

March 21, 2013

Paul Nelson, Project Manager
Massachusetts Department of Transportation
10 Park Plaza, Room 4150
Boston, MA 02108

Re: Consensus Comments on Draft Report on the Safety Impacts of Ethanol Transportation
by Rail

Dear Mr. Nelson:

Thank you for your work to manage the ethanol public safety study and convene the Technical Advisory Group. As members of the Technical Advisory Group and concerned residents living in the communities of the study, we have appreciated the opportunity to preview the Department's research and proposed findings. This letter offers comments on the draft report dated March 14, 2013, recommended additions to the Department of Transportation's maps showing potentially exposed populations, and recommended edits to the ethanol safety study proposed findings.

One of our greatest concerns is that the draft report reads as a list of mitigation measures and not as conclusions about the impact on the public safety of transporting ethanol by rail – especially in densely populated urban neighborhoods – and ways to prevent such impacts. We, the undersigned, urge the Department of Transportation to add a section discussing concerns voiced through the public process and to add additional recommendations and plans for ensuring the recommendations are implemented.

The maps showing potentially exposed populations are missing several key vulnerable residences and businesses. Please add the following points to the potentially exposed population in the shared corridor in figure 3-4 and update Table 3-4 accordingly.

- Beth Israel Deaconess Medical Center Chelsea, 1000 Broadway Chelsea, MA 02150
- Massachusetts General Hospital Chelsea, 151 Everett Avenue Chelsea, MA 02150
- On Broadway Nursing & Rehab, 932-34 Broadway, Chelsea, MA 02150
- Margolis Apartments Public Housing (for elders and handicapped), 260 Clark Avenue, Chelsea, MA 02150
- MACE Public Housing Chelsea, 112 Clinton Street Chelsea, MA 02150
- Innes Public Housing Chelsea, 170 Central Ave.
- Chelsea Public Housing Chelsea 230 Walnut Street Chelsea, MA 02150
- Chelsea Public Housing Chelsea 301 Spruce Street Chelsea, MA 02150
- Buckley Apartments Public Housing Chelsea 14 Bloomingdale Street Chelsea, MA 02150
- Scrivano Public Housing Chelsea 54 Locke Street Chelsea, MA 02150
- Chelsea Public Housing Chelsea 42 Eden Street Chelsea, MA 02150
- Chelsea Public Housing Chelsea 44 Exeter Street Walnut Street Chelsea, MA 02150
- Chelsea Public Housing Chelsea Burma Rd Chelsea, MA 02150
- Clark Avenue Middle School Chelsea 8 Clark Avenue Chelsea, MA 02150

- CAPIC Head Start Chelsea 67 Crescent Avenue Chelsea MA 02150
- Chelsea Senior Center Chelsea 10 Riley Way Chelsea, MA 02150
- New England Produce Center, 90 New England Produce Center, Chelsea, MA 02150
- Leonard Florence Center for Living 165 Captains Row, Chelsea, MA 02150
- Senior Living Building, 5 Admirals Way Chelsea, MA 02150
- Senior Living Building, 150 Captain Row Chelsea, MA 02150
- East Boston Neighborhood Health Center, 20 Maverick Square, East Boston, MA 02128
- East Boston Neighborhood Health Center, 10 Gove St East Boston, MA 02128
- Excel Academy-Orient Heights, 1150 Saratoga Street, East Boston, MA 02128
- Excel Academy-East Boston, 58 Moore Street, East Boston, MA 02128
- Heritage Apartments (senior and elderly housing), 225 Sumner Street, East Boston
- Anna Defronzo Senior Center, 395 Maverick Street, East Boston, MA 02128
- Kit Clark Senior Services, 209 Sumner St, East Boston, MA 02128
- East Boston Head Start, St. John's, 80 Lexington St. East Boston, MA 02128
- East Boston Head Start, 1222 Bennington St. East Boston, MA 02128
- Social Center, 68 Wm. Kelly/Central Sq. East Boston, MA 02128
- East Boston Head Start, 5 Elbow St. East Boston, MA 02128
- E.B. Early Head Start, 130 Condor St. East Boston, MA 02128

Below is a recommended paragraph to add after Section 4.1.

Through the community and stakeholder meetings, the Department of Transportation heard the following concerns from municipal representatives, businesses, and residents:

- The Greater Boston Area Fire Chiefs have attested to the fact that there is not a sufficient amount of alcohol resistant foam available in the cities and towns affected by the proposal; that it is infeasible for mutual aid to properly deliver alcohol resistant foam from one city to another in an appropriate amount of time; and that the Massachusetts Fire Academy does not have the capacity to train all of the fire fighters in each of the affected communities.
- There is a grave concern that the trains will become a terrorist target and could have the potential to decimate entire communities. The nation's rail carriers have failed to provide significant, measurable safety and security improvements to deter or respond to a terrorist attack on the U.S. rail network. An analysis of how to limit trains carrying ethanol from being terrorist targets is needed.
- Municipalities and taxpayers are concerned about the costs associated with the recommendations that require additional training, alcohol resistant foam, equipment, resources, and security measures. Municipalities and taxpayers should not have to finance these additions.
- There is insufficient security at grade crossings. There needs to be financial and agency support for increasing security at grade crossings.
- Accidents involving motor vehicles at grade crossings require further analysis and implementation of measures that will prevent such occurrences.
- Mitigating the public safety impacts should a derailment or other emergency occur is insufficient. There should be a way to prevent the possibility for an incident likely to result in a fire. It is unclear as to who would pay for the private and public property damages (other than the rails themselves) should an incident occur.

- Transportation of ethanol by barge should be analyzed for its relative safety as compared to transportation of ethanol by train to the site on Chelsea Creek.
- This analysis fails to consider, review, or offer recommendations regarding the transportation of ethanol or a gasoline blend away from the Global facility in trucks. Trucks carrying the blended product away from the Global facility in Revere will have an impact on air quality, traffic, and noise in Revere and the surrounding neighborhoods. The significant number of trucks will also pose public safety hazards to motorists and pedestrians along DOT roadways throughout Revere, Boston and beyond.
- There needs to be an analysis of the cumulative impact of a derailment and explosion in close proximity to other facilities that store and handle hazardous materials.

Below are comments on the proposed report findings in chapter 4. Comments in red are additions and edits to MassDOT's draft language.

Section 4:

- Page 46, first paragraph: Add a sentence saying: "State and local agencies have limited options for regulating activities that do not interfere with interstate rail operations and can exercise police powers to protect public health and safety."
- Page 46, third paragraph: Add a sentence saying: "In addition, this report does not consider or address security threats from terrorists."
- Page 46, fourth paragraph: Add a concluding sentence saying: "Federal regulations do not guarantee the safety and security of populations located in close proximity to the rails."
- Page 46, fifth paragraph: Please add a sentence detailing the impacts of incidents by motorists and pedestrians at grade crossings. At minimum, please note that the Massachusetts railroad incidents as discussed in the report do not include incidents at grade crossings involving motorists and pedestrians.

Section 4.1:

- ~~Incidents involving railroads are relatively rare.~~
- ~~Incidents involving the release of ethanol are rarer still.~~
- Rail transportation of ethanol throughout the United States happens in sparsely populated communities.
- Rail transportation through Boston, Cambridge, Chelsea, Everett, Revere, and Somerville requires transportation through densely populated communities.
- The potential routes of the ethanol trains include passage through the following municipalities:

[Please list all the municipalities along the route throughout all the possible paths the trains may take in Massachusetts including communities west of those listed below.]

Fitchburg Line:

- | | | |
|--------------|-------------|--------------|
| • Revere | • Cambridge | • Concord |
| • Chelsea | • Belmont | • Acton |
| • Everett | • Waltham | • Boxborough |
| • Boston | • Weston | • Littleton |
| • Somerville | • Lincoln | • Ayer |

- Shirley
- Lunenburg

- Leominster
- Fitchburg

Lowell Line:

- Medford
- Winchester
- Chelmsford

- Woburn
- Wilmington
- Billerica

- Tewksbury
- Lowell

Haverhill Line:

- Malden
- Melrose

- Wakefield
- Reading

Worcester Line:

- Newton
- Wellesley
- Natick

- Framingham
- Ashland
- Southborough

- Westborough
- Grafton
- Worcester

- Most incidents to date have not had serious consequences due to the sparsely populated areas where the incidents have occurred. Nonetheless fatal incidents have occurred.
- It should be noted that the statistics regarding transport of ethanol reflect a time when the volume of ethanol being transported is less than what potentially will be transported when and if federal regulations concerning the amount of ethanol in our gasoline supplies changes (i.e., E85 mandate). Likewise statistics concerning freight and passenger rail incidents in Massachusetts partially reflect a time period prior to the implementation of MassDOT's agreement with commercial freight carriers to share lines.
- A consequence modeling analysis showing the worst case scenario of a derailment, release, and explosion of multiple ethanol cars is needed.
- This analysis fails to include the response time to get the appropriate amount of alcohol-resistant foam and water flow deployed to suppress a fire in a worst-case scenario in any of the six municipalities in the study area.
- Further analysis concerning environmental justice is needed to determine whether there are potential disparate impacts on low income communities and/or communities of color due to the cumulative burdens the potentially exposed populations along the train routes already face through exposure to air, water, noise, and other pollution and hazards plus exposure to the truck traffic and associated negative impacts that carry the blended product away from the Global facility. Additionally, further analysis is needed to determine if there is a disproportionate impact in some locations due to the frequency of trains passing on one train route as compared to other train routes.
- This study includes findings about mitigation, but not prevention.
- This study does not analyze the health and environmental impacts of applying alcohol-resistant foam in the event of an ethanol incident. Nor does it indicate the liability of rail carriers for impacts of accidents, and resulting fires, clean-up and site monitoring outside the confines of the rail right of way.
- However, the rail corridors in the study area are unusual in terms of their density of residents, public uses, and adjacent industrial businesses, many that involve hazardous materials on site. There are a number of steps that should be taken to:

1. Ensure the safe and secure transport of ethanol by rail through the study area,
2. Ensure safe storage of the ethanol as it is being offloaded, and
3. To ensure that the communities, railroad companies and first responders are prepared to respond to any derailment or emergency.

Transportation of ethanol

- Railroad tracks should be maintained to a Class 3 standard along the possible ethanol routes, including the rehabilitated spur line to the Global facility.
- Despite the Class 3 rating, the ethanol train speeds should be as slow as possible to reduce the energy of any crash or derailment.
- The railroads should work with shippers to maximize the use of DOT-111 railcars for ethanol delivery that were constructed after October 1, 2011 to be compliant with the new AAR design guidelines, **which limit the likelihood that the rail car would be pierced in the event of a derailment.**
- Ethanol trains should be scheduled to avoid conflicts with any other trains (passenger or freight) that may cause them to be delayed or stored on sidings during transit to the Global facility.
- Ethanol train schedules should be reported to community and state fire officials **and first responders** with sufficient notice.
- Grade crossing safety equipment should be maintained and/or upgraded to prevent collisions with motor vehicles.
- **Maximizing security at all grade crossings along the ethanol train route is essential.**
- As part of the transportation sector of the DHS critical infrastructure, the railroads should utilize DHS resources to update their security plans.
- **Additional research is needed for risk management assessment.**
- **Trains carrying between 60 and 100 rail cars can carry between 1.8 and 3 million gallons of ethanol. One barge typically holds 630,000 gallons of ethanol. Therefore, transporting ethanol by train could increase the amount of product arriving to the Global facility.**

Storage of ethanol

- The railroads and Global should secure the tracks and sidings outside the Global facility.
- On-site fire suppression systems should be kept in working condition **with products that are within their shelf life.**
- As part of the chemical sector of the DHS critical infrastructure, Global should utilize the DHS Voluntary Chemical Assessment Tool (VCAT) to update their security plans **and work collaboratively with local, state, and federal security, emergency, and first responders to plan for and respond to an ethanol related incident.**
- **Global should finance upgrades and the acquisition of necessary equipment to adequately protect the storage of ethanol and ethanol-petroleum blends on its property.**

Emergency Response

- City fire departments and other emergency personnel should have proper training in the latest methods for fighting an ethanol fire. This training should include both classroom sessions and field exercises.

- City fire departments and other emergency personnel should have proper training in the latest methods for responding to an ethanol spill, including containment strategies. This training should include both classroom sessions and field exercises.
- Plans should be developed for fighting ethanol fires along the routes within the study area. These plans should include general guidelines (including apparatus necessary to respond, the routes they will take, and how they will access the rail right-of-way) and more detailed consequence **modeling studies to discuss the worst-case scenario and response at several key locations, including, but not limited to, the following:**
 - The Global facility in Revere;
 - The Global facility in Chelsea;
 - The New England Produce Center in Chelsea and Everett;
 - Burke Elementary School in Chelsea;
 - All potential siding locations;
 - Distrigas (Everett), Mystic Power Plant (Everett), Gulf Oil (Chelsea), Muffin Town (Chelsea), Houghton Chemical (Allston), Exxon Mobil Oil (Everett), Irving Oil Facility (Revere), Sunoco East Boston Terminal (East Boston), and any other entities that store or handle hazardous materials, and;
 - The MIT research reactor and other laboratories.
- Plans should be developed to address the need for emergency care at hospitals within the study area, including the potential need to transfer patients out of facilities near the potential ethanol routes.
- Evacuation procedures should be developed to move people away from the corridors in the case of an emergency. These procedures should include evacuation routes, evacuation shelters, and communications protocols to reach the environmental justice and business communities. The evacuation procedures should reflect the possibility of multiple incident locations within each city.
- **There is an insufficient amount of alcohol-resistant foam, equipment, and training for adequate response to an ethanol incident.** Resources should be identified to procure the apparatus and supplies of foam necessary to fight ethanol fires. These resources should be identified on a regional basis as necessary. The amount of foam available should be in sufficient quantity to address a worst case unit train fire.
- Global and the railroads should identify procedures for moving any stored railcars to isolate any incident and prevent the spreading of fire during an emergency on the confined tracks adjacent to the Global facility.
- **Global should finance upgrades and the acquisition of necessary equipment to adequately respond to an incident involving the transportation, storage, or shipment of ethanol and ethanol-petroleum blends on its property.**
- **Should an incident occur involving the release of ethanol, an analysis is needed about whether an evacuation would be appropriate or advising the public to shelter in place.**
- **Risk communication / notification in the event of an ethanol incident must be made in multiple languages to ensure communication with limited English language speakers in Boston, Cambridge, Chelsea, Everett, Revere, and Somerville.**

Finally, we request that the ethanol safety study include the following additional points:

- MassDOT should add three additional months of Massachusetts derailments and train incidents from January 1, 2013-March 21, 2013.

- MassDOT reviewed Global's Hazard Response Plans, but cannot share those plans with the public.
- Distinguish between accidents/incidents at grade crossings versus elsewhere.
- Include population densities of ethanol incidents elsewhere in the United States in Table 3.2.
- Discuss MassDOT's review of the capacity of hospitals and other health care facilities to care for people in the event of an ethanol emergency.
- Discuss how MassDOT or another entity can improve safety at grade crossings.
- Discuss why a specific evacuation radius is recommended.
- Include a map of access points to deliver alcohol resistant foam to rails.
- Explain that rail incidents in MA do not include suicides or other human-triggered incidents.
- Note that municipalities and first responders must work collaboratively and have emergency response plans in place.
- Note in Table 3.2 that the amount of property damages is to railroad property only and does not include the costs of damages to surrounding businesses, residences, or municipalities.
- Clearly indicate in Tables 2-7 and 2-8 that maintenance moves are not indicated. All MBCR trains, even those working the south shore, eventually have to come through the Grand Junction to get over to the maintenance facility in the Inner Belt area. These passages may happen during the same time as the ethanol runs.
- Please remove the seven references to foam that is not alcohol resistant foam in Table 3-7. Please note the cost of alcohol resistant foam and associated equipment needed to deploy the foam.
- Please note the cost of the courses listed on page 44, the frequency with which the courses are offered, and the frequency with which first responders would need to attend a refresher course.
- On page 44, the report refers to MA Department of Public Health programs that include preparations for treatment and transport of patients during mass casualty incidents. Please indicate the cost to provide these programs to each of the hospitals, clinics, and other health care facilities listed in Table 3-4.
- This report fails to address the issue of the multiple at-grade crossings in Chelsea in terms of what would happen if the train simply had a non-catastrophic derailment that blocked all the road crossings in Chelsea since the ethanol trains will be long enough to block all four at-grade crossings simultaneously. Further analysis of this concern should be addressed through consequence modeling.

Thank you for the opportunity to comment. We appreciate your work to date to conduct a robust public safety study about the transportation of ethanol by rail with a high level of public participation.

Sincerely,



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