

Approaching a Derailment

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Helpful Apps

- Ask Rail
- FRA Railroad Crossing Locator
- Emergency Response Guidebook
- NIOSH Pocket Guide
- CAMEO Chemicals
- U.S. Coast Guard MIMH
- NFPA HazMat FLIC
- DuPont Safespec
- Kappler HazMatch



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Field Guide to Tank Cars

- Information about tank cars





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When you are faced with



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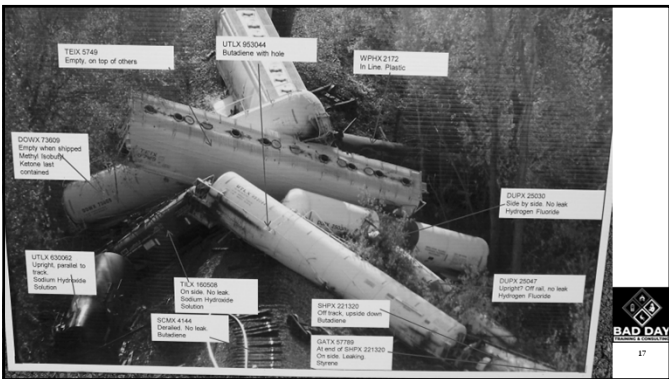
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Basic Safety On Railway Property

- Don't cross tracks near switches or any other movable track structure, and never step on rails or other parts of the structure which may be slippery
- If you must cross tracks, stay at least 25 feet from the ends of railroad cars, locomotives or on-track equipment and look both ways; be sure no equipment is moving toward you.

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Basic Safety On Railway Property

- When near any track, expect a train to move in either direction at any time.
- Cross tracks at a right angle to maximize the field of vision within the fouling space

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Basic Safety On Railway Property

- Ensure there is at least 50 feet of clearance between two pieces of standing cars, locomotives or on-track equipment before attempting to cross between them
- Never step on the rail.
 - Step over the rail.
 - The rail can be a slip or trip hazard
- Never stand between the rails

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Obstructing (Fouling) The Track

- If a situation occurs where you must obstruct the track, either with equipment (such as hoses or trucks) or personnel, then you must contact the railroad and receive positive verification from the railroad that it is safe to do so before obstructing the track.
- Bear in mind that rail equipment extends out over the outside limits of the rail.
- Never climb over, under, or through rail equipment unless railroad representatives inform you the area has been secured and is being protected by railroad personnel

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Obstructing (Fouling) The Track

- Position yourself and/or equipment at least 25 feet away from the nearest rail.
- Locomotives and railway cars are wider than the rails.
- If you and your equipment are within 4 feet of the nearest rail, there is immediate danger of being struck either by equipment or material carried by rail cars



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Obstructing (Fouling) The Track

- Be careful when you must cross more than one track, as parallel tracks may belong to two different companies or be under control of two different employees of the same company



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Driving Across Tracks

- As vehicles can easily become hung up on tracks, cross only at grade crossings, heeding all crossing-warning devices.



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Conducting Work On Or Near Tracks

- There may be pipelines, fiber optic cables or other buried communication lines on the railroad's right-of-way.
- These lines will usually be marked with signs on posts.





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Conducting Work On Or Near Tracks

- To be certain not to affect these utilities, you must always verify with railroad personnel before digging on any right-of-way.
- Contact must always be made with the railroad before conducting work on or near rail property.



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Railway Safety - Remote Control Locomotives

- Before entering a rail yard, responders should be aware that some locomotives may not be manned during switching operations but are instead controlled remotely.
- An operator may very well be up to half a mile away from the locomotive.





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Railway Safety - Remote Control Locomotives

- These remote-control locomotives will have flashing lights when operated in “remote” mode.
- Exercise extreme caution and allow for plenty of room when crossing tracks occupied by a remote-control locomotive.
- As always, before entering any railroad property, ensure that the railroad has confirmed its understanding that you are on site.



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Safety Issues Other than Haz-Mat

- Downed Power Lines
- Unstable Wreckage
- Unstable Earth and Slopes
- Twisted Rail Under Tension
- Other Active Tracks and Trains
- Other Trains at Grade Crossings
- Unsecured Cars Still on Tracks



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Where to Start



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Response Begins With

- Planning
 - Identify the railroads in the community
 - Class A vs Short Line
 - Establish contact with the railroads
 - The railroads have personnel who can assist with your planning



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Response Begins With

- Identify the tracks, yards and terminals in the area
 - You can request information on the tracks, sidings, facilities and more from the railroad.
 - How do you gain access
 - Entrances
 - Operating hours
- Who owns / operates the tracks
 - May have more than one railroad running on the tracks



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Response Begins With

- Identify other special considerations, such as bridges, tunnels and pipelines in the area
 - Will your equipment fit under
 - Is there water near by
 - Are there environmentally sensitive areas near
 - Many times, pipelines and communications are buried close
 - Track, bridges, tunnels have limited access



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Response Begins

- Obtain the list of hazardous materials / dangerous goods transported through the community (commodity flow study)
- Knowing the type and quantity of hazardous materials / dangerous goods transported through your jurisdiction will allow you to realistically prepare for a potential incident.



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Response Begins

- Identify the resources available
 - These can include railroad personnel and resources or specialized tools such as mobile device applications which can aid responders in the event of an emergency.
- Contractors
- Train with the railroad / conduct exercises to test the effectiveness of the plan
- Railroads regularly participate in exercises and deliver training on emergency response, tank cars and hazardous materials.



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Rail Incidents – What is the Railroad Doing

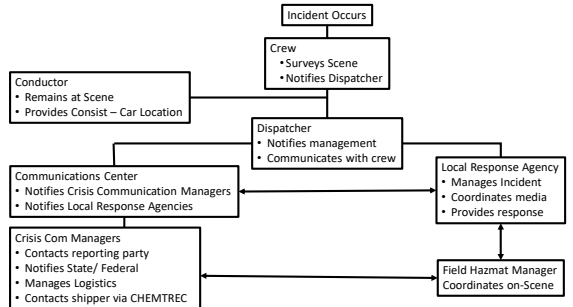
- Unless the engineer / train crew has been injured the railroad probably has been notified by the train crew
- They have certain instructions that they follow based on the railroad



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Typical Notification Process





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Your Response

- Important to note:
 - Contact the railroad for all emergencies involving railroad property, not just in the cases of derailments or dangerous goods incidents.
- Other types of incidents may include:
 - Crossing accidents, vehicles stuck on the tracks, fires, medical emergencies, trespassing and utility issues.



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You Have a Derailment



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Review of Basic Haz-Mat Considerations

•Listen to 911 Dispatch

•Note Time of day

•Observe Weather conditions

•Approach from the Up-wind side

•Determine if Haz-Mat is present

•Keep Safe Distance when approaching the scene

•Consider Personnel Protective Equipment

•Do NOT rush in...

•Use the I.C.S./I.M.S.

BAD DAY

Training & Consulting

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First Things First

•Just because there is a derailment doesn't mean all the tracks shut down.

•When you are the first on scene of a rail transportation accident, your first step is to avoid endangering yourself.

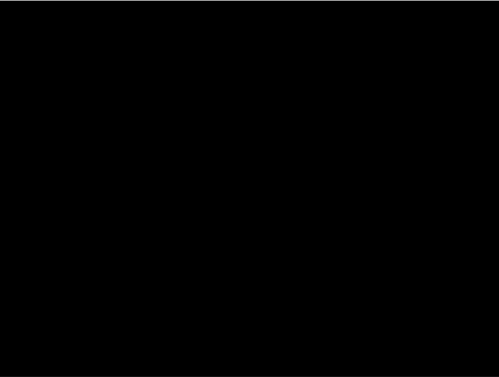
•Don't get you or your apparatus in front of a moving train **YOU WILL LOSE**

BAD DAY

Training & Consulting

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BAD DAY

Training & Consulting

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Slide 45

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BAD DAY

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BAD DAY

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Do You:

A. Drive right up to it

B. Start putting water on the fire

C. Grab the Level A Suits and go survey

D. Find the engine if it is not involved

E. Figure out what happened

F. Determine the Chemicals involved

BAD DAY

Training & Consulting

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Approaching a Derailment

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ICS Thoughts

- Identify Potential Locations for Your Command Post, EOC, Unified Command Post
- Safe areas with resources available
- What is your Command-and-Control System
- Decide on resources up front and know how to contact them
 - Water, foam, manpower, long term, MOUs
- Run through your check sheets / SOP / SOG
- Put a plan together



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Be Prepared

- Unified Command will come quickly if there is a major incident
- Decide if you need to move the command post and look at the resources required.
 - A derailment we did just outside of Louisville, Ky
 - We had morning and evening Unified Command meetings that included about 80 Commanders.
 - The command post was greater than 2 miles from the scene



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Locate the Train Crew

- When you respond to a railroad incident, it is crucial that you can identify the material in each car
- Locating the train crew is one of the first things you should do when arriving on the scene, as they will have the most current and updated list of the train's consist
- Train crew will proceed to the next safe crossing



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Value of the CONSIST

- Identify Which Cars are Derailed (very important element in the Big Picture)
- Provides Haz-Mat Emergency Response Information
- Presents Shipper Name and Contact Phone#
- States the Quantity / Volume Shipped



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CARS IN THIS CONSIST COUNT FROM FRONT TO REAR

HAZARDOUS CONSIST FOR TRAIN 41XBAN DEPARTED KANKAKEE IL

ON DUTY: OFF DUTY: PRINTED 08/15/2019 11:00 AM

HAZARDOUS MATERIALS

SEQ	INT	NUMBER	LT	DEST/OFFACT	WARD	TUN	CONSIGNEE	STCC	TYPE	TIME	TRACK	LINE
000	RS	080270	E				000					
000	RS	080270	E				000					
001	OWNY	111084	L	TOLEDO OH			ANDERSON	011210	C113			
002	OWNY	111084	L	TOLEDO OH			ANDERSON	011210	C113			
003	CR	360234	L	TOLEDO OH			ACME	289911	RA10			
004	CR	360234	L	TOLEDO OH			ACME	289911	RA10			
005	CR	360234	L	TOLEDO OH			ACME	289911	RA10			
006	CR	360234	L	TOLEDO OH			ACME	289911	RA10			
007	AM	080271	L	TOLEDO OH			ACME	289911	AD46			
008	RS	080472	L	TOLEDO OH			ACME	289911	AD46			
009	GATX	014254	L	TOLEDO OH			WESTERSON	402108	T106			

UNLOAD AS PLACARDED. PLACE FOR UNLOADING AS PLACARDED. TOLEDO OH 430 WESTERSON 402108 T106

HAZARDOUS MATERIALS

Identification Number - UN 2312 PHENOL, MOLTEN

Hazard Class - 6.1F PG. II

EMERGENCY CONTACT: ABC CHEMICAL

24 Hr. ER Number - 1-800-456-7890

HAZMAT STCC - 402108

ERG GUIDE NO. 153

Shipping Name

Packing Group

Reportable Quantity

Emergency Response Guidebook

TO/CONSIGNEE: WESTERSON TOLEDO OH

FROM/SHIPPER: ABC CHEMICAL CHICAGO IL

BAD DAY

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005	CR	360234	L	TOLEDO OH			ACME	289911	RA10			
006	CR	360234	L	TOLEDO OH			ACME	289911	RA10			
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BAD DAY

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Getting the “Big Picture”

- The Approach
- Determining/Identifying all of the Hazards
- Evaluating the Risks
- Choosing Response Objectives
- Work Towards Achieving the Objectives
- Maintain Safety at all times



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The “Big Picture” is

- Tough to get a handle on ...
- Access Limitations
- Multiple Haz-Mats
- Large Quantities
- Fire Involvement
- Waterway Considerations
- Aerial Reconnaissance...



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Class A Railroads - Resources

- 30 MSA contractors with firefighting foam & equip.
- Aquatic life experts
- Air monitoring
- Geologists
- Remediation experts
- Labs with 24-hr turnaround capability
- Transfer capabilities
- Mobile Command
- Aerial Support



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Short Line Railroad Resources

- Wreck contractor
- HAZMAT Contractor



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Response to Incidents



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At the Scene

- Begin Your Assessment
- Make Contact with the Railroad
- Look for Train Crew (2-3 people usually)
- Maintain Your Safety!
- Call Railroad Dispatch Office
- Gather Information from Crew and/or the Railroad Dispatch Office



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Mt Carbon Oil Train



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5 mph Pulling Out of a Yard



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Confirm Your Location

- Once in contact with the Rail Traffic Control Center, confirm your location.
- Look for mile posts or grade crossing numbers.

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Contact Rail Company

Location, Location, Location

- When an incident on the railroad occurs and you need to contact the railroad, provide very specific location information.
- The train dispatcher may be hundreds of miles away, even in another state.

Milepost

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Grade Crossings

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Private Grade Crossings

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What's your emergency

- Identify the nature of the emergency and give your name, rank, department and a contact phone number.
- Generally, the person requesting the rail shutdown must also be the one who calls to cancel it.
- Record the names and titles of the people you speak to.

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The Response/Approach

- Approach from Up-wind side
- Consider Remote Staging Area and Logistical Support
- Use reconnaissance team(s) to assess scene
- Reconnaissance team(s) must maintain a safe distance until information has been gathered and evaluated



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22 6:11 AM



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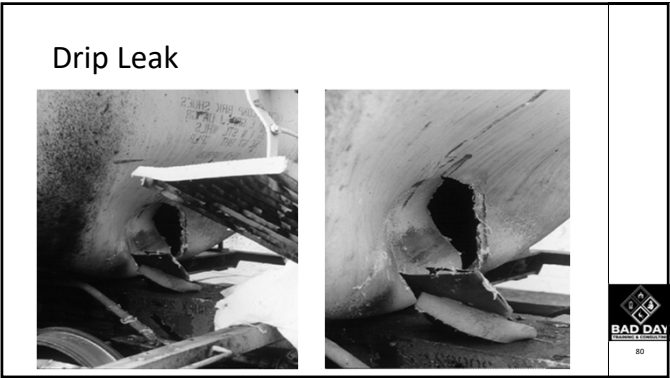


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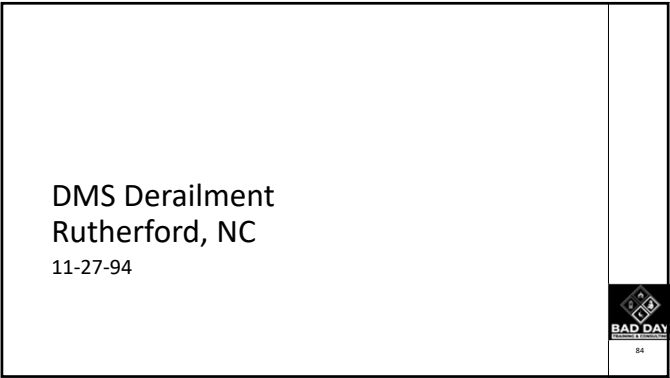
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Initial Call

- There has been a train derailment involving DMS (Dimethyl Sulfate)
- It is in the middle of a Boy Scout Reservation
- First Conversation – Scott Gordon



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Arrival

- Everybody is sitting waiting on us
- Guess the information I gave them caught their attention
- Recon



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Lessons Learned

- Some people pay attention to warnings
- Wreck crews have no sense of self preservation
 - They don't understand flammable atmospheres
- You can break the stick on a 100 ton crane



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Set Things Up

- Secure the Area
 - The incident may span a large distance and securing this area may require a large number of personnel.
- Establish the Proper Hazard Zones
 - Consult the North American Emergency Response Guidebook (ERG) to establish an isolation zone if necessary.



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Columbus Ohio Derailment

May 1988



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Friday Morning

- RR calls says they have had a derailment in downtown Columbus OH
- They have derailed a Trimethylamine car
- There is a 15 foot torch coming out of the car
- Can you please hurry



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Thoughts

- What would you expect to find?
- What is a potential out come



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Arrival

- Charter
- Getting through the roadblocks west side, 1 mile from OSU Stadium
 - 30 secondary roads
 - 4 Interstates



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Meeting Command Staff

- What are the questions you want to ask?
- Where is my car
- Ahhh where’s the fire
- Their answer....
- What are your thoughts on how to proceed?



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ERG Says - Ask for Evacuation

- Giggle
- It is graduation day at OSU
 - 1 mile would be 60,000
 - Ok, how about ½ mile
- Giggle
- ½ mile only 30,000
- By the way you have to be done by 6 am Monday morning



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Remember: DO NOT
RUSH IN – be sure to
build a clear picture of
the incident from
outside the hot zone



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Site Assessment

- When assessing an incident site, you must always keep the following in mind:
 - Your own safety
 - Your capabilities
 - Your resources



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Site Assessment

- Conduct the identification and assessment from a safe distance and ensure this for all locations if assessments need to be done from multiple locations.



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Site Assessment

- Not every railroad incident will be alike, as the location, commodities involved, and circumstances will change.
- The following is a general list of items to consider when conducting your assessment, keeping in mind that circumstances may require additional considerations.



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Site Assessment

- Location of the incident
 - Consider the terrain and geography, as these can impact the response
- Rail car initials and numbers
 - Record the numbers of all cars involved, including those in proximity to the cars involved
- Commodities or materials involved
 - Use the consist, placards and hazard markings to determine the commodities



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There Has Been A Derailment





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Remember...

•Train Derailments can Have Multiple Haz-Mats

•Quantities of Haz-Mat Shipped by Train are Typically Very Large

•Gaining Access to a Train Derailment can be Very Difficult

•It is Very Easy to Get Tunnel Vision

•Getting the “Big Picture” is Critically Important

•Several Resources are Available to You

•Safety is No.1 Priority



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P& L Derailment

October 28, 2012 to Dec 3, 2012



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Day 3 (10/31)

•Wrecking starts

•Moved several cars

•Ready to move leaking butadiene car

•Wreck crew member strikes torch to cut knuckle on coupler



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Results

•5 Members injured

•3 critical

•2nd & 3rd burns

•2 treated and released

•Large evacuation – 5 miles

•Delays



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Getting the “Big Picture”

- The Approach
- Determining/Identifying all of the Hazards
- Evaluating the Risks
- Choosing Response Objectives
- Work Towards Achieving the Objectives
- Maintain Safety at all times



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The “Big Picture”

- Sometimes is tough to get a handle on ...
- Access Limitations
- Multiple Haz-Mats
- Large Quantities
- Fire Involvement
- Waterway Considerations
- Aerial Reconnaissance...



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Site Assessment

- Severity of the incident
 - Specifically identify situations that may pose immediate danger to life, health, and the environment.
- Possible injuries
 - If rescue is required, how many, nature and extent of injuries
- Weather conditions
 - These include wind direction and speed, humidity, pressure, and the forecast



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Site Assessment

- Status of rail cars involved
- Identify the condition of the cars involved
- Identify hazards of the materials involved
 - Include potential hazards, and consider compatibility with other commodities involved
- Distance to nearest populated areas
- Considering potential evacuation



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