HOW TOMORROW MOVES

Imagine the result

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CONFLAGRATION, COLLABORATION, AND CORRECTIVE ACTION

S. Michael Austin – CSX Transportation, Inc.
Paul J. Kurzanski – CSX Transportation, Inc.
Megan E. Kellner – ARCADIS U.S., Inc.
David E. Polter – ARCADIS U.S., Inc.

HOW TOMORROW MOVES

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THE "TRACK" TO A SUCCESSFUL PROJECT

TECHNICAL EXPERTISE

RAPID RESPONSE

ALIGNMENT WITH CSX CORE VALUES

COLLABORATION

KEPT H&S FIRST

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THE CHAIN OF EVENTS

At approximately 1400 hours on May 28, 2013, CSXT Train Q40927 was traveling westbound approaching an at-grade crossing, near the intersection of 68th Street and Lake Drive in Rosedale, MD. A roll-off truck, exiting a private business located just south of the tracks was traveling north toward the same crossing.

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THE IMPACT

LAKE DRIVE, ROSEDALE, MARYLAND

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THE EFFECTS

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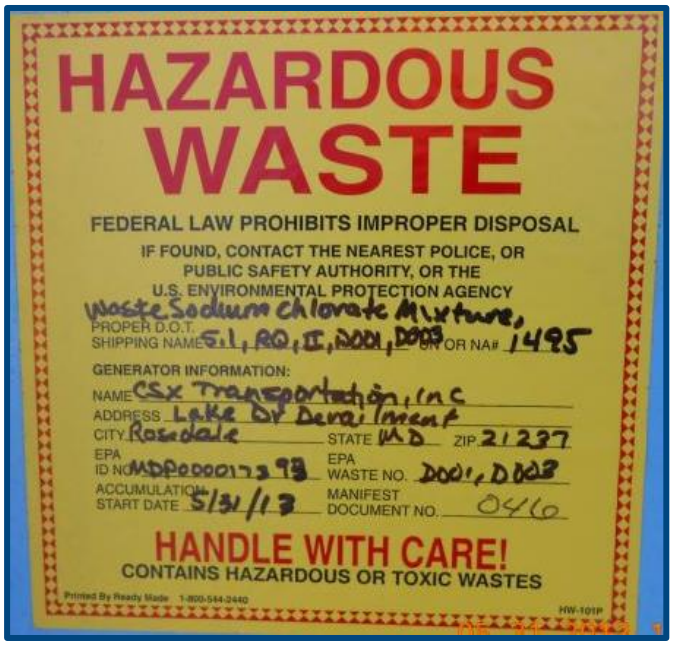
THE CHALLENGE / CORRECTIVE ACTIONS

- Public & Worker Safety
  - Air Monitoring
- Sodium chlorate impacted soil and debris = potentially large volume of hazardous waste
- Release to surface water
- Restoration of rail service
- Stakeholder concerns
  - NTSB
  - Local Businesses
  - Environmental Regulatory Agencies
- Defining and controlling the hazard
- Hazard elimination/risk management



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COLLABORATION

CSXT

HAZMAT, Claims, L.E.A.D.S., Asset Recovery, Environmental Remediation, Engineering, Field Services, and Train Control Divisions

Regulatory Agencies

Local Agencies

Consultants

Contractors

PROTECTING FIRST RESPONDERS / PUBLIC DURING THE INCIDENT & RESPONSE

PROTECTING THE ENVIRONMENT

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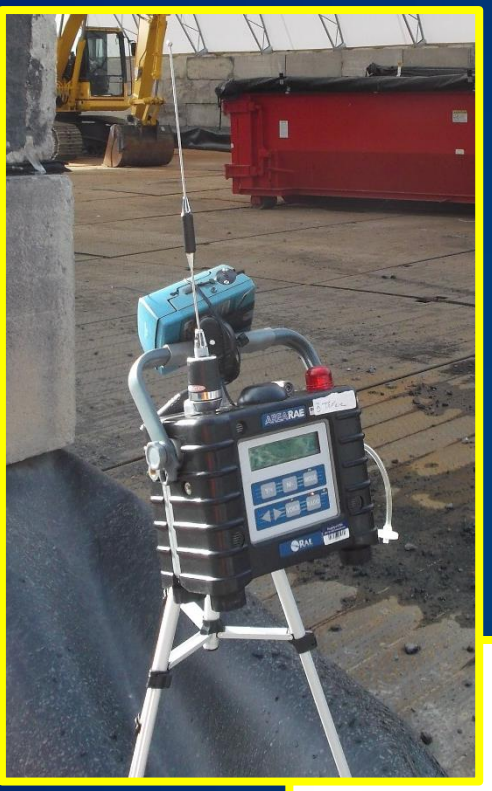
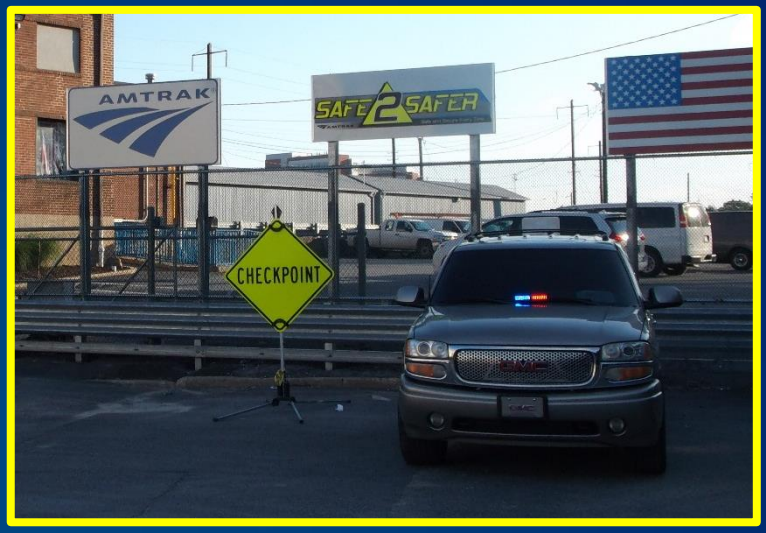
MINIMIZING RISK TO THE PUBLIC

PROTECTING OUR WORKERS AND THE PUBLIC DURING WASTE MANAGEMENT AND TREATMENT





KEY CHALLENGE

- **135 roll-off containers of soil, ballast and debris generated from derailment response potentially contaminated with sodium chlorate & purified terephthalic acid (PTA) requiring disposal**
  - **Sodium Chlorate = strong oxidizer prone to self-ignition in the presence of organic material**
  - **PTA = organic material**


MATERIAL SAFETY DATA SHEET

eka

1 Chemical Product and Company Identification

SODIUM CHLORATE CRYSTAL

2 Hazards Identification

swallowed. Oxidizer: accelerates combustion of organic materials (wood, paper, oil, clothing). High heat (265 C / 510 F) may cause violent decomposition. Mixing with acids may produce toxic and explosive chlorine dioxide and chlorine gas. Harmful if swallowed. Oxidizer: Accelerates combustion of organic materials (wood, paper, oil, clothing). Explosive: High heat (265 C/ 510 F) may cause violent decomposition. Reactivity: Mixing with acids may produce toxic and explosive chlorine dioxide and chlorine gas.

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KEY CHALLENGE DEFINED

How to characterize, manage and dispose of sodium chlorate impacted soil, ballast and debris in a manner providing maximum safety in a compliant and cost effective manner?

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SOLUTION SELECTION

- Developed White Paper/Waste Treatment Plan
- Agency Engagement
  - Early involvement, review and approval
- Treatability Studies Completed
- Cost evaluation
- Secured internal and external concurrence that on-site deactivation was preferred alternative
- Temporary treatment permit issued by MDE
- On-site treatment option selected and effectively implemented
- Analytical Method – Burn-rate test approved as measurement of compliance

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SUSTAINABILITY & COST SAVINGS

- De-characterized (neutralized) hazardous material 50% faster than planned and disposed as a non-hazardous waste
- Used local, non-haz landfill (as opposed to haz landfill) avoided 81,000 transportation miles
- Avoided >136 tons of CO2 emissions
- Significant cost savings were realized (>$30K) by purchasing polyethylene glycol (PEG) from a smaller local vendor
- Collaboration with local lab (ALS) resulted in a $1,000 per sample cost savings
- Overall estimated cost savings to CSXT for solution was >$2M
- Restored Lake Drive Site within 9 days of the incident

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