



Most (Commercial or Passenger) Trains Traffic <u>East of Hicksville</u> running through the Westbury Fire District -

It would not be impossible to have a Railroad Incident occur within our boundaries.



<u>New York & Atlantic Railway</u> is primary commercial train company, operating on the LIRR tracks.

They connect up train companies such as: CP, CSXT,NS, NYNJ and P&W.

NY&A Railways operate on 269 miles of tracks, with 11 locomotives and runs approx. 20,000 carloads of product, annually through Long Island.



<u>New York & Atlantic Railway:</u>



<u>Inbound commodities</u> carried Include – Rice, Beer, Canned Goods, Vegetables, Bricks, Lumber, Stone, Paper Goods and *Propane gas.

<u>Outbound loads</u> consist of – Contaminated Soil, Construction Debris, Municipal Waste, Scrap Metals and Paper products.



<u>New York & Atlantic Railway:</u>



In 1997 NY&A Railways ran approx. 9,000 carloads on the LIRR tracks and by 2009 this was up over 20,000 carloads.

Railway is a growing industries with more carloads added regularly. The products carried changes daily and can include <u>anything</u>.

If there is a need to haul, NY & Atlantic will transport it.



New York & Atlantic Railway:



As of Aug. 2010 – The main hazardous material carried is - Liquid Petroleum Gas (LPG) to a distribution plant in Suffolk County & occasionally Contaminated Soil from Shoreham & various construction sights through out LI.

Statistics has shown, Railroads prove the safest, most efficient & practical way to transport Hazardous Materials. With over 1.99 million carloads transported annually, they only average about 38 car leaks. (232 leaks - worst ever year)

Basic Safety Rules – When Working on Tracks or Railroad Properties

- Expect movement on any track at any time
- •Avoid walking between the rails (down center of the tracks)
- •Watch where you step at all time
- •Don't step or stand on the rail
- •Head and eye protection must be work at all times
- •Steel tip boots or firefighter boots must be worn
- •Be aware of electrical hazards in and around all trains *Fuel Locomotives have generators that produce electric*
- •Before working on or around a car, make sure the hand brake is set and the car is chocked

Basic Safety Rules – When Working <u>on Tracks</u> or Railroad Properties

- •Make sure 3rd rail power is shut down and confirmed before working around any car and always assuming the power is still on
- Before opening any door, make sure you know the direction in is intended to open.
- •Guard against the doors falling off and lading falling out.
- •Place hose lines under tracks when possible, by digging out ballast
- •Look in both directions before stepping across or getting close to tracks.
- •Keep a safe distance, at least 30, from any passing train
- •Never place or store equipment on tracks, unless it is required for a specific task



•Always leave 25' between you and any standing rail car when crossing tracks.

•Always face the direction from which a train is travelling



Basic Safety Rules – When Working on Tank Cars

- Make sure you have positively Identified the contents of the car and understand all properties of its hazard
- •Know and understand the valves, relief devices, and mechanical appliances and how to operate them
- •Make sure there is no track movement, to which you are working
- •Always use the safety handles, platforms and ladders provided
- •Never stand, step or cross on the center sill or coupler
- •Never jump off a car... Use the ladder
- •When climbing a leaking or <u>damaged</u> tank car... Use your own Ladder
- •Never put you body over or in front of any valve, gauge or other opening

Initial Response To Hazardous Material Incidents

As with all Emergencies, **PREPLANNING** is a crucial element needed for the successful operation.

Before an emergency occurs ,we need to be familiar with what we can expect at a Railroad incident in the district. (learning at an incident, may not be a good idea!)

A good first step, is to contact railroad officials and get them coming to your incident, they can provide expert help.

Initial Response To Hazardous Material Incidents

Items that need to be **Preplanned** are:

<u>Gaining Access</u> – some area of track are not easy to get to without imposing danger to personnel and equipment

<u>Bridges/Trestles/Tunnels</u> – have access /egress issues – Traffic <u>MUST BE STOPPED</u> before working on them.

Environments Sensitive Areas – Where is leak going?

What is in the Right of Ways – typical for pipes, cables & conduit

Evacuation areas of concern – Nursing Homes, Hospitals, Large Apartment complex... near tracks

Initial Response To Hazardous Material Incidents

Detecting the Presence of Hazard Materials

Before jumping into action, responders first on scene MUST determine whether or not a Hazardous Material is Involved, for their protection and the protection of all responders.

Survey the scene, looking for detection clues such as: Placards, Labels, shape of containers or even the shipping papers from the conductor, if accessible.

If you discover a Hazardous Material – start protective actions.

First Defensive Tactics - which includes - ISOLATE & DENY ENTRY

Inc, TRN 13,500gal molten sulfur tank car No. TTDX 135210 () limincham, AL., Oct 15th, 2005.



Initial Response To Hazardous Material Incidents

Detecting the Presence of Hazard Materials

Shipping papers for the entire train can be found with the Trains **Conductor**.

All NY&A Trains have a Engineer (Driver) and Conductor (Manager) and both are cross trained to do both Jobs. -

The **Train Consist** is the Primary shipping paper of a train. It will contain **4 parts**:(**1**) a Tonnage Graph – listing each car in the train, (**2**) it's number position in the train, (**3**) if Hazard material is present and (**4**) will note any special handling instructions.



Initial Response To Hazardous Material Incidents

Detecting the Presence of Hazard Materials

TTDX 135210

A **Waybill** – is a shipping document for a <u>Particular Rail Car,</u> describing its content, who's receiving & the shippers information, meeting all Department of Transportation (DOT) Requirements.

Knowing the shippers or receiver's info can prove important for Scene management.

It will allows you to get expert advise on handling the product, since they do it on a regular basis and have the training.

Initial Response To Hazardous Material Incidents Example of Train Consist

8/15/10 NYA Yara 11:32:17 P	d Report CRMAT: Switch List #5		Page	1 of 3 RSRAPPR	8/15/10 NYA Yard Report Page 3 of 11:32:17 POPULE cuiceb Vice at RSRM
Work List : RS-60 Description . : EAST END SW Origin Station: BRENT Conductor: Instructions:	Number: 26528 ITCHER Destination Station: Engincer:	Date: 8/1 BRENT Train	6/10 Ti	me: 6:00	Work List : RS-60 Number: 26528 EAST END SWITCHER *NOTE: CARS PRINTED IN WORK LIST SEQUENCE
ENGINES 15:	1,155. SPOT 2				Conduct Seg Car LE Block To Switch Instr Commodity From IB Inform
EMJAY ENVIRONMENTAL BROCKHAVEN NATIONAL LABS BLUELINX	SPOT 6 SPOT 9 PULL 1				28 GATX 9370 L PARGAS MLE SPOT AT PARACO LIQUEFIED CPRS Location: FRESH 4IRON
PARACO GAS	PULL 3 / SPOT : PULL 10/ SPOT :	3 L 0			29 GATX 74986 L PARGAS MLE SPOT AT PARACO LIQUEFIED CPRS
SET UP RS-50 TRAIN WITH ALL WATCH FOR EXCESSIVE HEIGHT (AVAILABLE WESTBOUND (CARS / OPEN DOORS	CARS .			30 CTCX 780455 L PARGAS MLE SPOT AT PARACO LIQUEFIED CPRS
REPORT ANY SUSPICIOUS ACTIV. *NOTE: CARS PRINTED IN WORK	ITIES LIST SEQUENCE				31 TTZX 866382 E CSXT FPO BLULIN TO PINE **EMPTY** CSXT
Seg Car LE Block To	Switch Instr	Commodity	From IB	Conductor's Information	32 CGTX 64634 E CPRS FPO PARACO TO PINE LIQUEFIED CPRS
1 EMJX 92067 E EMJENV Location: FRESH 4IRON	MLE SPOT AT EMJAY	**EMPTY**	CSXT		33 PLMX 135153 E CPRS FPO PARACO TO PINE LIQUEFIED CPRS
2 EMJX 1008 E EMJENV Location: FRESH 4IRON	MLE SPOT AT EMJAY	**EMPTY**	CSXT		34 CTCX 784012 E CPRS FPO PARACO TO PINE LIQUEFIED CPRS
3 EMJX 93120 E EMJENV Location: FRESH 4IRON	MLE SPOT AT EMJAY	**EWb&A**	CSXT		FINAL TOTALS LOADS 15 EMPTY 19 LOCOS 0 CARS; 34 TONS: 2559 LENGTH:
4 NWSX 5010 E EMJENV Location: FRESH 4IRON	MLE SPOT AT EMJAY	** <u>EM</u> PTY**	CSXT		** END OF REPORT **
5 NWSX 5006 E EMJENV Location: FRESH 4IRON	MLE SPOT AT EMJAY	**EWPTY**	CSXT		
6 NWSX 5043 W EMJENV Location: FRESH 4IRON	MLE SPOT AT EMJAY	**EMPTY**	CSXT		
7 TEOX 666363 L ELMLOG Location: FRESH POCKET	MLE SPOT AT ELM	PLPEDFED N	CSXT		
8 TBOX 660552 L ELMLOG Location: FRESH POCKET	MLE SPOT AT ELM	PLPEDFED N	CSXT		
9 GCCX 200000 E BRONAT Location: FRESH 41RON	MLE SPOT BROOKHAVEN	**EMPTY**	CSXT		
10 GIMX 516138 E BRONAT Location: FRESH 4IRON	MLE SPOT BROOKHAVEN	**EWbJ.A**	CSXT		
11 GIMX 516233 E BRONAT Location: FRESH 4IRON	MLE SPOT BROOKHAVEN	**EMPTY**	CSXT		



EMERGENCY RESPONSE TO RAILROAD INCIDENTS

Initial Response To Hazardous Material Incidents

<u>Note</u>: A Train Car can be carrying any of the <u>9 Classes</u> of Haz-Mat.

Don't just think a Tank Cars have Haz-Mat





EMERGENCY RESPONSE TO RAILROAD INCIDENTS

Initial Response To Hazardous Material Incidents

Class 1 - Explosives

Division 1.1 Explosives with a mass explosion hazard Division 1.2 Explosives with a projection hazard Division 1.3 Explosives with predominantly a fire hazard Division 1.4 Explosives with no significant blast hazard Division 1.5 Very insensitive explosives; blasting agents Division 1.6 Extremely insensitive detonating articles

Class 2 - Gases

Division 2.1 Flammable gases

Division 2.2 Non-flammable, non-toxic* compressed gases

Division 2.3 Gases toxic* by inhalation

Division 2.4 Corrosive gases (Canada)

Class 3 - Flammable liquids/ combustible liquids

Class 4 - Flammable solids; Spontaneously combustible materials; and Dangerous when wet materials

Division 4.1 Flammable solids

Division 4.2 Spontaneously combustible materials

Division 4.3 Dangerous when wet materials

Class 5 - Oxidizers and Organic peroxides

Division 5.1 Oxidizers

Division 5.2 Organic peroxides

Class 6 - Toxic* materials and Infectious substances

Division 6.1 Toxic* materials

Division 6.2 Infectious substances

Class 7 - Radioactive materials

Class 8 - Corrosive materials

Class 9 - Miscellaneous dangerous goods



Class 3 - Flammable liquid



While Facing the Hand Brake – our Right will be Right side of train and our Left will be left side of train





Train Car – **DOT Number**





Tank Car Specifications

Low Pressure Car – aka: General Service Car or DOT 111



<u>Note</u>: Pressures <u>LESS THEN 1</u>00 psi

Exposed Valves on Top and Bottom of car

Bottom valves for off loading

Used for transport Hazardous & Non - Hazardous Products





The DOT 111 & AAR 211 – Low Pressure Tank cars make up about 70% of all tank cars on tracks

Tank Car Specifications

Low Pressure Car – top valve configurations



Typical Top Fitting Arrangement-General Service Car in Acid Service



Typical Top Fitting Arrangement-General Service Car

<u>Note</u>:

Although Pressures is <u>LESS THEN</u> 100 psi these tanks will contain pressure that fluctuates with the outside temperature.

The pressure relief valves can release excess pressure, at any time.

Dot 111 "J" – These tank Cars will be Jacketed with insulation to protect car from outside elements.



Tank Car Specifications

High Pressure Car – aka: DOT 105 or DOT 112 – (Most Commonly Used HP Cars)



Valves are protected

<u>Note</u>:

High Pressures Over 100 psi to 600 psi

DOT 105 are used to Transport LPG & other High Hazard or Environmentally Sensitive material.

They are insulated with Foam, Fiberglass, Ceramic fiber or Cork and have an additional jacket of metal for protection. (note - Just because outer jacket is damaged doesn't mean you'll have a product leak)

They have spring load safety valves – set to relieve pressure at 75% of test pressure

No Valves on bottom of car



Tank Car Specifications

High Pressure Car – aka: DOT 105 or DOT 112





<u>Note</u>:

High Pressures Over 100 psi to 600 psi

DOT 112 are also used to transport High Hazard or Environmentally Sensitive material.

They are required to have **Thermal Protection & A Head Shield**, if they are to carry flammable gases.

They also have spring load safety valves – set to relieve pressure at 75% of test pressure.

Usually found carrying LPG and Ammonia's

Tank Car Specifications

<u>High Pressure Car –</u>

top valve configuration – <u>Chlorine Tank</u>



Note: Cars carrying Atmospheric Gases, such as Carbon Dioxide, are designed to relieve internal gases into the atmosphere while being transported.

High Pressure Car – top valve configuration



Note – Valves are contain is housing, protected

Other Rail Cars:



Boxcar

Primary function, transport products that need protection from weather.

Transport ALL types of freight in a containers and may be a Hazardous Materials.

Major hazard is shifting of lading during transport or derailment.



Refrigerator Car

Primary function, transport products at low temperatures.

Transport ALL types of freight in containers, may be Hazardous Materials.

Major hazard is fuel spills. Car contains up to 500 Gallons diesel fuel to operator generator that runs Cooling Plant.



<u>Flatcar</u>

Primary function , transport products that don't need protection from weather.

Shipping containers and trailer(s) can be found strapped to a flatcar.

Other Rail Cars:



Gondola Car

Cars can be 60 – 100' depending on shippers requirements.

Typically used to transport Soil or Hazardous Waste.



<u>Open Hopper Car</u>

Open Hoppers carry dry bulk items that can be exposed to the environment.

Off loaded by shoots at bottom Of car, via gravity.



Covered Hooper Car

Covered Hooper cars carry dry bulk but can be pressurized so product can be off loaded more quickly.

Common Material: Fertilizers & Pigments powders.

Locomotives:

Represent an ever-present source of **potential hazard** for responders.



Weight: 420,000 lbs Produces up to 6,000 Horse Power 65' long, 16' High 5,600 Gallons Fuel 380 Gallons cooling water 410 Gallons of lube oil 74 Volts starting & Operating System Produce up to 600 Volts DC Power Produce up to 23,000 Volts AC Power

Turned off by Shutting – **EMERGENCY FUEL CUT-OFF** Found <u>above each fuel</u> tanks at either side or inside engineers cab, directly <u>Behind Engineers</u> control stand.

Passenger Trains:

Emergencies involving passenger trains usually overwhelm an emergency service system.

Unified Incident Command is essential for a safe and effective operation, utilizing all necessary agencies, getting the most **expert** solution.

When dealing with multiple passenger, outside your resources, sheltering in place and off loading when situation allows may be a great solution, especially if the train car they are in <u>isn't a hazard to them</u>.

Call the Railroad involved , get their experts to the scene, they know vendors and have been trained to get what you need.



<u>While Operating on Railroad Property</u>, you must: Expect movement on any track any time, Avoid walking between rails & Stay approximately 30' from a passing train.

When working on tank cars, you should:

Ensure there will be no movement on the track you'll be working on, Never stand, step or cross on the center sill of coupler on trains and Never put any part of your body over or I front of any valve or other opening.

The <u>minimum required equipment needed for personnel</u> operating at a site of a derailment is: A hard hat, safety glasses, gloves and steel tip boots.





Question #1

What is the first crucial element needed for a successful response ?

- A. Preplanning
- B. Equipment
- C. Number of Personnel
- D. None of the Above



Question #2

What must be done before anyone make entry into a railroad tunnel?

- A. Have plenty of Lights
- B. Ensure all rail traffic is stopped
- C. Never go into a tunnel at night
- D. Have only two people in the vehicle at a time



Question #3

What are some detection clues used to detect the presence of Hazardous Materials?

- A. Placards
- B. Shipping papers
- C. Tank car Markings
- D. All of the above



Question #4

Who on the Railroad is responsible for the shipping papers on the Train?

- A. Engineer
- B. Conductor
- C. Yardmaster
- D. Chief Dispatcher



Question #5

Shipping Papers on the Railroad are called?

- A. Waybill
- B. Consist
- C. Manifest
- D. A and B



Question #6

The Train Consist contains how many basic sections?

- A. One
- B. Four
- C. Six
- D. Eight



Question #7

Which Section of the Consist describes Emergency Handling Precautions?

- A. Tonnage Graph
- B. Position in Train Document
- C. Hazardous Special Handling Instructions
- D. Train Listing Hazardous Material Descriptions



Question #8

How many classes of Hazardous Material are there?

- A. 6
- B. 8
- C. 9
- D. 10

CSX TRANSPORTATION – Emergency Response to Railroad Incidents – Final Examination.

Question #9

What hazard Class would have a <u>white placard</u> with a class number 2 at the bottom?

- A. Oxidizer
- B. Poison
- C. Poison Gas
- D. Non Flammable Gas



Question #10

What Hazard class would be a substance that does not meet the definition of any other hazard class ?

- A. Flammable Liquids
- B. Corrosive Materials
- C. Miscellaneous Hazardous Material
- D. None of the Above



Question #11

What end of the car will have the handbrake?

- A. B end
- B. Right Side
- C. A end
- D. Both A and B ends



Question #12

The Car Initial and Number is located on ?

- A. On the ends and sides of the car
- B. Only on the ends of the car
- C. Only on the sides of the car
- D. Makes no difference as long as it is readable



Question #13

High Pressure tank cars will have test pressure of?

- A. 90 to 500 psi
- 100 to 600 psi Β.
- C. 300 to 500 psi
- D. 75 to 100 psi



Question #14

One easy way to identify Non-Pressure tank cars is by looking at?

- A. The exposed valves and fittings on the top of the car
- B. The fittings on the bottom of the tank
- C. Both A and B
- D. The smaller size tank



Question #15

What is the most common types of Pressure Cars?

- A. 112 and 211
- B. 106 and 107
- C. 112 and 105
- D. 104 and 111



Question #16

Venting product to atmosphere is normal for what type tank cars?

- A. Flammable compressed gas
- B. Chlorine
- C. Carbon Dioxide
- D. No Car is allowed to vent to atmosphere



Question #17

Chlorine tank cars have what type of valve arrangement?

- A. 2 Liquid valves, safety vent, 1 vapor valve & 1 Gauge Rod
- B. 1 Liquid Valve, Pressure Relief Devise, 1 vapor valve
- C. 2 Liquid Valves, safety Vent, 2 Vapor Valves
- D. 2 Liquid Valves, 2 Vapor Valves, 1 Pressure Relief device



Question #18

What special feature(s) is required on tank cars that transport Flammable compressed gases?

- A. Head shield & Thermal protection
- B. Head Shield & External Pressure Relief Device
- C. Thermal protection
- D. Head Shield & extra Steel Jacket for protection



Question #19

What s the major hazard that may be encountered with boxcars?

- A. Doors may be hard to open
- B. Top heavy when empty
- C. Lading may shift during derailment
- D. Both A and B



Question #20

Emergency Fuel Cut-off switches are located ?

- A. On both sides of the locomotive
- B. On the engineers side of the locomotive
- C. On both sides of the locomotive and on the inside of the locomotive on the conductors side
- D. On both sides of the locomotive and on the inside of the locomotive on the engineers side behind the control stand



Question #21

In the event of a derailment of a passenger train the passengers should?

- A. Not be evacuated unless it is absolutely necessary
- B. Stay in the car until shelter and transportation is available
- C. Move into another still on the rail
- D. Both A and B



Question #22

If emergency response personnel need to communicate with a passenger train operation on a CSXT track, they should?

- A. Call Chemtrec
- B. Contact CSXT public safety coordination center at 1-800-232-0144
- C. Call the local yard
- D. Contact State Police



Question #23

While operating on railroad property, responders must?

- A. Expect movement on any track at any time
- B. Avoid walking between the rails
- C. Keep a safe distance, 30 feet, from a passing train
- D. All of the above



Question #24

When working on tank cars the first responder should?

- A. Ensure that there will be no movement on the track on which you are working
- B. Never stand, step, or cross on the center sill or coupler
- C. Never put your body over or in front of any valve, gauge or other opening
- D. All the Above



Question #25

The minimum required equipment for personnel operating at the site of a Derailment is?

- A. A hard Hat/helmet, safety glasses, gloves and steel tip shoes
- B. Safety Glasses and Gloves
- C. Gloves, SCBA, and Bunker Gear
- D. Chemical Protective clothing



The END

Always Remember to Be Safe!