumstances
  - 33 Code of Federal Regulations Part 154
    - Pollution Response Plan
  - 33 CFR Part 156
    - Transfer equipment/procedure requirements
  - 46 CFR Part 151, 153, 156
    - Personnel qualification/manning requirements

- Coast Guard Jurisdiction
  - Navigable waterways of the U.S. – includes creeks, tributaries that lead to a navigable waterway
  - Marine Transfer related facilities (MTR) fixed or mobile - capable of transferring 250 barrels (10.5 K gallons) of petroleum products to or from a vessel

        - Jurisdiction over operating licenses and documents of maritime personnel

    - Authorities
        - Terminate or delay transfer operations if deemed unsafe or not in compliance with required regulations
        - Impose a Captain of the Port Order
            - Various degrees of enforcement
        - Levy civil penalties

- What we look for:
    - Pollution Prevention Compliance Report
    - Overall site safety – Response Plan
    - Qualified personnel in right positions
    - Declaration of Inspection
    - No language or communication barriers
    - Personnel know what to do in the event of an emergency

- Conclusion:
    - High potential for an unconventional response
    - What's the Coast Guard doing up here on the freeway?
    - Joint agency cooperation a must…COTP Portland & Northwest responders are a success story
    - National Response Center for all spills in/near waterways – 1-800-424-8802..the law.
    - Questions

Appendix IV

TRANSPORT CANADA – TRANSPORT DANGEROUS GOODS PROGRAM TO DEAL WITH ACCIDENTAL RELEASES

Transport Canada Organization

Transport Canada is made up of corporate and transport modes in the regions outside of Ottawa. The Surface component deals entirely with road and rail means of transport while there are other Transport Canada groups that regulate the air and marine modes. Within Surface there are two major groups - Rail Safety and Transport Dangerous Goods.

The fundamental purpose of the Transport Dangerous Goods program of Transport Canada is to promote public safety in transporting these materials. Public safety is defined in the Act as meaning: "the safety of human life and health and of property and the environment". The authority for the program stems from the Transportation of Dangerous Goods Act (1992) and the regulations promulgated under the Act (2002 being most recent).

For road, the program is jointly administered by the provinces and the federal government. All the provinces and territories have adopted the Federal regulations under their own enabling legislation so there are consistent regulations across Canada. There are several exceptions but typically the provinces enforce the regulations during transport at weigh scale stations and through mobile inspections. Transport Canada inspectors are more involved directly with the shippers of dangerous goods at facilities that manufacture or distribute the chemicals. All railways and railway clients are inspected by solely by Transport Canada within BC. Unannounced inspections are carried out by two combined rail safety / TDG inspectors and five TDG inspectors located in the Vancouver lower mainland and Kelowna for approximately 4000 different sites in BC.

Spill Prevention

The focus of spill prevention for Transport Dangerous Goods relates to the regulation of the construction standards and mandated use of various containers designed to hold and move dangerous goods. This includes all means of containment from compressed gas cylinders and intermediate bulk containers to bulk tank trailers and rail tank cars containing any class of dangerous goods. Engineering standards and inspection programs for container manufacturers are in place to verify the manufacturers construction standards and practices. Generally, the containers are designed relative to the product characteristics and hazards - the more hazardous the more robust the containers. This is similar to the United States system.

It is expected under normal conditions of transport that the containers will hold the product for the duration of the transportation event. Normal conditions of transport include dropping a small package off the back end of the truck and it surviving intact without loss of contents. Normal conditions of transport do not include a tank trailer going off the road and plunging 100 feet into a ravine.

For rail transport equipment, impact testing of rail tank cars and tank containers is part of the program for construction standards. In addition, retrofitting as well as new construction, requires the installation of head shields, thermal protection and double shelf couplers that have enhanced the survivability of rail tank cars in accidents and promoted better spill prevention.

Construction standards for highway tank trailers continue to be improved but there are significant differences between rail equipment and highway equipment. There is no requirement for impact testing of highway tank trailers for example. Road equipment tends to be a less robust that rail tank cars but are generally not subject to the same degree of handling stresses or impacts during accidents. Anyone who has witnessed a train derailment can attest to the incredible forces during such an event that seems to go on and on and on with rail cars piling up into an accordion assemblage. Road accidents tend to involve less vehicles and are over relatively quick.

Regulation of Petroleum Products

Petroleum products, the point of this discussion, are generally limited to two classes of dangerous goods - Class 2.1 flammable gases (propane, butane) and Class 3 flammable liquids (diesel and gasoline). The Class 3 flammable liquids are regulated based on their flammability or flash point. Anything with a flash point less than or equal to 60.5 C is regulated as a flammable liquid. Gasoline has a flash point of about –40 C. Fuel oil distillates such as diesel have flash points between 43 to 96 C thus some are regulated but the fuel oils such as bunker A, B or C would not be regulated due to their high flash points. The fuel tanks to power the transportation equipment are not regulated under this statute.

Preparedness

The Canadian Transportation of Dangerous Goods Regulations require certain commodities in prescribed container sizes and quantities to develop emergency response assistance plans. The plans have to be registered with Transport Canada as part of the "approval" process. An approved plan to deal with accidental releases during transport as well as imminent accidental releases must be in place prior to transporting or importing into Canada.

[An imminent accidental release means, for dangerous goods in transport in a large means of containment (>450 litres), that there has been an incident and

(a) there is likely a need to transfer or remove all or a portion of the dangerous goods to a second large means of containment;

(b) there is damage to the means of containment which, if not corrected, could result in an accidental release of the dangerous goods in a quantity or level that exceeds those set out in section 8.1 of Part 8, Accidental Release and Imminent Accidental Release Report Requirements; or

(c) the large means of containment is lost in navigable water.]

The person that "offers for transport" or "imports" is responsible for the plan.

Several thousand chemicals are regulated under these regulations but only about five hundred products need to have emergency response assistance plans. The plans are activated by called a telephone number quoted on the shipping documents. The ERAP registration number and the activating telephone number MUST show on the documents.

These plans are not first responder plans. Once activated it is expected a technical advisor is available at the accident site within six hours and a full emergency response team within twelve hours. The intention is to provide support to the local emergency services for hazardous materials they would not normally be equipped or trained to deal with. Response times can be as little as thirty minutes but can take as long as six hours.

Flammable liquids such as diesel do not require a plan to be registered but propane and other LPGs must have one if the container's water capacity is 3000 litres or over. That does not mean the tank has to be full. It can be a residue of LPG but if the container's capacity is over 3000 litres, there still must be a plan in place.

These plans are assessed by the Transport Dangerous Goods Remedial Measures Specialists located across Canada. A program is in place to process registration applications, undertake initial reviews and finally a formal assessment that verifies the activation system, mobilization, emergency organization, training and exercises, equipment and personnel adequacy amongst other planning elements.

Transport Canada's own preparedness for road or rail accidents includes a system to learn about accidents when they happen and to alert a regional representative of TDG for dispatch of an inspector(s) or a Remedial Measures Specialist or team of representatives. Depending on the capability of the individual inspector they are to conduct inspection and enforcement of the Regulations and provide an advisory function to the incident commander due to their expertise in the dangerous goods, the container or both.

The TDG Act provides very significant powers to a TDG Inspector when there has been an accident allowing interventions by an inspector to direct a person who has charge, management or control to do anything to prevent the release or reduce any resulting danger, or direct the person to refrain from doing anything that may impede its prevention or the reduction of danger. For example, if an inspector believes it would be unsafe to remove a tank trailer of diesel using heavy equipment without first removing the diesel from the container, he may direct a transfer of the product into another container takes place.

Response

The TDG Act requires any person that makes a report of an accidental release (the quantities are defined for each Class of dangerous goods) to, as soon as possible in the circumstances, take all reasonable emergency measures to reduce or eliminate any danger to the public safety resulting from the accidental release. This is called the duty to take reasonable emergency measures. It applies to all classes of dangerous goods, not only the ones that require an emergency response assistance plan. Reasonable measures are such things as diking a spill to contain its spread, plugging and patching the container if safe to do or activating an emergency response assistance plan.

For those organizations with an emergency response assistance plan the types of response tasks, using propane for example, would include undertaking a site safety assessment, damage assessment of containers, container leak and ambient air monitoring to determine the significance of any leakage, attempt to contain leaks at fittings and valves by freeze patching or other methods, undertaking product transfers from damaged to undamaged containers, flaring residual quantities to reduce the tank pressure to zero and to provide a range of advice to the local emergency services and incident commander. Essentially, a full response is required.

For more information, please contact Doug Kittle, Remedial Measures Specialist, Transport Canada Surface, Transport Dangerous Goods, 225 - 625 Agnes Street, New Westminster, BC, V3M 5Y4. Phone: 604-666-8771; fax: 666-7747; email: kittled@tc.gc.ca