



Canadian National Railway Derailment and Fire Cherry Valley, IL.

June 19, 2009

Cherry Valley Fire Protection District

- CVFPD is small combination Career/POC department Located 70 miles northwest of Chicago, IL. in a primarily suburban area covering approximately 25 sq. miles with a population of 30,000.

The Derailment

- At 20:38 hours Friday June 19, 2009 Cherry Valley was dispatched for a derailment with explosions at Mulford and Sandy Hollow Rd.
- Due to multiple 911 calls with varying locations Rockford Fire was also dispatched and responding.



Mulford Rd., North side of Derailment

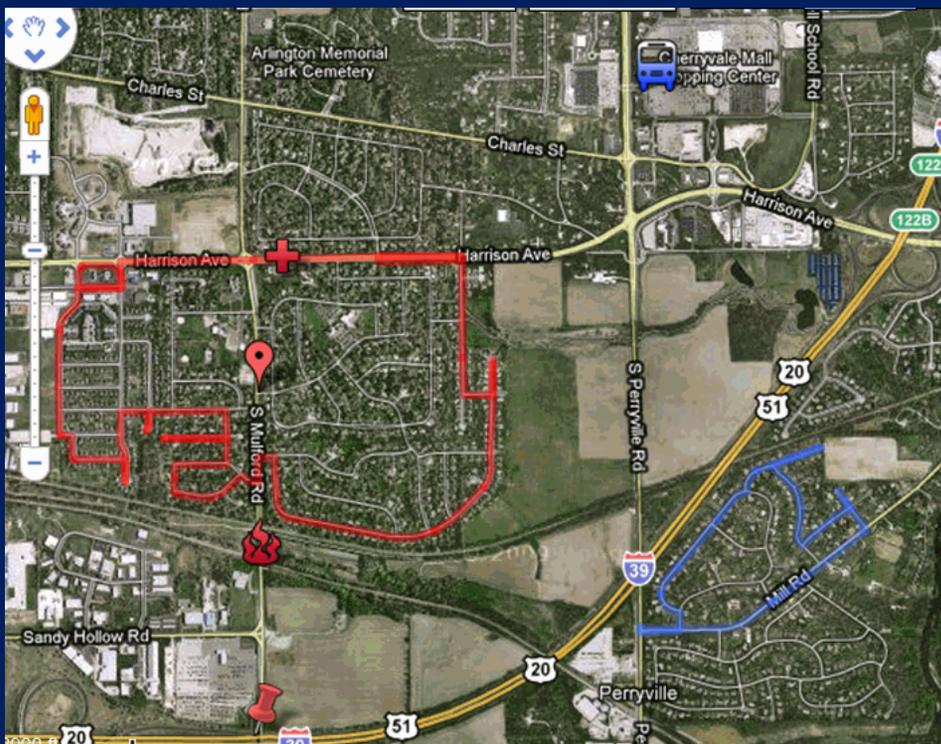


Mulford Rd., South side of Derailment

Goals Established Early (Initial Action Plan)

- Immediately rescue those persons who could be saved.
- Evacuate those persons most in danger, get them to a safe area.
- ERG book was referenced to expand the evacuation zone to include everyone within ½ mile of the incident.
- Get ALL emergency personnel on the scene back to a safe location.
- Learn what we were dealing with!

Incident and Evacuation Map



-  [Derailment Location](#)
Site of derailment.
-  [Staging](#)
Cherryvale Mall Staging Area.
-  [Evacuation Center 1](#)
Faith Wesleyan Church-evacuation center.
-  [Primary Evacuation](#)
-  [Secondary Evacuation](#)
-  [Command Post](#)
North Side Sector & Incident Command
S Mulford at Valley Knolls
-  [South Side Command](#)
South Side Sector location
S Mulford at Bypass 20

Decision To Let Burn

- Fire Department units had 400 gallons of AFFF (AR) foam on scene and the railroad had 900 gallons en route.
- It was determined that there was not enough foam available nor could firefighters get close enough to the fire to safely apply it.
- **Incident Command made the decision to let the fires burn down.**
- **Decided to take a defensive position, cool adjacent tank cars to prevent the fire from spreading.**

Cooling Uninvolved Cars



Rockford Ladder 2 was setup for unmanned aerial master stream operations to put water on a line of uninvolved tank cars to keep the fire from spreading.

Incident Timeline

- 8:38pm **June 19th**, Time of Call to CVFPD
- 8:58pm MABAS Box 11, 2nd Alarm requested
- 9:10pm Police begin ½ mile evacuation
- 10:00pm MABAS Box 11, 6th Alarm requested
- 10:20pm Train crew was located
- 2:30am **June 20th**, Evacuations Complete
- 10:00am East side fires burn down and are extinguished
- 12:00pm Deceased victim's body removed from south side
- 5:00pm Remaining fires are all extinguished
- 5:30pm Evacuees permitted to return
- 6:00pm All remaining mutual aid companies released
- 4:00pm **June 21st**, CVFPD Command is terminated



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Lessons Learned - Operations

- The decision to “Let the Fires Burn Down” was instrumental in preventing additional loss of life or injury.
- Alcohol base fires require enormous amount of AR foam which was not available.
- Closed Air Space - At 04:00 hrs. on June 20th the air space over the incident was “closed” which prevented the flood of media helicopters at day break.

Lessons Learned - Logistics

- Large scale evacuations require significant staffing and are time consuming.
- Bring in additional ambulances for evacuations. We did not anticipate the number of invalids who could not self evacuate.
- Personnel needs require strong logistics (Drinking water, food, toilets, shuttling crews, ATV's, rehab, shelters, etc.)

Lessons Learned - Communications

- Reverse 911 failed to work for over an hour due to a software problem and was not effective.
- Only two of six radio channels used were recorded.
- Assign a “Scribe” at Command to record important activities and times. Accurate time lines for report purposes were difficult.
- Command relied heavily on cell phones. Dead batteries, chargers and power cords became a problem. Most conversations were not recorded and not available for later reference.

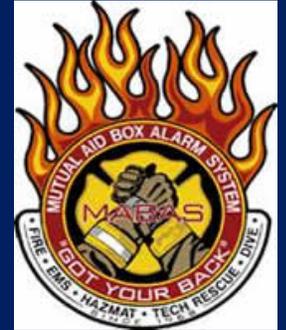
Favorable Circumstances

Many circumstances worked in our favor by chance:

- Weather cleared up just before the derailment.
- No pressurized cars in the derailment.
- Set of tracks derailment was on. South vs. North set.
- Speed of the train, 34 mph instead of normal 50 mph.
- 12 in. high pressure natural gas line did not fail, kept casualties low.
- Heavy first alarm dispatch, Cherry Valley and Rockford.
- First arriving F.D. companies were evenly split between North and South sides.
- Rockford's EOC was open due to flooding.

Successes

- All persons who could be rescued were rescued.
- No injuries or loss of life to civilians after FD arrival.
- No injuries to firefighters.
- No additional property loss after FD arrival.
- Effective use of the NIMS System
- Use of MABAS brought in the needed resources quickly, easily and afforded sustainability.
- Incident would not have had the level of success without MABAS.



Thank You.

Supplemental Slides

The CN Derailment Initial Response

Due to multiple calls to 911, at 20:38 hours Friday June 19, 2009 Cherry Valley and Rockford Fire were both dispatched for a train derailment with explosions to the area of Mulford and Sandy Hollow Roads.

Initial Cherry Valley Response:

- 2 Engines
- 1 Ladder
- 1 Heavy Rescue
- 1 Technical Rescue
- 2 ALS Ambulances
- 1 Chief, 1 Deputy Chief, and 1 Battalion Chief

Initial Rockford Response:

- 2 Engines
- 1 Ladder
- 2 Quints
- 1 Haz-Mat Unit
- 2 Airport ARFF Trucks
- 2 ALS Ambulances
- 2 District Chiefs.

Statistics

- 160 firefighters on scene
- 28 Engines
- 9 Ladder Trucks
- 7 Squads
- 6 Ambulances
- 2 ARFF Trucks
- 12 Chiefs with Command Units
- MABAS 8 Decon Truck & ATV
- MABAS 8 Rehab Trailer
- Illinois Unified Command Unit
- 35 Police Agencies
- Red Cross & Salvation Army Units
- Used approximately 789,000 gallons of water
- 600 feet of 5 inch hose
- 800 feet of 2 ½ inch hose
- Estimated damages in excess of 1.5 million dollars
- 323,963 gallons of ethanol burned
- 107,745 gallons were recovered

MABAS Statistics

- Mutual Aid Box Alarm System – MABAS is a statewide, all hazard, all risk preplanned mutual aid system including specialized operational teams.
- MABAS-IL includes 69 Divisions covering all 102 Counties in Illinois and includes approximately 37,000 of Illinois' 40,000 firefighters.
- MABAS Div. 8 Includes Cherry Valley and all other Fire Departments in Winnebago & Boone Counties (20 Departments).
- MABAS is now used in Wisconsin, Indiana, Iowa, Michigan, Ohio, Minnesota & Kentucky, with others showing interest.

MABAS-IL Capabilities

MABAS-IL Equipment Assets and specially trained teams are strategically located throughout the state providing numerous capabilities, some of which are:

- Tech Rescue Teams, trench, confined space, high angle
- Water Rescue, boats, divers, sonar
- US&R, Urban Search & Rescue
- Haz-Mat
- Mass Casualty
- Mobile “Tent Cities” to support large deployments of personnel

MABAS BOX 11, 2nd alarm, Card used June 19, 2009

MABAS BOX 11
Called at
20:58

DEPARTMENT NAME: CHERRY VALLEY		BOX ALARM TYPE: STRUCTURE FIRE - COMMERCIAL			EFFECTIVE DATE: 8/11/2006	MABAS DIVISION: 8
BOX ALARM #: 11		LOCATION OR AREA: ENTIRE CITY			AUTHORIZED SIGNATURE:	
LOCAL DISTRICT AREA:						
ALARM LEVEL	TRUCKS	SQUADS	AMBULANCES	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
STILL	CHERRY VALLEY	CHERRY VALLEY	CHERRY VALLEY	CHERRY VALLEY		
WORKING STILL						
MABAS BOX ALARM						
ALARM LEVEL	ENGINES	TRUCKS	SQUADS	AMBULANCES	CHIEFS	SPECIAL EQUIPMENT
BOX	ROCKFORD NORTH PARK STILLMAN VALLEY	ROCKFORD	BYRON (RIT)	LIFELINE	NORTH PARK ROCKFORD	
2 ND	HARLEM ROSCOE WIN-BUR-SEW BELOIT	ROCKTON	BELVIDERE		ROCKTON BYRON	SERT-AIR TRUCK RE-HAB ONE
3 RD	BLACKHAWK BYRON	BELVIDERE	NORTH PARK	LIFELINE	BELOIT BLACKHAWK	
4 TH		DEKALB		EMS BOX 40 BY REQUEST	ROSCOE VALLEY	104 AIR CASCADE
5 TH	WIN-BUR-SEW BELOIT	FREEMONT			WIN-BUR-SEW SOUTH BELOIT	BOONE EMA-AIR TRUCK
6 TH	BOONE 3 PECATONICA MARENGO				MARENGO BOONE 1	
7 TH						
INTERDIVISIONAL REQUEST		1 ST CHOICE		2 ND CHOICE		3 RD CHOICE

INFORMATION:
CHERRY VALLEY STA. 1 LOCATED AT 120 E. STATE ST. CHERRY VALLEY KNOX BOX LOCATED AT SOUTH WEST WALK IN DOOR.
CHERRY VALLEY STATION 2 AT 4919 BLACKHAWK RD RKFD. KNOX BOX LOCATED AT NORTH WALK IN DOOR

2 Trucks

1 Ambulance

6 Engines

2 Squads

4 Chiefs

Decision To Extinguish West Side Tank Cars



- By 10:00 A.M. on Saturday, the fires on the west side began to burn down to where they could be extinguished safely.
- Engine 503 on a hydrant 300 feet north, supplied two unmanned monitors each flowing 750 gallons per minute.
- Fire was extinguished and water flow was maintained for one hour for cooling of the tank cars.

Decision To Extinguish East Side Tank Cars



- East side cars continued to burn with relief valves operating until 3:00 P.M. when the fire started to burn down.
- Two monitors were placed on the north side and two on the south each flowing 750 gallons per minute.
- Water flow was maintained for two hours to cool the tanks.
- All fires were extinguished at 5:00 P.M. on Saturday, 20 ½ hours after the initial dispatch.

NTSB Begins Investigation



The NTSB arrived at approximately 1:00 P.M. on Saturday the 20th and began their investigation. As they progressed they began allowing the railroad to begin removing the wreckage.

CVFPD Training Requirements & Opportunities

- We require all firefighters to be NFPA-472 compliant.
- All full-time firefighters train 2-3 hours per day. Haz-Mat training is now done quarterly using rail tank car provided by CN Railroad. Our team trains with the MABAS Div. 8 Haz-Mat Team twice a month.
- Since the 2009 derailment CVFPD trained with Union Pacific Railroad on one occasion.

Cherry Valley FPD Regional Training Site



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Successes, cont.

- Our experience working with Canadian National during this incident was exceptional.
 - Timely response
 - Assistance and expertise in determining location and number of rail cars and products involved.
 - C.N. personnel assisted in the N.I.M.S. process and in the Incident Action Plan which enabled us to mitigate the incident safely.

Info. Re: Haz-Mat Shipments

- Currently railroads provide no information to emergency response agencies regarding Haz-Mat shipments through their jurisdictions.
- Commercial and industrial businesses are required to provide SARA Title III, Tier 1 and Tier 2 reports detailing the types and quantities of Haz-Mat products used and maintained in their facilities, which greatly enhances the emergency responders ability to preplan an incident.

Other Large-Scale Incidents

- Other large scale incidents CVFPD and MABAS prepares for include:
 - Natural Disasters, floods, tornados, earth quakes, etc.
 - Mass casualty incidents, natural disasters and man made
 - Interstate commerce/transportation, road, rail, air, and pipeline
 - Terrorism
 - Hazardous Materials, Tech-Rescue
 - Large retail, commercial, and industrial occupancies
 - Large multi-unit residential occupancies

Improve Your Preparedness

- **How Communities can improve their preparedness:**
 - Identify and preplan transportation routes for all modes.
 - Know your hazards, communicate, learn what products are used and transported in your jurisdiction.
 - Develop pre-plans, train to your preplans, then do it again and again!
 - Establish Mutual Aid agreements such as MABAS so that help is readily available and prepared when needed.
 - Coordinate plans with your LEPC's