

HOW TOMORROW MOVES



CSX TRANSPORTATION

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Hazardous Material Systems - Field Services



CSX
CORPORATION

CSX
TRANSPORTATION

CSX
INTERMODAL

[**CSX**]
How tomorrow moves



CSX in America

CSX operates in:

- 23 states, 2 Canadian Provinces, and DC
- 700 counties
- 13,000 jurisdictions

Infrastructure includes:

21,000 route miles

37,000 physical track miles

Bridges, Tunnels, Classification
Facilities,

Dispatch Centers, Office Buildings.

Transportation Service Provided:

Coal

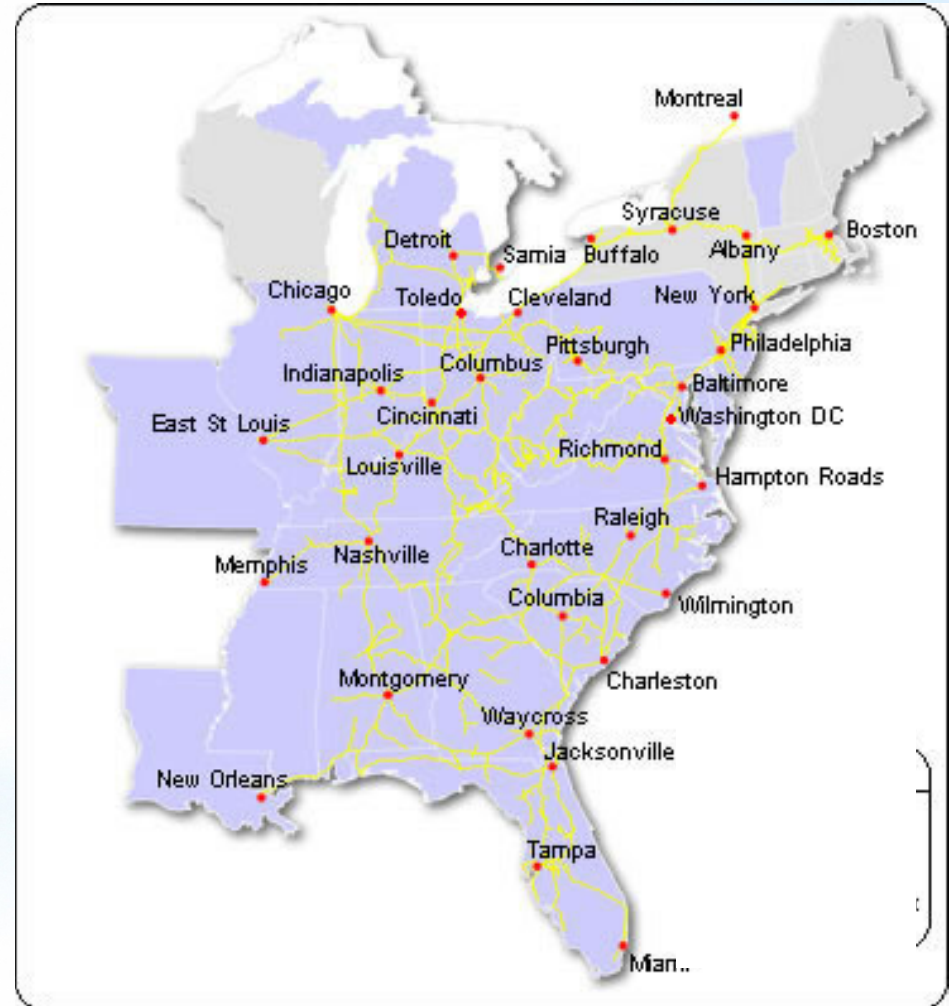
Automotive

Grain/Agriculture

Food/ Consumer Goods

Metals

Chemicals



Life-Cycle of a Shipment



Car is constructively placed at customer's track



Customer Prepares Car for Pick-up



Railroad accepts car in to transport



Cars are classified in rail yard for delivery



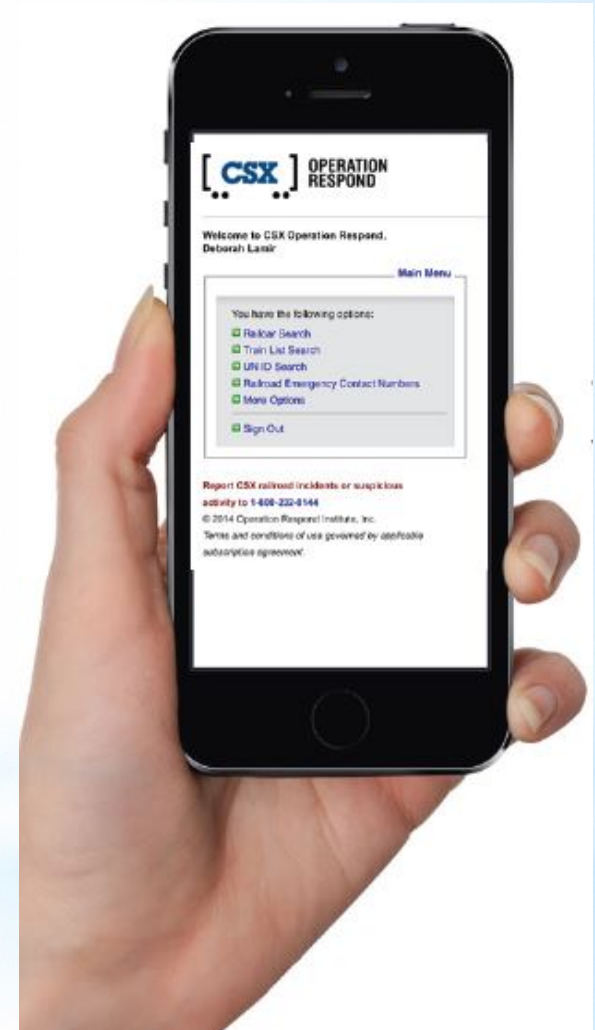
Introducing CSX Operation Respond

The right tool,
for the right people,
at the right time



CSX Operation Respond

- ✓ CSX Operation Respond is a mobile emergency information system
- ✓ Designed specifically for emergency first responders
- ✓ Aids in responding to rail related emergencies - especially those involving hazardous materials
- ✓ Provides real-time information on the contents of rail cars
- ✓ Provides real-time complete train list information
- ✓ Provides a suite of other useful emergency response information
- ✓ Works with iPhone, Android devices and most web browsers



CSX Operation Respond

Operation Respond addresses a longstanding NTSB recommendation

“In 2007, we first recommended that the FRA work with the Pipeline and Hazardous Materials Safety Administration to **require that railroads provide emergency responders accurate, real-time information regarding the identity and location of all hazardous materials on a train.** Today we reiterated this recommendation. Making this communication mandatory across the rail industry will enable first responders to have access to the information that they need.”

NTSB Acting Chairman, Christopher A. Hart
Closing Statement, Paulsboro, NJ, Train Derailment Board Meeting
July 29, 2014

And that of legislative and local officials

“...emergency responders don’t have access to real-time information about the hazardous materials they (the railroads) carry”*

U.S. Senator Charles Schumer

“Anything they can do to provide real-time information to us so that we have it immediately is going to help us.”*

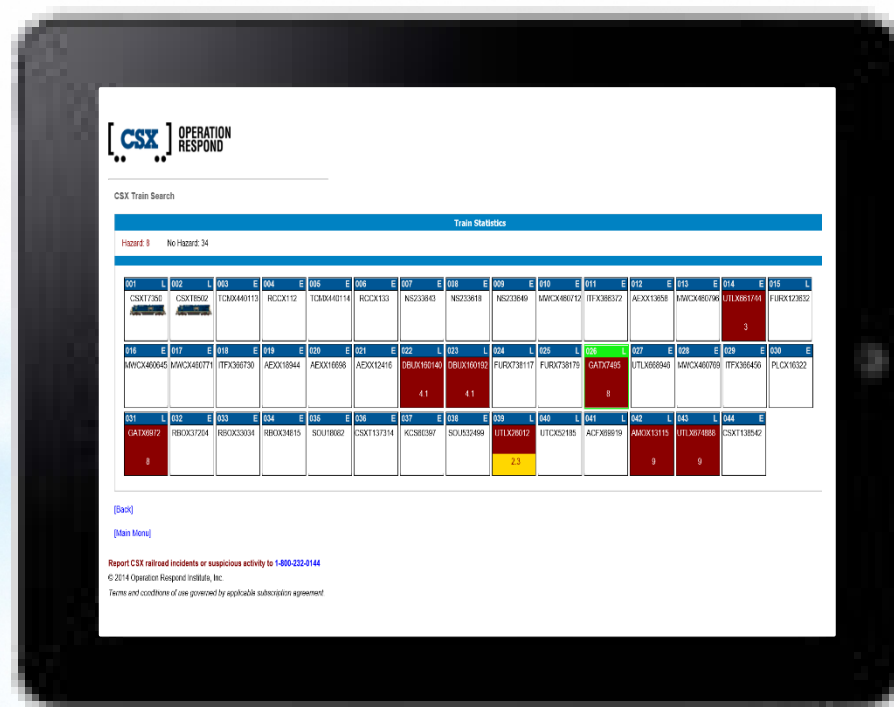
Buffalo NY Fire Commissioner Garnell Whitfield

* May 1, 2014, WIVB News 4, Buffalo, NY

CSX Operation Respond

How it works - An emergency responder simply needs to enter a rail car's identification number (e.g. UTLX-259813) to access:

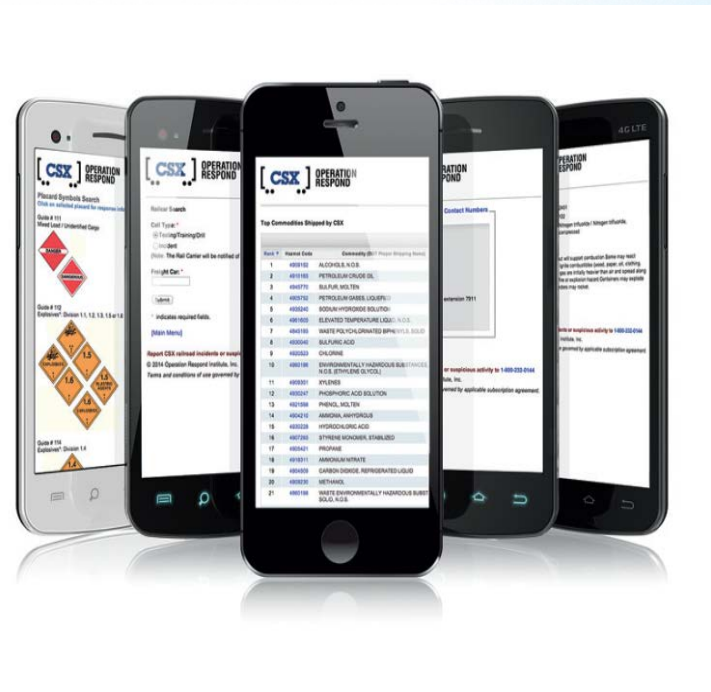
- Contents of the rail car
- Detailed emergency response guidelines for the commodity
- A complete train list showing all the rail cars in the train with those carrying hazardous materials highlighted for easy identification



CSX Operation Respond

Besides getting real-time information on the contents of rail cars in a train, an emergency responder also has access to:

- Railroad emergency contact information
- Tank car diagrams
- Amtrak passenger car diagrams
- HazMat UN number search
- Chemical databases
- Water reactive chemicals list
- List of most common hazardous materials transported by CSX
- CSX unit train emergency response guide



CSX Operation Respond

Currently 1100+ emergency responders in multiple states

Anticipate covering the entire CSX network by July 2015

- 23 states
- 21,000 miles of track
- 13,000 local jurisdictions

Two user levels - Advanced and Basic

- **Advanced** - access to all information and typically provided to chiefs and other incident command staff
- **Basic** - access to all information except train list and intended for basic firefighters

Further enhancements are planned for 2015 including

- Map-based list of sensitive receptors such as water intakes and watersheds

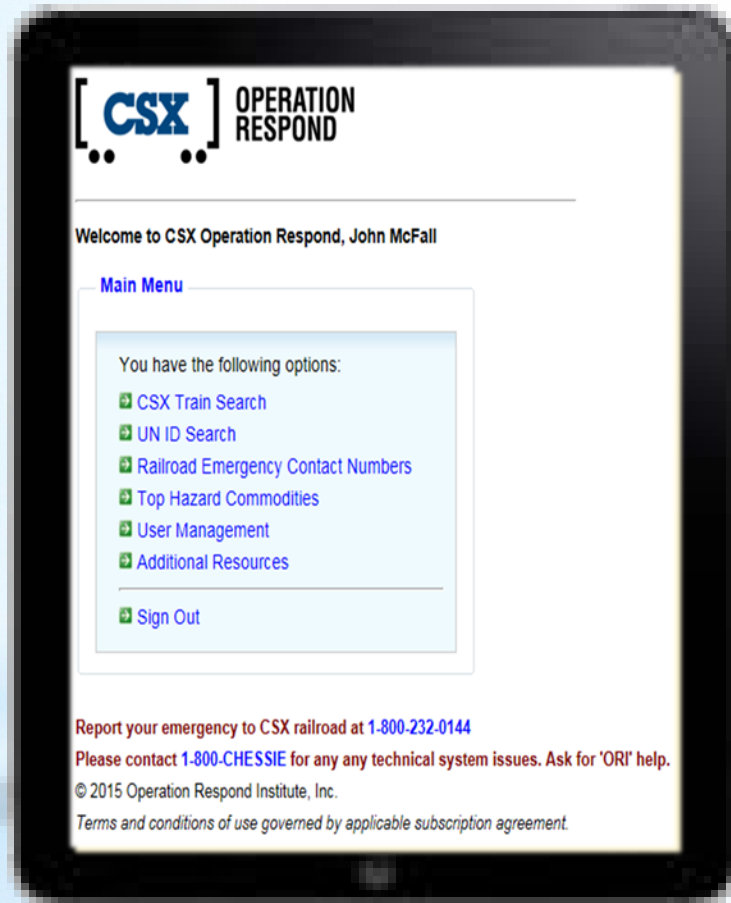
CSX Operation Respond

Builds upon other tools provided by CSX to emergency response agencies for providing information about the commodities transported through states and local communities by CSX

- CSX SecureNOW - a map-based geographical train and rail car monitoring tool that allows homeland security and emergency management centers to track CSX trains in real-time
 - In place in 20 of the 23 states where CSX operates
 - In place at U.S.DOT, TSA and CHEMTREC
- CSX HazMat Density Reports - for over 20 years CSX has been providing detailed hazmat density reports to local community emergency response and planning officials



CSX Operation Respond

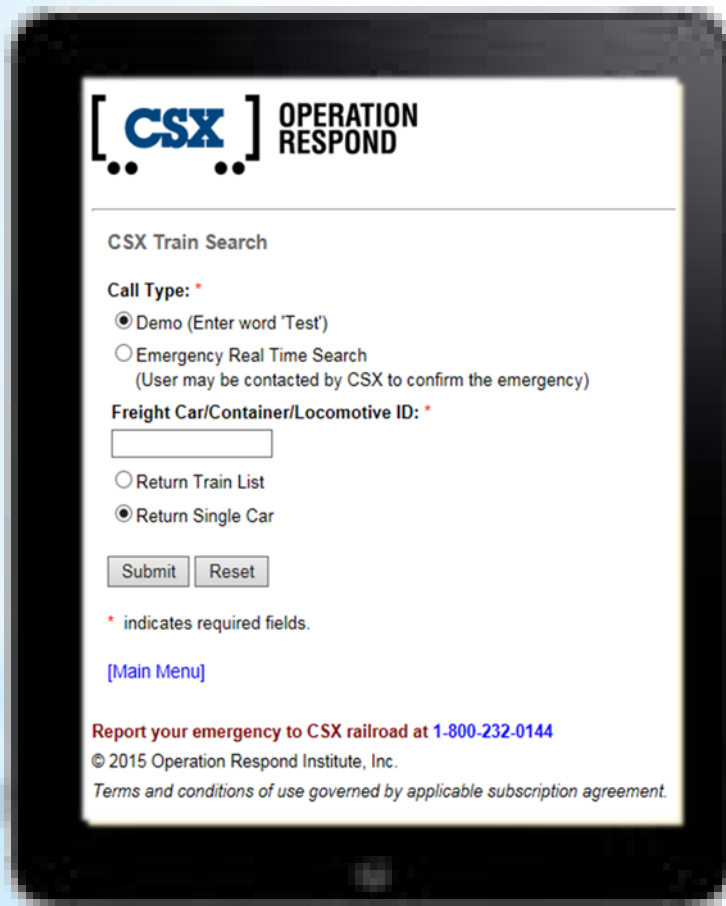


Main Menu

- ✓ Train Search
- ✓ UNID Search
- ✓ Load/Empty Status
- ✓ Railroad Emergency Numbers
- ✓ Top Hazard Commodities
- ✓ User Management
- ✓ Additional Resources

CSX Operation Respond

Single Railcar Search



[CSX] OPERATION RESPOND

CSX Train Search

Call Type: *

- Demo (Enter word 'Test')
- Emergency Real Time Search
(User may be contacted by CSX to confirm the emergency)

Freight Car/Container/Locomotive ID: *

Return Train List

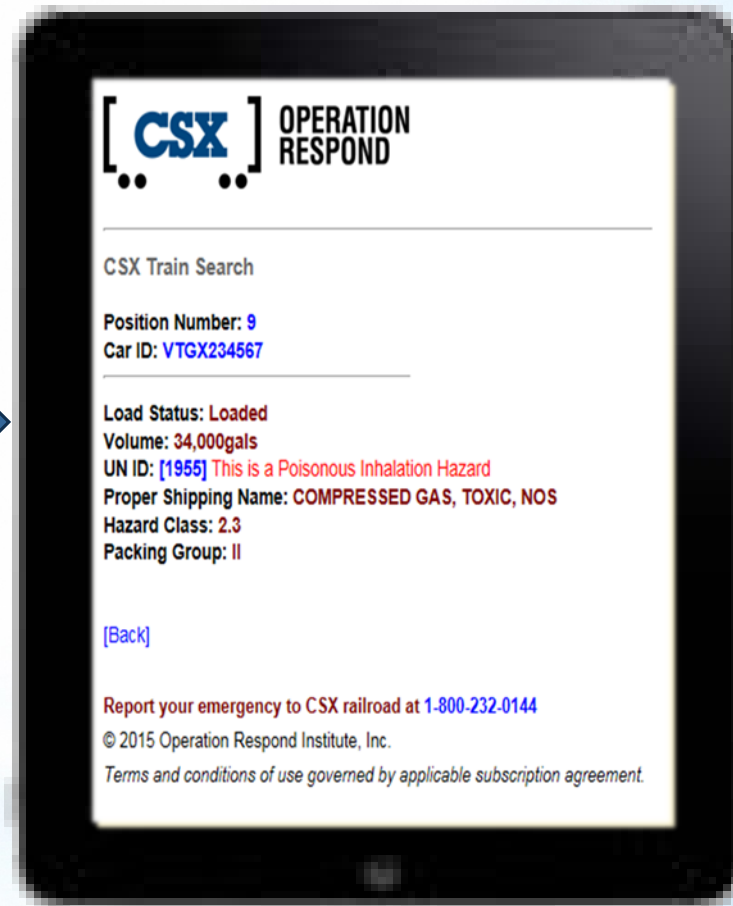
Return Single Car

* indicates required fields.

[\[Main Menu\]](#)

Report your emergency to CSX railroad at [1-800-232-0144](tel:1-800-232-0144)

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[CSX] OPERATION RESPOND

CSX Train Search

Position Number: 9
Car ID: VTGX234567

Load Status: Loaded
Volume: 34,000gals
UN ID: [1955] This is a Poisonous Inhalation Hazard
Proper Shipping Name: COMPRESSED GAS, TOXIC, NOS
Hazard Class: 2.3
Packing Group: II

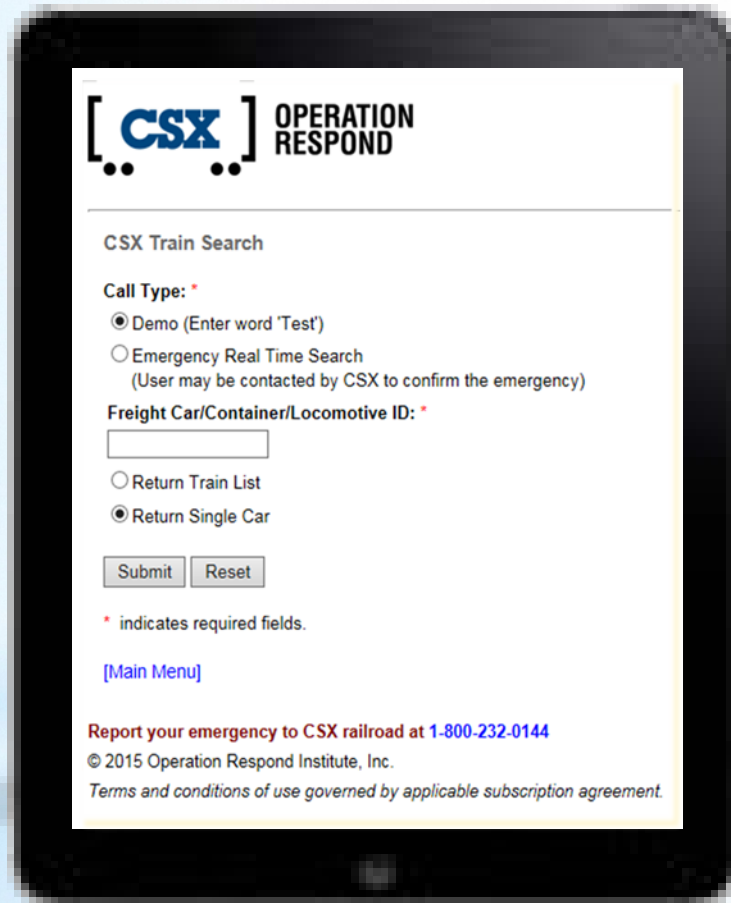
[\[Back\]](#)

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CSX Operation Respond

Train List Search (Advanced Users)



The screenshot shows a tablet displaying the CSX Operation Respond interface. At the top left is the CSX logo with the text 'OPERATION RESPOND' to its right. Below this is a horizontal line. The main content area is titled 'CSX Train Search'. Underneath, there is a 'Call Type:' section with two radio button options: 'Demo (Enter word 'Test')' which is selected, and 'Emergency Real Time Search (User may be contacted by CSX to confirm the emergency)'. Below that is a 'Freight Car/Container/Locomotive ID:' section with an empty text input field. Underneath the input field are two radio button options: 'Return Train List' and 'Return Single Car', with 'Return Single Car' selected. At the bottom of the form are two buttons: 'Submit' and 'Reset'. Below the buttons is a note: '* indicates required fields.' and a link: '[Main Menu]'. At the very bottom of the screen, there is a red text line: 'Report your emergency to CSX railroad at 1-800-232-0144', followed by copyright information: '© 2015 Operation Respond Institute, Inc.' and a line of smaller text: 'Terms and conditions of use governed by applicable subscription agreement.'

Train List Search Results

- ✓ Entire Train Consist
- ✓ Car Sequence Order
- ✓ Load/Empty Status
- ✓ Railcar ID Number
- ✓ Color Coded HazMat ID
 - White – Non HazMat
 - Red – HazMat
 - Red/Gold – TIH/PIH
- ✓ HazMat Classification

CSX Operation Respond

Train List Search (Advanced Users)

Each box links to railcar contents page

HazMat cars easy to locate

- White - Non HazMat
- Red - HazMat
- Red/Gold - TIH/PIH

The screenshot displays the CSX Operation Respond interface for a Train List Search. At the top, it shows the CSX logo and 'OPERATION RESPOND'. Below this is a search bar and a 'Train Statistics' section indicating 8 Hazard and 34 Non-Hazard cars. The main area is a grid of 30 railcar status boxes, each representing a different car. Each box contains a car number, a direction indicator (L or E), and a color-coded status. The colors are: White (Non-HazMat), Red (HazMat), and Red/Gold (TIH/PIH). Some boxes also contain a small icon of the railcar and a number indicating the quantity of that type of car.

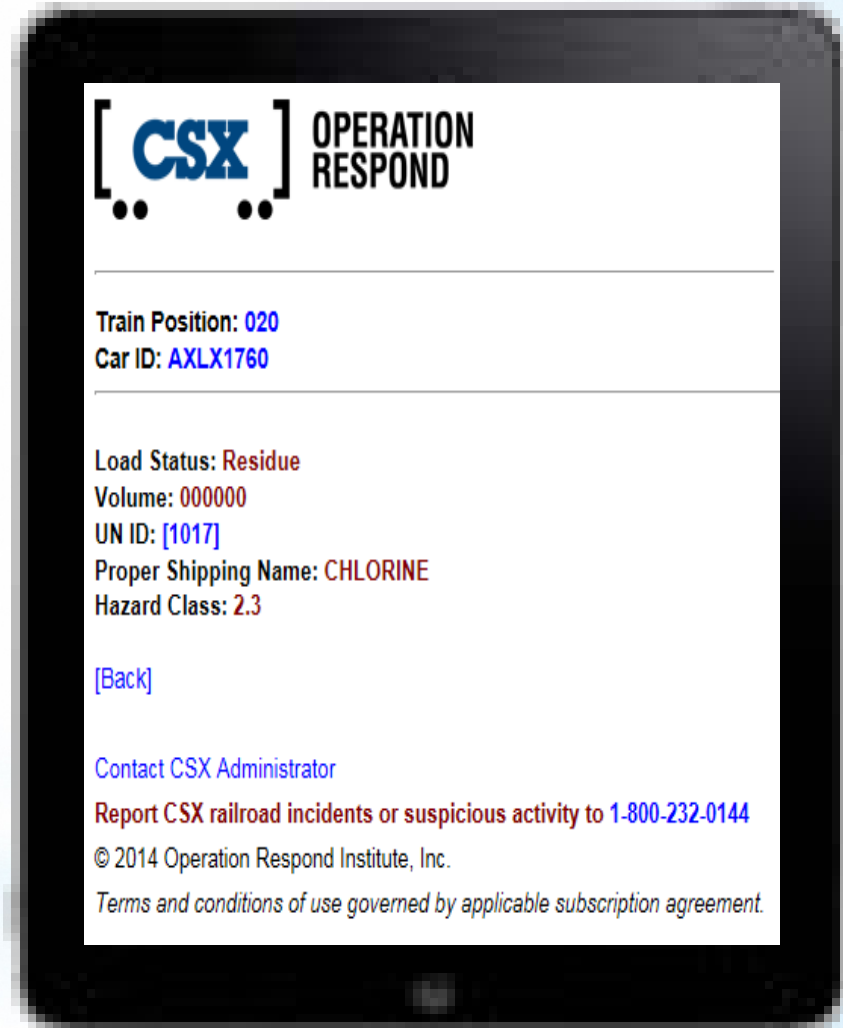
001	L	002	L	003	E	004	E	005	E	006	E	007	E	008	E	009	E	010	E	011	E	012	E	013	E	014	E	015	L	
CSXT7350		CSXT8502		TCBM440113		ROCK112		TCMX440114		ROCK133		NS233643		NS233618		NS233649		MWCK460712		ITFX366372		AEOX13658		MWCK460796		UTLX661744		FURX123632		
																										3				
MWCK460645		MWCK460771		ITFX366730		AEOX18944		AEOX16696		AEOX12416		DLUX160140		DLUX160192		FURX736117		FURX736179		GATX7495		UTLX869946		MWCK460799		ITFX366456		FLCX16322		
												4.1		4.1							8									
GATX9972		RBOX37204		RBOX33034		RBOX34815		SOU18032		CSXT137314		KC560397		SOUS32499		UTLX26012		UTLX52165		ACFX86919		AMCX13115		UTLX874688		CSXT138542				
																2.3								9		9				

CSX Operation Respond

Train List Search (Advanced Users)

Railcar Contents

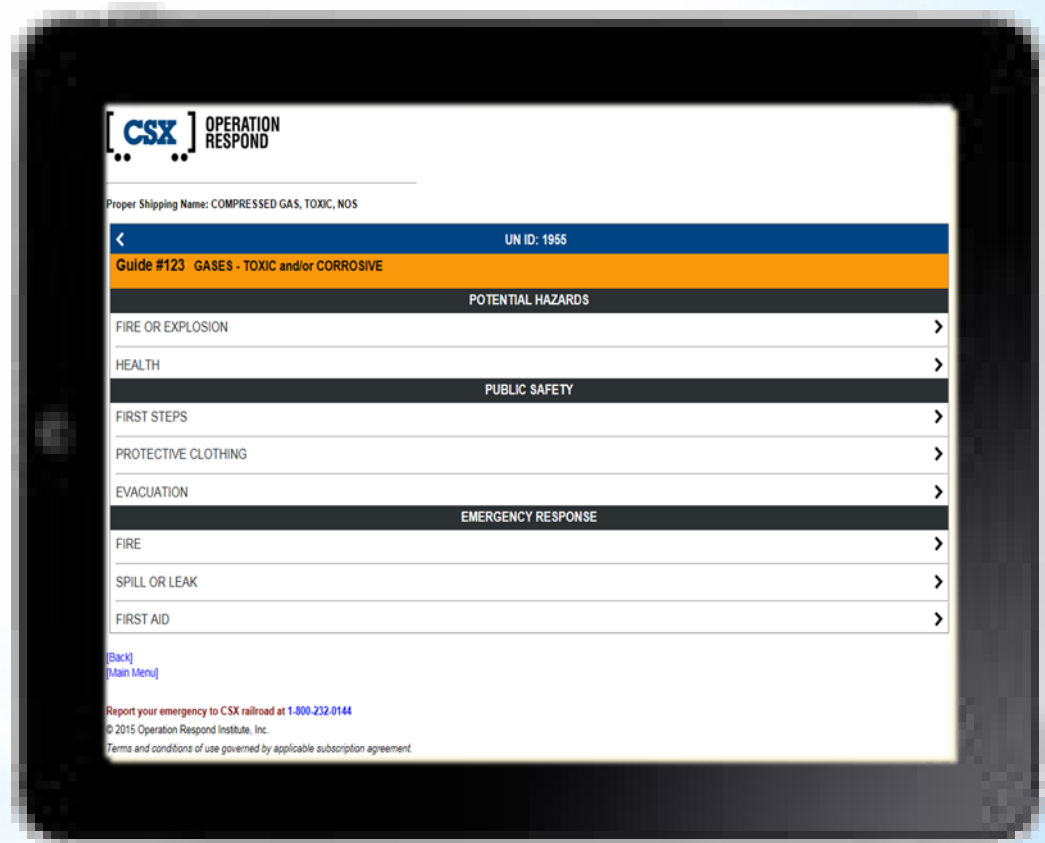
- ✓ Train Position
- ✓ Car ID
- ✓ Load Status
- ✓ Volume
- ✓ UN ID# (link)
- ✓ Commodity
- ✓ Hazard Class



CSX Operation Respond

UN ID Number Search

- ✓ UN ID Number
- ✓ NAERG Number
- ✓ Commodity
- ✓ Protective Actions



CSX Operation Respond

CSX Top 25 Hazard Commodities

- ✓ Linked to AAR HazMat Database
- ✓ Commodity
- ✓ Hazard Class
- ✓ UN Number

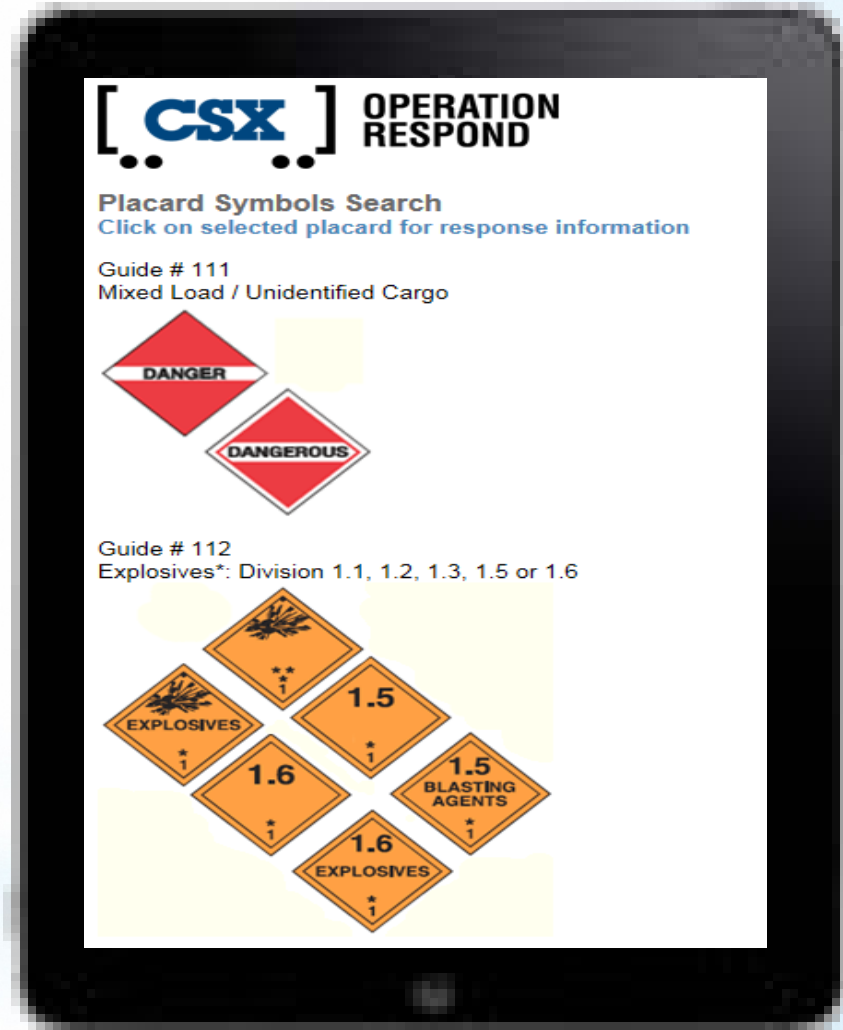
The screenshot displays the CSX Operation Respond interface. At the top left is the CSX logo. To its right, the text 'OPERATION RESPOND' is displayed. Below this, the title 'Top Commodities Shipped by CSX' is centered. A table follows, with a header row containing 'Rank', 'Hazmat Code', 'Commodity (DOT Proper Shipping Name)', 'DOT Hazard Class*', and 'UN/NA'. The table lists 25 items, with the first 10 items having a 'Rank' column. The table also includes a 'Total Records: 25' and 'Records per page: 25' indicator at the top right.

Rank	Hazmat Code	Commodity (DOT Proper Shipping Name)	DOT Hazard Class*	UN/NA
1	4909152	ALCOHOLS, N.O.S.	3	UN1987
2	4910165	PETROLEUM CRUDE OIL	3	UN1267
3	4945770	SULFUR, MOLTEN	9	UN2448
4	4905752	PETROLEUM GASES, LIQUEFIED	2.1	UN1075
5	4935240	SODIUM HYDROXIDE SOLUTION	8	UN1824
6	4961605	ELEVATED TEMPERATURE LIQUID, N.O.S.	9	UN3257
7	4845195	WASTE POLYCHLORINATED BIPHENYLS, SOLID	9	UN3432
8	4930040	SULFURIC ACID	8	UN1830
9	4920523	CHLORINE	2.3	UN1017
10	4960196	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (ETHYLENE GLYCOL)	9	UN3082
11	4909351	XYLENES	3	UN1307
12	4930247	PHOSPHORIC ACID SOLUTION	8	UN1805
13	4921598	PHENOL, MOLTEN	6.1	UN2312
14	4904210	AMMONIA, ANHYDROUS	2.2	UN1005
15	4930228	HYDROCHLORIC ACID	8	UN1789
16	4907285	STYRENE MONOMER, STABILIZED	3	UN2055
17	4905421	PROPANE	2.1	UN1075
18	4918311	AMMONIUM NITRATE	5.1	UN1942
19	4904509	CARBON DIOXIDE, REFRIGERATED LIQUID	2.2	UN2187
20	4909230	METHANOL	3	UN1230
21	4860198	WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.	9	UN3077
22	4905704	BUTADIENES, STABILIZED	2.1	UN1010
23	4966110	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (ADIPIC ACID)	9	UN3077
24	4908105	ACETONE	3	UN1090
25	4918774	AMMONIUM NITRATE, LIQUID	5.1	UN2426

CSX Operation Respond

Placard Symbols

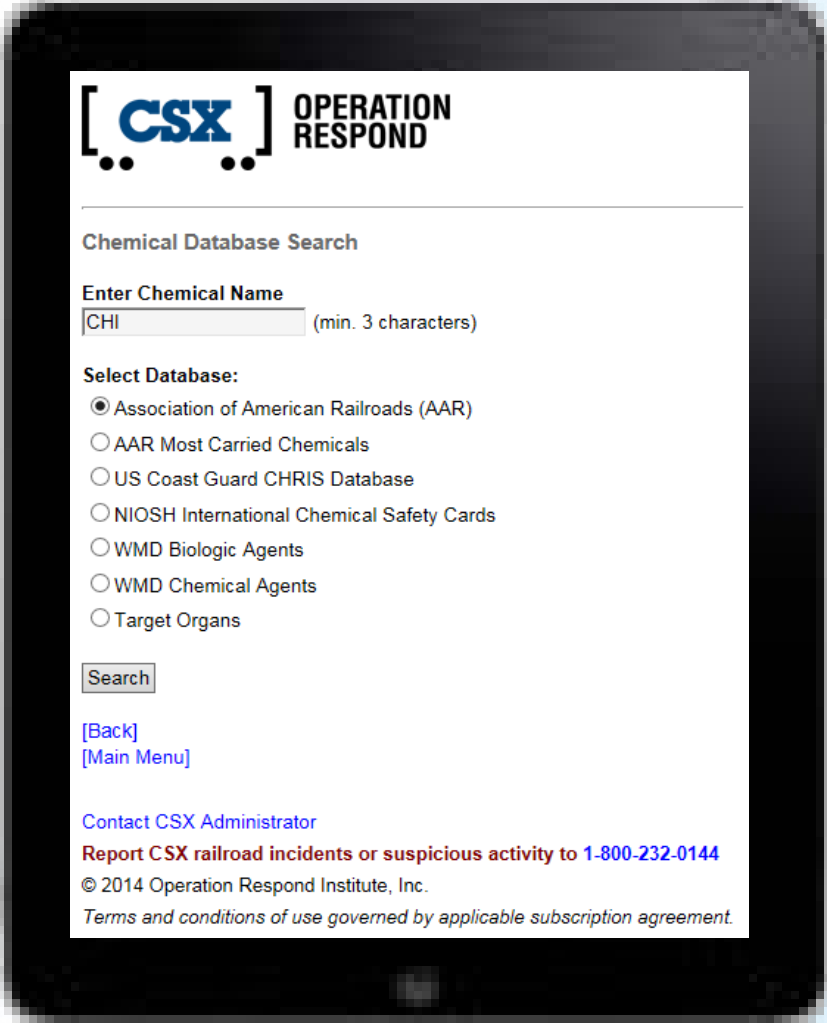
- ✓ NAERG Number
- ✓ Contents
- ✓ HazMat Information



CSX Operation Respond

Chemical Databases

- ✓ Searches 7 databases
- ✓ UN ID Number
- ✓ Commodity Name
- ✓ HazMat Class
- ✓ Content Description
- ✓ HazMat Information



The screenshot displays the CSX Operation Respond mobile application interface. At the top, the CSX logo is shown in blue with the text "OPERATION RESPOND" in black to its right. Below the header, the screen is titled "Chemical Database Search". There is a text input field labeled "Enter Chemical Name" containing the text "CHI", with a note "(min. 3 characters)" to its right. Underneath, a section titled "Select Database:" contains seven radio button options: "Association of American Railroads (AAR)" (which is selected), "AAR Most Carried Chemicals", "US Coast Guard CHRIS Database", "NIOSH International Chemical Safety Cards", "WMD Biologic Agents", "WMD Chemical Agents", and "Target Organs". A "Search" button is located below the radio buttons. At the bottom of the screen, there are links for "[Back]" and "[Main Menu]", a link to "Contact CSX Administrator", a red text prompt "Report CSX railroad incidents or suspicious activity to 1-800-232-0144", a copyright notice "© 2014 Operation Respond Institute, Inc.", and a line of text stating "Terms and conditions of use governed by applicable subscription agreement."

CSX Operation Respond

Water Reactive Chemical List

- ✓ UN ID Number
- ✓ Guide Number
- ✓ Commodity Name
- ✓ TIH (Gas) Produced

[CSX] OPERATION RESPOND

Table of Water-Reactive Materials Which Produce Toxic Gases

This table lists materials which produce large amounts of Toxic Inhalation Hazard (TIH) gases when spilled in water and identifies the TIH gases produced.

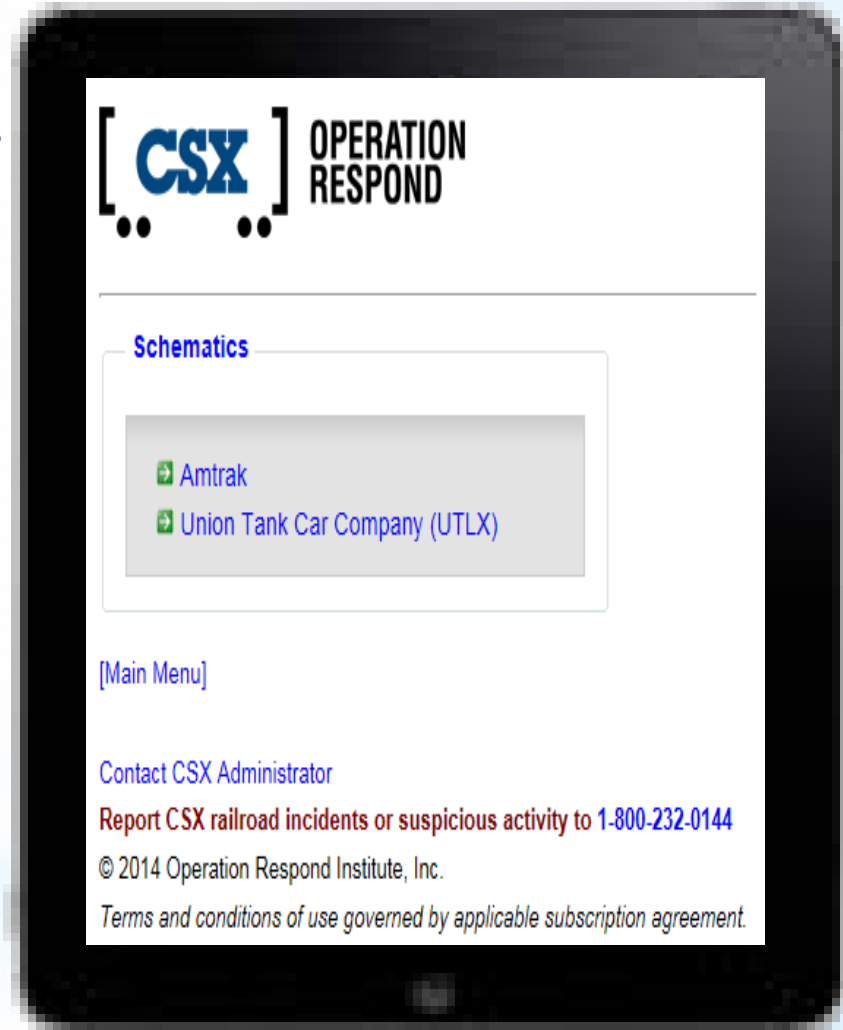
Total Records: 127 Records per page: 25

UN ID	Guide Num	Proper Shipping Name	TIH Gas(es) Produced
1162	155	Dimethyldichlorosilane	HCl
1183	139	Ethyldichlorosilane	HCl
1196	155	Ethyltrichlorosilane	HCl
1242	139	Methyldichlorosilane	HCl
1250	155	Methyltrichlorosilane	HCl
1295	139	Trichlorosilane	HCl
1298	155	Trimethylchlorosilane	HCl
1305	155P	Vinyltrichlorosilane	HCl
1305	155P	Vinyltrichlorosilane, stabilized	HCl
1340	139	Phosphorus pentasulfide, free from yellow and white Phosphorus	H ₂ S
1340	139	Phosphorus pentasulphide, free from yellow and white Phosphorus	H ₂ S
1360	139	Calcium phosphide	PH ₃
1384	135	Sodium dithionite	H ₂ S, SO ₂
1384	135	Sodium hydrosulfite	H ₂ S, SO ₂
1384	135	Sodium hydrosulphite	H ₂ S, SO ₂
1397	139	Aluminum phosphide	PH ₃
1419	139	Magnesium aluminum phosphide	PH ₃
1432	139	Sodium phosphide	PH ₃
1541	155	Acetone cyanohydrin, stabilized	HCN
1680	157	Potassium cyanide	HCN
1680	157	Potassium cyanide, solid	HCN
1689	157	Sodium cyanide	HCN
1689	157	Sodium cyanide, solid	HCN

CSX Operation Respond

Schematics

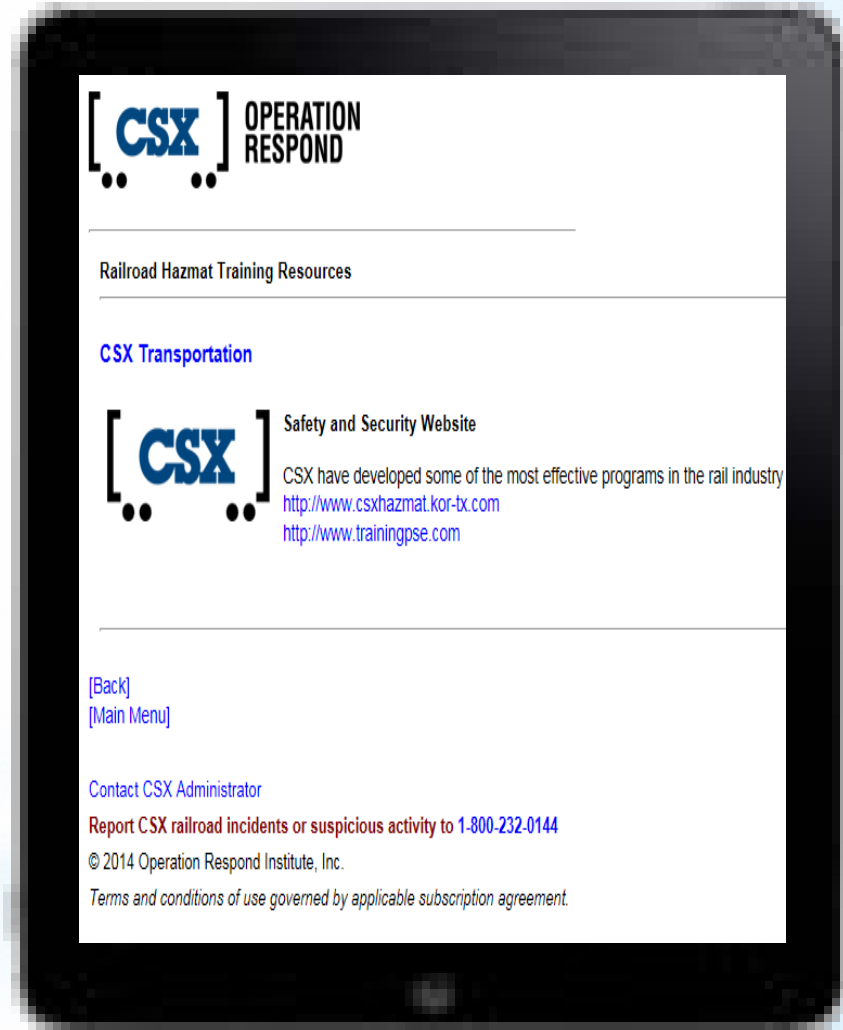
- ✓ Amtrak Passenger Cars
- ✓ Tank Cars



CSX Operation Respond

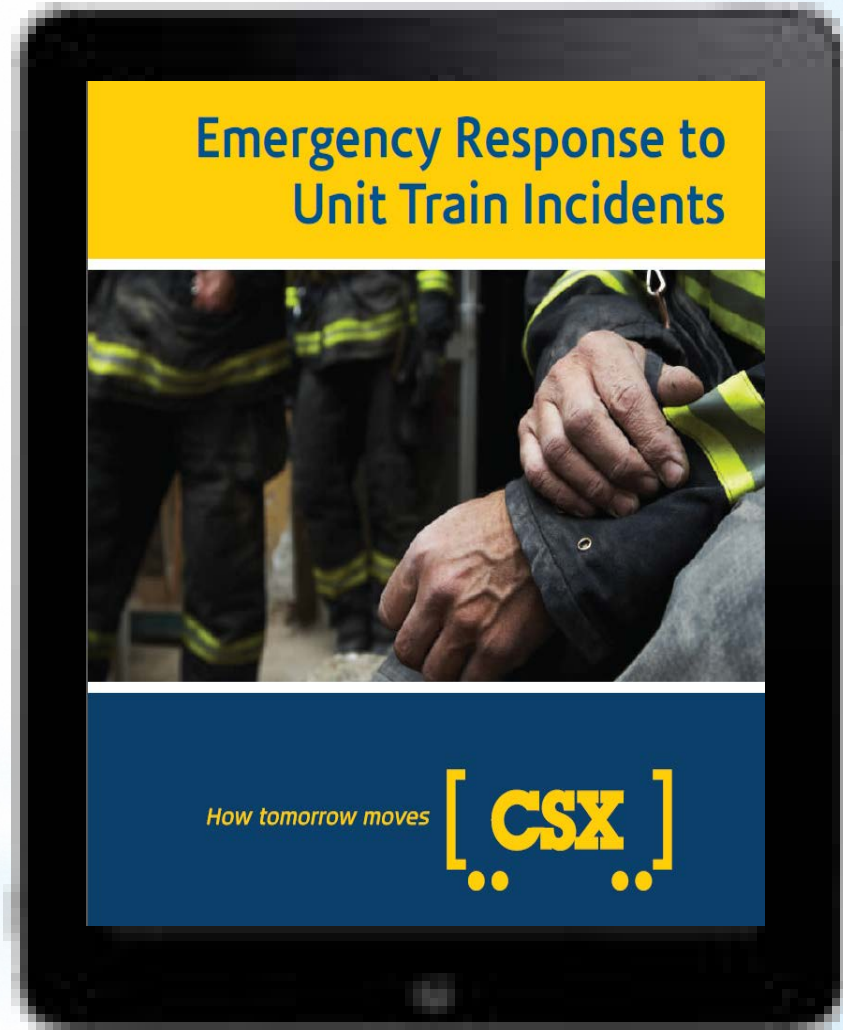
CSX HazMat Training Resources

- ✓ Computer-based training
- ✓ Self-study training
- ✓ Reference guides
- ✓ Face-to-face training



CSX Operation Respond

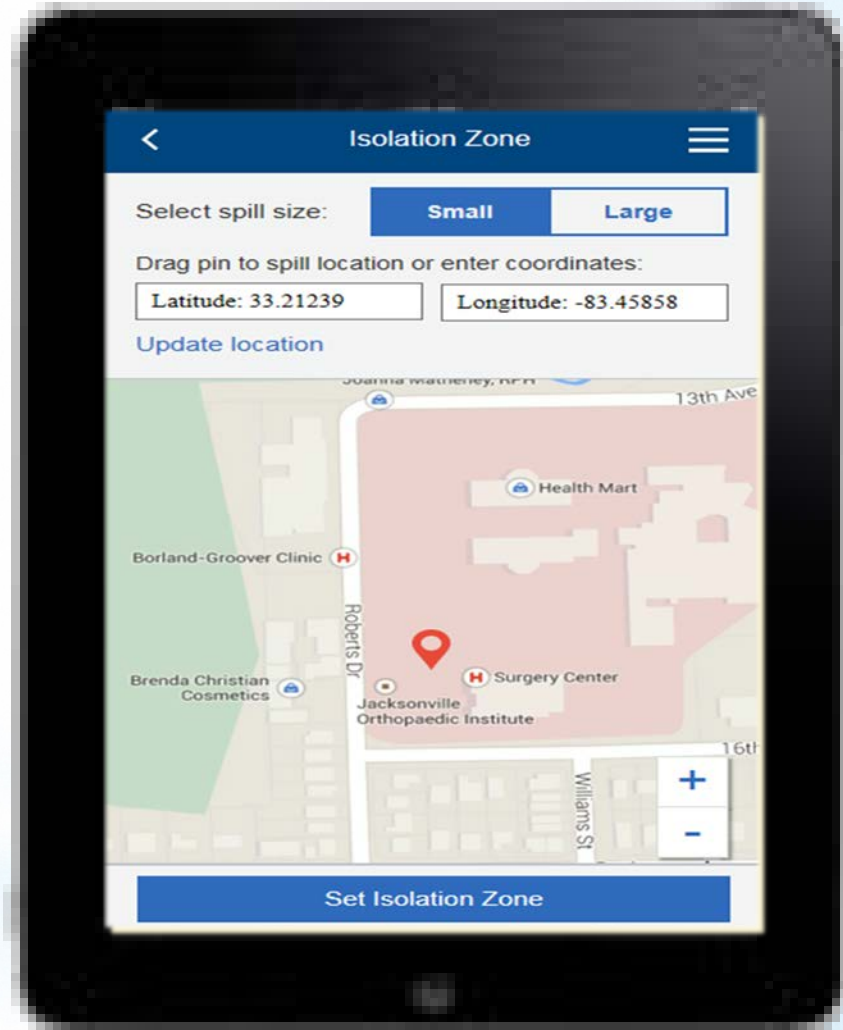
CSX Unit Train Guide



CSX Operation Respond

2015 Enhancements

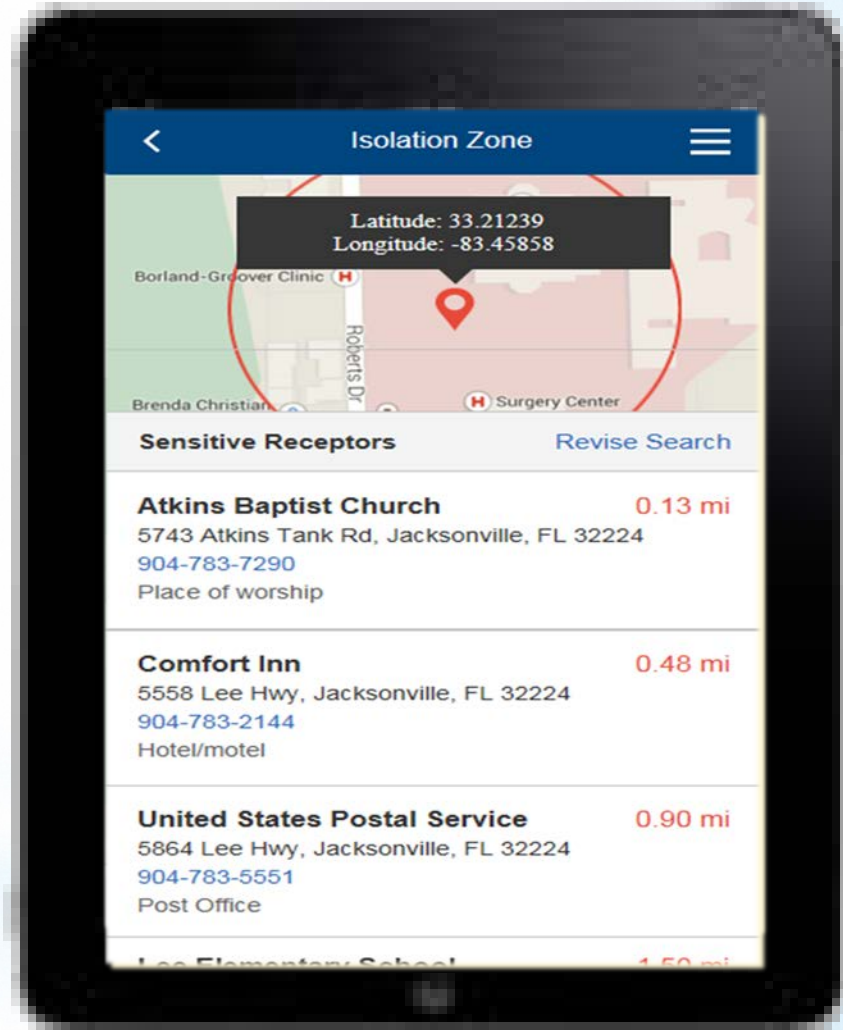
- ✓ **Isolation Zone**
 - ✓ **Based on Geo Location**
 - ✓ **Railcar Commodity**
 - ✓ **Spill Size (Small or Large)**



CSX Operation Respond

Set Isolation Zone

- ✓ Provides Sensitive Receptors within the isolated area



CSX Operation Respond

For more information contact:

John McFall

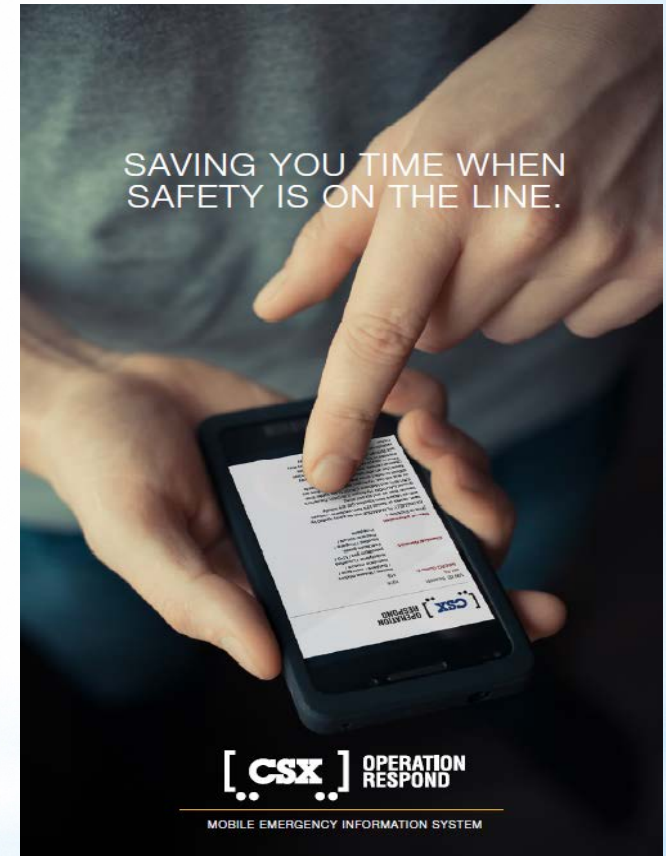
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CSX Operation Respond

The right tool,
for the right people,
at the right time

