EVALUATION OF THREAT POSED BY BAKKEN CRUDE OIL TANK TRAINS AND HAZARDOUS MATERIALS TRANSPORTED THROUGH THE CITY OF SPOKANE, WASHINGTON

Close-out Meeting Notes

Review conducted June 2-7, 2014
by
Hildebrand and Noll Associates, Inc.

ACTIVITIES

- Followed BNSF/CSX routes by land through city
- Aerial recon of rail line through city with CBP/SPD
- Toured 911 communications, DEM, SFD, SPD facilities
- Toured SFD Stations 1 & 2
- Inspected HazMat Units and equipment
- Toured Mobile Command Unit and support units
- Examined various DEM plans and infrastructure maps

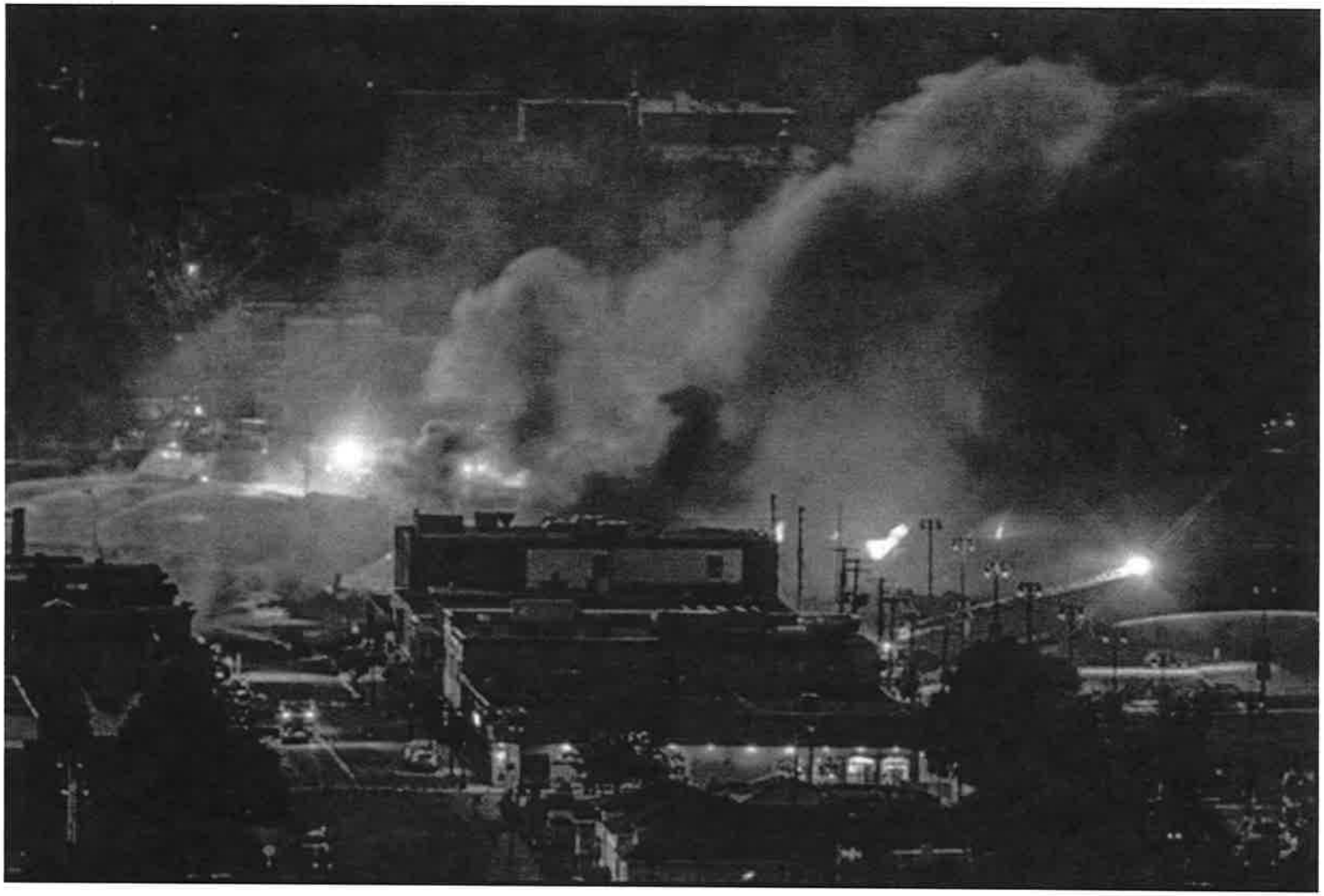
INTERVIEWS

- Ms. Amy McCormick - Chief Jay Atwood – 911
- Director Ed Lewis – Lisa Jameson DEM
- Chief Frank Straub and Lt. Matt Cowles SPD
- B.C. Bob Green – B.C. Mike Thompson SFD/HazMat
- Lt. D.J. Hill SFD/HazMat
- Deputy Chief Bob Hanna, SPD Operations Chief
- Don Waller, IAFF Union President SFD
- Fire Chief Bobby Williams – A.C. Brian Schaeffer
- Chief Bruce Holloway – District 3
- Chief Jack Cates – 9
- Chief Kimo Kuheana, USAF Fairchild AFB

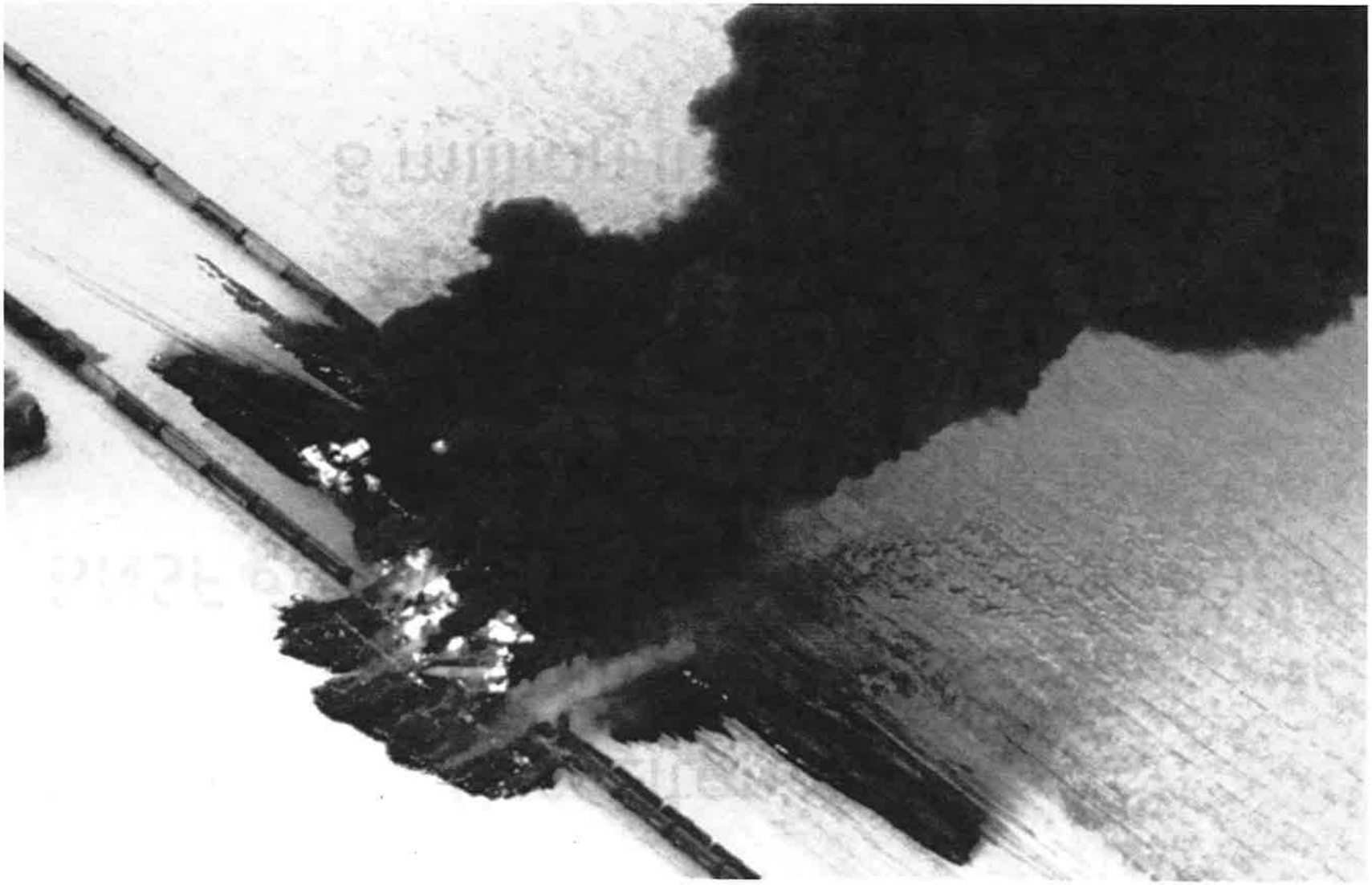
Lynchburg, VA
December 30, 2013
BNSF Train collided with an already derailed train.
1,400 evacuated

2
May 1, 2014

Lac-Megantic, Canada
47 killed
40 Buildings Destroyed



Casselton, ND
December 30, 2013
BNSF grain train collides with already derailed grain train.
18 of 25 cars ruptured
1,400 evacuated
8 million in damages



Pickens County, AL
November 8, 2013
90 car train
20 derailed
11 cars burned for days.

BAKKEN FACTS

- 2013- 11% of crude moved by rail
- 2-year backlog of new cars, otherwise the number would be 20%
- 2013-BNSF moved 166,000 shipments, up from 131,000
- 50-year supply of Bakken crude.
- 4 million B.P.D. of Bakken shipped daily in USA

TANK CAR MATH

- DOT 111 Tank car capacity = 30,000 gallons
- Typical tank train is 80-100 cars
- 100 cars = 3-million gallons
- Assume a derailment causes 11 cars to breach like Pickens County, AL derailment
- Equivalent to 41 gasoline tank trucks burning in a row!

WHAT MAKES BAKKEN DIFFERENT?

- Flash point -35F (Lower than traditional crude)
- 100 car tank trains of the same product vs. traditional cargo trains carrying mixed commodities and HazMat
- DOT 111 cars have vulnerabilities
- DOT 111 cars are being retrofitted. New improved safety features are on the way but there will be a gap for some time

GENRAL CONTROL ISSUES

- Minimum of 6,000 gal AR/AFFF required
- Minimum fire flows of 6,000 gpm
- Sustained fire flows generate runoff
- Might be 12 hours before the fire is safe to approach even if all the resources are on scene
- These are hot “angry” fires difficult to extinguish

CHALLENGES

- Exposure protection. Keep the fire from spreading (Buildings, Infrastructure, Wildland)
- Evacuation/Sheltering-In-Place (Notification, Movement, Sheltering people and pets)
- Runoff and spill control (keep the burning running fuel away from exposures)
- Pollution control

GAME CHANGERS ON A BAD DAY

- Good Multi-Agency Coordination (Everyone plays nice together)
- Plan, Train, Exercise together
- Communications interoperability
- Logistics (Foam concentrate, appliances, LDH hose, pumping capacity)

GENRAL OBSERVATIONS (+)

- DEM, 911, SPD Training Complex is expandable and sustainable for complex incidents (EOC)
- Communications Interoperability (800 MHz)
- Mobile Command Post
- 2 - Type-III Incident Management Teams
- DEM and Fire integration of NIMS
- Area Resource Coordination Plan
- Emergency Management Operations Group (MOG)

GENRAL OBSERVATIONS (+)

- DEM/LEPC exercise program already focusing on train derailment scenario (5-19-14 TTX). FSE being planned
- Integration of NIMS concepts into DEM and SPD, Fire District Incidents, Events and Exercises
- Overall good public safety (DEM, Police, Fire baseline services to build upon)
- Public safety agencies doing the best to provide consistent level of service based on current funding

GENRAL OBSERVATIONS (-)

- SFD HazMat Team can only field a minimum stabilization capability as opposed to an offensive mitigation capability found in cities of similar size
- Budget reductions have reduced HazMat personnel, training hours and maintenance
- HazMat Team is in a state of "declining capability"
- Mission critical equipment is out of service because there is no funding to maintain it

GENRAL OBSERVATIONS (-)

- DEM Mobil Command Post ($1 million dollar asset) has no support budget to maintain it
- Spokane area has about 4,000 gallons of foam concentrate available to support a train derailment
- Fairchild AFB has 7,000 gallons of foam
- There is no logistics plan in place. (People dependent not people dependent)

GENRAL OBSERVATIONS (-)

- Evacuation alerting and notification systems are not robust (reverse 911)
- No spill control contingency plans are in place along the rail lines running through the city
- All key public safety agencies are not participating in the Emergency Management Operations Group (EMOG) meetings
- Law enforcement agencies need to integrated into concepts of NIMS for incidents and events

GENRAL OBSERVATIONS (-)

- There is no single person in Spokane City responsible for coordinating emergency management across city agencies; e.g., fire/EMS police, public works.
- DEM has broader city county responsibilities and is underfunded to support planning, readiness, exercises, etc.

OPINION

"The city of Spokane has a minimal capability to respond to a Bakken crude oil tank train derailment and fire in the inner city".

<u>Weak Links in the Current System</u>:

1. Foam and water supply logistics
2. Evacuation notification and mobilization
3. Spill control and runoff planning

RECOMEDATION #1

Improve Interagency Coordination

1. Appoint a single point of contact within the city to coordinate emergency management issues among all departments (not just Fire & Police)
2. Ensure public safety agencies participate in MOG
3. Break down public safety cultural barriers that impede progress toward improving emergency response capability

RECOMEDATION #2

Develop a Regional Foam Logistics Plan

1. Develop a regional foam concentrate and foam appliance logistics plan
2. Make the plan "system dependent, not people dependent"
3. Leverage Air National Guard for air transport
4. Leverage BNSF and CSX to develop larger foam concentrate cache using Spokane and Fairchild hubs
5. Think bigger than Spokane for resources required

RECOMEDATION #3
Evacuation Capability

1. Improve evacuation/sheltering emergency notification capabilities (Go beyond reverse 911. How are we going to notify them?)
2. Develop focused evacuation plans along rail line. (How are we going to move them?
3. Develop public education plan for children and adults

RECOMEDATION #4

Improve Evacuation Capability

1. Improve evacuation/sheltering emergency notification capabilities
2. Develop focused evacuation plans along rail line. (Focus on high density, high occupancy locations)
3. Develop evacuation/sheltering public education plan for children and adults

RECOMEDATION #5
Develop Spill Control Plan

1. Identify critical areas where drainage of burning Bakken crude oil will spread the fire to structures or wildland
2. Identify the resources that will be need to divert or contain burning crude
3. Develop a contingency plan that lists who will provide the resources and how to contact them

RECOMEDATION #6
DEM Mobile Command Vehicle

1. Provide funding to maintain the MCV in its current state of operational readiness

RECOMEDATION #7

Increase HMRT Response Capability

1. Provide funding to SFD HazMat for equipment maintenance and replacement of mission critical equipment
2. Provide funding for HazMat training to go beyond a stabilization capability to a mitigation capability
3. Send SFD HazMat to the AAR Bakken Crude Emergency Training Program (Pueblo, CA) It's free. Backfill money is required

RECOMEDATION #8

Improve SPD NIMS Integration

1. Provide ICS-100 through 300 training for officers and supervisors
2. Integrate the IAP process into police incidents and events
3. Participate in Event Planning

RECOMEDATION #9

Propose Spokane as Alternate State EOC

1. Leverage State contacts to identify Spokane as an alternate State EOC
2. Seek Federal and State funds to expand EOC capability

- ✓ Existing integrated EMA, Fire, National Guard
- ✓ Secure Compound
- ✓ Room for flexible and scalable development
- ✓ Protected by existing fire station and EMS
- ✓ Access to Air Force Base and two airports
- ✓ Dorm and food support from adjacent college

"Whatever Spokane does to improve coordination and response capability for the Bakken Crude risk also strengthens the regional response capability to deal with <u>any</u> hazardous materials incident".

City of Spokane

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