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From: Martinez Environmental Group (MEG)

To: City of Martinez City Council Subcommittee on Public Safety
for the meeting of June 9, 2014

Subject: Health and Safety Issues Posed by the Transportation of Crude Oil by
Rail Through the Martinez Community

Summary

The rapid expansion¹ of petroleum crude oil transported by rail and a series of incidents across the United States and Canada over the past 11 months² including derailments, spills, explosions, fires, property damage, environmental damage, and loss of life have raised safety concerns regarding these trains, which pass through Bay Area communities including Martinez.

The Kinder Morgan rail terminal in Richmond, CA receives 100-car “unit trains” of Bakken crude oil.³ Trains carrying Bakken crude oil pass through downtown

¹ This expansion is being driven by escalating production at the **Bakken (Williston Basin) shale formation** centered in North Dakota. Over 1 billion barrels have been produced and production has exceeded 1 million barrels per day. In 2005, approximately 6,000 rail carloads of crude oil originated in the U.S. This increased to 400,000 carloads in 2013.

² July 6, 2013 Lac-Megantic, Quebec derailment, explosion and fire killed 47 people the majority of whom were **trapped in a live music club near the rail tracks** at 1 am, 26,000 gallons of crude spilled into the Chaudiere River; November 8, 2013 Aliceville, Alabama derailment, explosion and fire spilled 748,800 gallons of crude including an “undetermined amount” that fouled wetlands; December 30, 2013 Casselton, North Dakota derailment, explosion and fire spilled 400,000 gallons of crude, 1,400 people were evacuated and resulting property damage is estimated at \$8 million; February 3, 2014 Wisconsin/Minnesota 12,000 gallons leaked over 70 miles of track; February 13, 2014 Vandegrift, Pennsylvania derailment and spill of 10,000 gallons of crude; April 30, 2014 Lynchburg, Virginia derailment, explosion, and fire spilled 30,000 gallons of crude oil into the James River, people were evacuated from the downtown; May 9, 2014 LaSalle, Colorado derailment and spill of 6,500 gallons of crude oil.

³ Kinder Morgan’s Richmond rail terminal is, “currently the only 100-car unit train crude oil facility in California” John Schlosser, President Terminals Group, Kinder Morgan in a 2014 conference presentation, page 14. The March 14, 2014 KPIX News report “Trains Carrying Fracked Oil Spotted in Bay Area” confirmed a crude by rail unit train carrying Bakken crude at KM’s Richmond facility.

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Martinez.⁴ Crude by rail through Martinez will likely increase if plans by Phillips 66 are realized to build a rail terminal at its Santa Maria refinery in San Luis Obispo County. The proposed Phillips 66 Propane Recovery Project in Rodeo would increase the number of that facility's rail spurs from four to six resulting in increased shipment of hazardous materials by rail through Martinez.⁵ Martinez residents will be subject to the impacts of any major incident at Valero Energy's proposed Crude-by-Rail Project in Benicia and at the WesPac Energy Infrastructure & Transload Facility for crude by rail in Pittsburg, if these projects are approved and built.

While the rail industry as a whole has impressive safety statistics, the recent safety record of the crude by rail segment has been abysmal. In the period 2007 to 2009 there were 14 crude by rail oil spills. That increased to 158 in 2010-2012.⁶ In addition to fires, explosions and tragic loss of life, the amount of crude oil spilled from rail car accidents in the United States in 2013 exceeded the amount spilled over the preceding four decades.⁷ When Bakken crude has exploded in derailments the resulting fires are so massive and intense that firefighters do not have the choice of trying to put out the fire, these fires burn until the thousands of

⁴ In May, 2014 a railroad construction worker told MEG members Martha & Peter Dragovich that work being done on rail tracks in and adjacent to **downtown Martinez was in response to Bakken crude being shipped by rail through downtown Martinez**. Trains similar to the Bakken crude unit train filmed by KPIX News in March, 2014 at Kinder Morgan in Richmond passed through Martinez several times in May. One with 94 tanker cars and the other with 98 tankers, which after the engines had cleared downtown Martinez westbound the tail end of the train was still on the Carquinez trestle. These were not bound for Phillips 66 in Rodeo as that company has stated their inbound tanker trains do not exceed 16 cars. The USDOT Emergency Order of May 7, 2014 contains reporting requirements effective June 6, 2014 that would reveal all Bakken oil shipments of 1,000,000 gallons, or more, through Martinez.

⁵ Phillips 66 stated in the FEIR (Nov. 2013) that the number of trains would not increase but the length of trains would increase from 16 tanker cars to 24.

⁶ data from the Pipeline and Hazardous Materials Safety Administration, quoted in a June 1, 2013 Contra Costa Times article, "Canadian tar sands crude heads to Bay Area refineries."

⁷ **Mayors** from several major cities including Chicago, Albany, Madison, Kansas City, Philadelphia, and Milwaukee, have **formed a coalition in an effort to tighten safety standards** to keep the "reckless expansion" of crude-by-rail in check. They traveled to Washington D.C. in March 2014 to demand Congress require, among other measures, that DOT-111 tank cars used to transport crude be retrofitted to the latest standards and that tracks be repaired to prevent derailments.

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gallons of ignited crude burns itself out.⁸ Each tanker car carries 30,000 gallons of crude oil and a single unit train of 100 cars carries over 2 million gallons of crude.

More than 13,000 Martinez residents live within a half mile of a major rail line. **This is the official evacuation zone for tanker train derailments.** More than 24,000 Martinez residents live within one mile of these lines. **This is the U.S. Department of Transportation recommended evacuation zone whenever tanker contents ignite.** There are 11 schools within one mile of major rail lines in Martinez.⁹

A look at statistics for rail traffic in California shows there were 99 rail accidents in 2013 including 69 derailments.¹⁰ In 2012 there were 86 accidents including 70 derailments.

Discussion

Crude by rail incidents have prompted an accelerated response by local, state and federal authorities. Recently, the California State Senate conducted an oversight hearing on Emergency Preparedness for Rail Accidents¹¹. At the hearing, the State Office of Spill Prevention and Response declared that while the prevention of a spill by train transport is largely the responsibility of the Federal Rail Administration and the Public Utilities Commission there are, “substantial regulatory gaps in preparedness,” there is, “a lack of state resources for response,” and “at the state level the coordination with local agencies can be lacking.”¹²

⁸ The July 2013 Lac-Megantic fire took 36 hours to burn itself out. The November 2013 Aliceville, Alabama fire took, “several days” to burn itself out according to local officials. The December 2013 Casselton North Dakota fire burned for two days. Lynchburg, Virginia fire officials also had no choice but to let the Bakken fueled fire burn itself out, noting that no fire department except those of some refineries have the equipment to fight this type of fire and, “what is new to this picture is the scale, the amount of product coming through, that is the game changer.” Richard Edinger, Vice Chairman of the International Association of Fire Chief’s Hazardous Materials Committee. Each rail tanker carries 30,000 gallons.

⁹ Source for Martinez population within evacuation zones: National Resources Defense Council.

¹⁰ Federal Railroad Administration Office of Safety Analysis, <http://safetydata.fra.dot.gov/OfficeofSafety/publicsite/Query/stchart.aspx>

¹¹ March 19, 2014 oversight hearing on Emergency Preparedness for Rail Accidents held by the California State Senate Environmental Quality and the Senate Natural Resources and Water Committees.

¹² May 27, 2014 bill analysis for SB 1319 compiled by the Senate Rules Committee Office of Senate Floor Analyses.

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Locally, first responders have raised concerns with the safety of crude oil transport by rail in Contra Costa County. The Contra Costa County Hazardous Materials Commission reviewed an agenda item, “issues of concern related to the shipment and storage of new sources of crude by rail” at their May 21, 2014 Planning and Policy Development subcommittee meeting. At the meeting of the full Commission the following day Hazardous Materials Program Director Randy Sawyer stated that he and Dr. Brunner, Contra Costa Public Health Director, are preparing a “white paper” on crude by rail issues including jurisdictional responsibilities, incident preparedness and response, status of resources and other areas of concern.

The Contra Costa County Fire Protection District has aired concerns. The CCCFPD’s Fire Marshal Robert Marshall referring to the proposed WesPac Transload Facility in Pittsburg stated, “we do not have the kind of equipment for that kind of risk.” He said the District would need a fire truck with a larger-capacity pump than needed for a normal structure fire and that equipment should have the ability to pump firefighting foam as well as water.¹³

At the federal level, on May 7, 2014 the U.S. Department of Transportation issued **Emergency Restriction/Prohibition Order** Docket No. DOT-OST-2014-0067. The Order stated, “the number and type of petroleum crude oil railroad accidents that have occurred during the last year is **startling**, and the quantity of petroleum crude oil spilled as a result of those accidents is voluminous in comparison to past precedents. Upon information derived from recent railroad accidents and subsequent DOT investigations, the Secretary of Transportation (Secretary) has found that an unsafe condition or an unsafe practice is causing or otherwise constitutes an **imminent hazard**¹⁴ to the safe transportation of hazardous materials. Specifically, a pattern of releases and fires involving petroleum crude oil shipments **originating from the Bakken** and being transported by rail constitute an imminent hazard under 49 U.S.C. 5121(d).” The Order requires all rail carriers transporting 1,000,000 gallons, or more, of Bakken crude, which is about 35 tank cars, or more, to report the expected movement of these trains to state and local first responders and to, “identify and describe the petroleum crude oil expected to be transported.”

¹³ quoted in a Seattle Times article dated May 1, 2014.

¹⁴ “An imminent hazard as defined by 49 U.S.C. 5102(5), constitutes the existence of a condition relating to hazardous materials that presents a substantial likelihood that death, serious illness, severe personal injury, or a substantial endangerment to health, property, or the environment may occur before the reasonably foreseeable completion date of a formal proceeding begun to lessen the risk that death, illness, injury or endangerment.” [sic] page 4 of the Order.

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The U.S. Federal Railroad Administration (FRA) also issued Emergency Order No. 28 following the July, 2013 Lac-Megantic, Quebec disaster where a crude by rail derailment leveled a large portion of downtown Lac-Megantic killing 47 people. The Order established certain requirements for unattended trains and rail equipment, including petroleum crude oil unit trains. On August 7, 2013 the U.S. DOT and FRA jointly issued Safety Advisory 2013-06, which made a number of safety-related recommendations directed to railroad operators. On January 2, 2014 the U.S. DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) issued a Safety Alert which warned that crude oil may have widely variable chemical properties that present hazards related to corrosivity, sulfur content and dissolved gas content and that, **“crude oil being transported from the Bakken region of North Dakota may be more flammable than traditional heavy crude oil.”**

As discussed in Recommendations for Action 2 below, it has been widely acknowledged that Emergency Orders, Safety Advisories and Alerts issued to-date have not been adequate to address the long-term safety of transporting crude oil by rail. The railroad industry has voluntarily offered improvements in tank car design, additional funding for local emergency responders and other emergency planning assistance. Railroad operators have voluntarily incorporated, “speed restrictions, braking signal propagation systems, routing analyses, additional track and rail integrity inspections” and other measures.¹⁵ While the industry’s cooperation has been progressive it is likely that some or all of these voluntary changes along with additional requirements will be codified into law later this year or in early 2015.

By 2016 California is expected to receive 150 million barrels of crude oil by rail per year compared to 6 million barrels in 2013¹⁶. This escalation is being done with a an overstretched inadequate tanker car fleet¹⁷ that relies in large part¹⁸ on

¹⁵ May 7, 2014 U.S. DOT Emergency Order, page 9.

¹⁶ April 3, 2014 Sacramento Bee Editorial.

¹⁷ “Rail carloads of crude tripled last year to more than 200,000 and demand for tanks designed for it soared, helping both Trinity and American Railcar outstrip the Standard & Poor’s 500 index. ‘People who want to ship oil can’t get them,’ Toby Kolstad, president of the consulting firm Rail Theory Forecasts LLC said, referring to railcars. **‘They’re desperate to get anything to move crude oil.’**” quoted in: “Buffet Like Icahn Reaping Tank Car Boom From Shale Oil,” by Thomas Black, Jan 3, 2013 Bloomberg News.

¹⁸ There are 335,000 tank cars in the active fleet (pressure and non-pressure) and 228,000 of these are DOT-111s. Roughly 92,000 DOT-111s are used to move flammable liquids such as crude and ethanol with approximately 18,000 of those built to the latest safety standards. Source: Association of American Railroads fact sheet dated 2/12/14. So, **less than 20% of DOT-111s used for crude transport are, “built to the latest safety standards.”**

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DOT-111 thin-walled tankers that were designed to carry corn syrup¹⁹ and have been called, “pepsi cans on wheels.” The DOT-111s have been cited as lacking necessary features to resist puncture and ignition of their contents. These tankers are carrying Bakken crude that has been shown by studies to be more volatile and hazardous than other crudes and shown by the PHMSA in spot checks to be mislabeled as to its true hazard class, shipped with inadequate regulatory oversight, “on tracks that are rarely inspected,”²⁰ through communities such as Martinez with little or no notice and where prevention, preparedness and response planning as stated by the experts is not up to the task.²¹ As Deborah Hersman, outgoing Chair of the NTSB stated two months ago, DOT-111 tank car design flaws, “**create an unacceptable public risk.**”

This issue is of direct concern to Martinez residents and businesses. While not holding regulatory authority over rail transportation there are meaningful actions the City Council can take in response to this challenge.

Recommendations for Action

The Martinez Environmental Group (MEG) recommends the Martinez City Council consider the following actions:

- 1) Support the Passage of State Senate Bill ***SB 1319 Oil spills: oil spill prevention and response*** (Pavley: coauthors Senators Lara and Wolk).

This bill would increase the geographic coverage area of the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act to include inland areas thereby bringing oil by rail under the responsibility area of the Office of Spill Prevention and Response. The bill would increase the current fee to an amount not to exceed 6.5 cents per barrel of crude oil to fund planning, prevention, preparedness and response activities including training and certification services for local emergency responders upon request by a local government, emergency drills, oil spill containment and clean-up. The bill would increase funding for post-incident mitigation. The membership of the committee overseeing spill prevention and response programs would be expanded from 10 to 14 members with one, “having knowledge of the railroad industry.”

¹⁹ corn syrup fact contained in the Railway Supply Institute USDOT filing dated Dec. 5, 2013, page 2.

²⁰ Energy Secretary Ernest Moniz, February 2014.

²¹ see footnote 6.

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On May 27, 2014 the State Senate passed the bill (Ayes 23- Noes 12) and sent it to the Assembly for consideration.

“We need to prevent and respond to inland oil spills in the short-term, but the risks underscore the need to cut our dependence on fossil fuels to protect health and safety.” Senator Fran Pavley (D-Agoura Hills).

2) Work with our Congressional delegation to support changes at the federal level.

On May 23, 2014 the White House released the biannual Unified Agenda of Federal Regulatory and Deregulatory Actions which describes short-term and long-term plans for each agency in the federal government. The Pipeline and Hazardous Materials Safety Administration (PHMSA) stated in the Unified Agenda that it plans to formally propose new crude-by-rail safety standards in July of this year.

It is recommended the City of Martinez monitor the proposed changes, coordinate with other first responders and support actions that would enhance the safety of the Martinez community. For example, there have been indications that the DOT will seek the outright ban or rapid phasing out of the DOT-111 tank car for crude transport and assure that crude oil is properly classified so it is carried in tank cars that offer sufficient levels of protection under railroad procedures commensurate to the hazard class. If the City does not desire to monitor specific proposals, it remains critical that the City Council contact our Congressional delegation and express support for enhanced crude by rail safety requirements.

3) Invite the Contra Costa County Hazardous Materials Division to make a presentation to the City Council when their white paper is released, or before, and consider any recommendations within the purview of the City of Martinez that County HazMat may make for improving preparedness and response to incidents.

4) Invite the Contra Costa County Fire Protection District to provide the City Council with a presentation on the issues surrounding the transport of crude and other hazardous materials by rail and consider any recommendations CCCFPD may make for improving preparedness and responding to incidents.

5) Direct the Martinez Police Department to invite Homeland Security and petroleum industry and railroad industry officials to discuss security and safety issues at the Martinez Switching Yard. The Switching Yard is not fenced or otherwise secured, is located on the water in an area where the coastline is

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eroding²² and is directly upwind from downtown Martinez.²³ Also review the current status of local railroad safety procedures including anti-terrorism measures for rail facilities in and near Martinez.

6) Invite industry officials to give a presentation to the City Council on steps they are taking to assure safety of the transit of all industry rail traffic through Martinez.

7) On May 7, 2014 the U.S. Department of Transportation issued an Emergency Order which required railroad carriers inform first responders about crude oil being transported through communities and for the immediate development of oil spill plans.²⁴ To track future conditions and changes, contact one or all of the following to obtain information on the movement of reportable trains through Martinez.

1. Mr. Mark Ghilarducci, Director, California Governor's Office of Emergency Services, the USDOT designated SERC contact for the Bakken movement reporting.
2. The local agency or agencies the SERC designates to receive reporting.
3. Industry carriers. The Emergency Order states, "Nothing in this Order precludes railroad carriers from taking any additional steps to communicate with state and local emergency responders regarding the transportation of hazardous commodities within a state or local jurisdiction."
4. The Federal Railroad Administration (FRA). The May 7 Emergency Order requires all notices sent to SERC's be copied to the FRA.

It is expected that the USDOT required reporting will be generalized to address Homeland Security concerns. If security concerns are raised regarding the release of public information the request could be made for past information only, e.g. the total number of reportable trains passing through Martinez over the past month, or quarter, without including information on dates, times, schedules, shipper, origin, destination, direction or track, only the total number of reportable trains for the past month or quarter.

8) File CEQA comments on the Phillips 66 Santa Maria crude by rail DEIR. Request Phillips 66 state they will not use DOT-111 rail cars for transporting crude oil to their facility. Consider passing a resolution opposing the project if adequate

²² <http://chl.ercd.usace.army.mil/library/publications/chetn/pdf/chetn-vi-42.pdf>

²³ *ibid.* see wind rose at page 6 of this Army Corps of Engineers study.

²⁴ <http://www.phmsa.dot.gov/hazmat/osd/chronology>

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environmental mitigation measures are not required for the project including banning the use of DOT-111's.

9) It is anticipated the Phillips 66 FEIR for the Propane Recovery Project in Rodeo will be recirculated for comment.²⁵ Request that Phillips 66 state they will not use DOT-111 rail cars for transporting hazardous materials to or from their facility. Consider passing a resolution opposing the project if adequate environmental mitigation measures are not required for the project including banning the use of DOT-111's.²⁶

10) File CEQA comments on the Benicia Valero Energy Crude-by-Rail project DEIR to be released June 10th. Request that Valero Energy state they will not use DOT-111 rail cars for transporting crude oil to their facility. Consider passing a resolution opposing the project if adequate environmental mitigation measures are not required for the project including banning the use of DOT-111's.

11) File CEQA comments on the recirculated WesPac Energy Infrastructure and Transload Facility DEIR in Pittsburg. Consider passing a resolution opposing the project as has been done by Pittsburg School District Trustees, who called on other local, state and federal government agencies to categorize the WesPac project as, ***“unequivocally contrary to public health and safety and beyond mitigation and declare that it should not be placed within Pittsburg nor anywhere in Contra Costa County.”*** This statement was reaffirmed by the Central Committee of the Democratic Party of Contra Costa County in a resolution passed by the Committee. Request that WesPac state they will not use DOT-111 rail cars for transporting crude oil to their facility. Consider passing a resolution opposing the project if adequate environmental mitigation measures are not required for the project including banning the use of DOT-111's.

12) Consider passing a resolution requesting state and federal regulatory agencies and elected officials including the Governor enact a moratorium or ban on crude by rail shipments through Bay Area communities including Martinez. Coordinate

²⁵ The Contra Costa County Board of Supervisors met on June 3, 2014 to consider directing the FEIR for the project be recirculated.

²⁶ Phillips 66 has yet to respond to issues raised at the January 14, 2014 County Board of Supervisors meeting contained in letters from the Attorney General's Office and Communities for a Better Environment (CBE). These are, 1) In contradiction Phillips 66's claim, evidence shows that the company would need to increase their crude oil feedstock and, 2) in contradiction to the company's claim there would be no impact on local firefighting resources, County Fire (CCCFFPD) did submit a comment letter stating it, "does not have an adequate number of personnel to properly respond to a fire incident at this facility or the necessary equipment/material such as industrial foam firefighting apparatus to handle a large-scale fire."

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actions on this issue with communities that are upstream and downstream of Martinez on rail corridors.

Conclusion

The rail transport of crude oil has increased markedly in the past several years and the future will see continued increases and safety challenges. Emergency preparedness has not kept pace at any level of government, local, state or federal and current laws and regulations are inadequate for the task. As the U.S. Department of Transportation stated on May 7th, “the number and type of petroleum crude oil railroad accidents that have occurred during the last year is **startling**” and, “specifically, a pattern of releases and fires involving petroleum crude oil shipments **originating from the Bakken** and being transported by rail constitute an **imminent hazard** under 49 U.S.C. 5121(d).” As Deborah Hersman, outgoing Chair of the National Transportation Safety Board declared two months ago, DOT-111 tank car design flaws, “**create an unacceptable public risk.**”

The City of Martinez cannot solve the problem but it can take actions to make our community safer. The Martinez Environmental Group (MEG) has presented a range of well-researched recommendations for City Council consideration. Inaction on an issue of this magnitude and potential consequence is not an option.

cc: City of Martinez City Clerk
Members of the City Council Subcommittee on the Public Safety Subcommittee
Members of the City Council not on the Public Safety Subcommittee
Anna Gwyn Simpson, Acting City Manager
Erin Clark, Editor, Martinez News Gazette
Rami Muth, Superintendent, MUSD
Randy Sawyer, Director, Contra Costa County Hazardous Materials Program
Fire Marshal Robert Marshall, Contra Costa County Fire Protection District
Ariel Mercado, Congressman Mike Thompson’s office, WN. D.C.
Danny Bernardini, Senator Lois Wolk’s office, Sacramento, CA.
posted on the Martinez Environmental Group (MEG) website at www.mrtenvgrp.com