

U.S. CHEMICAL SAFETY BOARD

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WEST FERTILIZER EXPLOSION AND FIRE

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PUBLIC MEETING

+ + + + +

THURSDAY,
APRIL 22, 2014

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U.S. CHEMICAL SAFETY BOARD MEMBERS PRESENT:

RAFAEL MOURE-ERASO, Ph.D., Chairperson,

U.S. Chemical Safety Board

MARK A. GRIFFON, Member, U.S. Chemical Safety

Board

BETH J. ROSENBERG, Sc.D., M.P.H., Member,

U.S. Chemical Safety Board

STAFF PRESENT:

DANIEL M. HOROWITZ, Ph.D., Managing Director

RICHARD C. LOEB, General Counsel

JOHNNIE BANKS, CFEI, Supervisory Investigator

***HILLARY COHEN, Communications Manager**

JERAD DENTON, Esq., Investigator

RACHEL GUNARATNAM, Investigator

***AMY McCORMICK, Contracting Officer**

SAMUEL OYEWOLE, Ph.D., Investigator

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provided by the U.S. Chemical Safety Board.**

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P R O C E E D I N G S

(6:30 p.m.)

CHAIRPERSON MOURE-ERASO: Good evening and welcome to this public meeting of the U.S. Chemical Safety Board, or the CSB. I would like to recognize among other people that came to this that we really are very appreciative of coming from the town.

I would like to especially recognize Mayor Tommy Muska, who is going to say some words for us in the middle of the program, and I am going to call on him. So thank You Mayor Muska for being here with us.

My name is Rafael Moure-Eraso, I am the Chairperson of the Chemical Safety Board. And with me today are our board members, Mr. Mark Griffon and Dr. Beth Rosenberg.

Also to my right is the general counsel of the Chemical Safety Board, Mr. Richard Loeb. And to my left is the investigator -- investigation team of the West

1 incident here in town. I'm going to name them
2 at the end of our remarks, and he will
3 introduce directly himself and the team.

4 The organization, the CSB is an
5 independent non-regulatory Federal agency
6 based in Washington, D.C. that investigates
7 major chemical accidents at fixed facilities.
8 As it was, the incident here in West.

9 The investigations exam all
10 aspects of chemical actions, including
11 physical causes related to equipment design,
12 as well as inadequacies in regulations,
13 industrial standards, and especially safety
14 management systems. Ultimately, we use safety
15 recommendations based in our findings which
16 are designed to prevent similar accidents in
17 the future, at least in the sector where the
18 accident took place.

19 Before we begin, I would like to
20 point out some safety information. Please
21 take a moment to know the locations of the
22 exits. There is a back exit where you came

1 in, and there are some exits on the sides if
2 there were be an emergency. It should be
3 taking note of that. I also will ask that you
4 please mute your cell phones so that these
5 proceedings are not disturbed.

6 The CSB is here this evening to
7 discuss the failures that led to the tragic
8 fire and explosion that occurred here in West,
9 Texas on April 17, 2013. Before we get
10 started, I would like to ask Board Member Mark
11 Griffon, to speak the names of the individuals
12 who lost their lives protecting their
13 community, and were victims of the actions.
14 And then have a brief moment of silence.

15 So, Board Member Griffon please.

16 MEMBER GRIFFON: Morris Bridges,
17 Perry Calvin, Jerry Chapman, Cody Dragoo,
18 Kenny Harris, Jimmy Matus, Judith Monroe, Joey
19 Pustejovsky, Cyrus Reed, Mariano Saldivar,
20 Kevin Sanders, Doug Snokhous, Robert Snokhous,
21 William "Buck" Uptmor, Jr., Antoine Lennard.

22 CHAIRPERSON MOURE-ERASO: So I

1 will ask for a moment of silence in
2 remembrance of the victims of the explosion.

3 Thank you Board Member Griffon.
4 Our hearts go out to the victims and the
5 victims' families of this tragedy. At least
6 15 people died a year ago, mostly as you know
7 volunteer firefighters that perished trying to
8 do their job. We do not take away from their
9 heroism in the least by finding that they were
10 not fully aware of the risk of an explosion as
11 it happened.

12 Today's presentation will include
13 a review of the preliminary findings by the
14 investigator in charge, Johnnie Banks and then
15 we'll hear from two expert panels during the
16 evening. And they will be introduced during
17 the program to discuss issues of emergency
18 response and live land use planning. I will
19 be introducing the panels after the
20 presentation of the CSB from Mr. Banks and the
21 investigative team.

22 So I will ask to call on Mr. Banks

1 to introduce his team and to continue with the
2 program. Thank you.

3 I've been reminded that I skipped
4 introducing some. Also the Board Members have
5 some short statements they would like to say.
6 Sorry, okay. So Board Member Rosenberg
7 please.

8 MEMBER ROSENBERG: Thank you
9 Chairman. I want to offer my condolences to
10 the friends and families of those who died.
11 I offer sympathy to those who were injured
12 here. And to those who's injuries do not make
13 headlines, so those who's hearing is impaired
14 from the blast, who have been traumatized and
15 to those who simply lost the mundane
16 tranquility of their lives because of the
17 blase.

18 We have learned a lot about what
19 contributed to the tragedy. And you will hear
20 much information about the storage of ammonium
21 nitrate, zoning and citing of facilities
22 containing hazardous chemicals, the training

1 of emergency responders, fire codes,
2 regulation and inspections.

3 If the lessons from West do not
4 cause any change in Texas and throughout the
5 United States, I would consider that a second
6 tragedy. I sincerely hope that the important
7 work that the Chemical Safety Board has done
8 in researching results in real changes.

9 I encourage you all to make that
10 happen. Thank you.

11 CHAIRPERSON MOURE-ERASO: Thank
12 you Dr. Rosenberg. Mr. Griffon.

13 MEMBER GRIFFON: Thank you Mr.
14 Chairman. I'd also like to express my
15 condolences to all the family and friends of
16 those who died in this tragedy, and to the
17 many who were injured.

18 The incident had a devastating
19 effect on the entire community. And I hope
20 that our investigation can lead to safety
21 changes to help prevent such tragedies in the
22 future. This is -- and it clearly devastated

1 this community. But I hope that it serves as
2 a wake up call for what is a national issue.

3 My understanding is that there are
4 more than a thousand facilities like this
5 nationally. And I would venture to guess that
6 there are other types of high hazard
7 facilities located in close proximities to
8 communities, without the community having a
9 full appreciation of the risk posed.

10 Understanding where -- I'm sorry.
11 Understanding where these facilities are
12 located, and exactly what types of materials
13 they are storing and manufacturing, is very
14 important. But equally important is the
15 ability to do something with that information.

16 If a high hazardous facility is
17 located in your community, what can you do
18 about it. Are community and local emergency
19 responders equipped to handle a worse case
20 event? Are local and state emergency planning
21 commissions established, and are they active?
22 Are risk management plans required, and if so,

1 are they being used? How can zoning and
2 siting rules be changed to assure communities
3 are safe from these hazards?

4 I'm interested tonight in hearing
5 from our team as well as from the expert
6 panels to help us grapple with some of these
7 questions. Thank you very much Mr. Chairman.

8 CHAIRPERSON MOURE-ERASO: Thank
9 you Mr. Griffon. Before proceeding, I would
10 like to ask Mayor Tommy Muska if he would like
11 to say some words.

12 MR. MUSKA: Chairman Eraso and the
13 Board, welcome you to the City of West.

14 CHAIRPERSON MOURE-ERASO: I'm not
15 sure if your microphone is on.

16 MR. MUSKA: Hello?

17 CHAIRPERSON MOURE-ERASO: It is,
18 okay. Go ahead.

19 MR. MUSKA: Mr. Chairman, Board
20 Members, I welcome you here to the City of
21 West. And I thank you for holding this
22 meeting here locally so the local citizens can

1 hear your results.

2 I want to also thank you all for your
3 service to this country and for your vital
4 service regarding chemical safety. I want to
5 welcome everyone else here tonight to the
6 City. And I'm sure that tonight's information
7 will be of importance to you.

8 April 17 even was a tragic loss of
9 life and property. And will forever change
10 the face of West. It is my personal hope and
11 prayer that the lessons learned from your
12 report Chairman, will be enacted and measures
13 put in place, so then the loss of the first
14 responders lives will not have been in vain.

15 Again, I thank you very much for
16 being here, and I welcome every to the City of
17 West. Thank you Mr. Chairman.

18 CHAIRPERSON MOURE-ERASO: Thank
19 you Mayor Muska. Now we proceed with the
20 program. I ask Johnnie Banks, the
21 investigator in charge for the West Fertilizer
22 investigation, to take over and introduce

1 himself and his team.

2 MR. BANKS: Chairman Moure-Eraso,
3 Board Member Griffon, Board Member Rosenberg,
4 Mr. Loeb, ladies and gentlemen, good evening.
5 We're prepared to present preliminary findings
6 from our investigation of the fire and
7 explosion which occurred at the West
8 Fertilizer facility in West, Texas.

9 This incident occurred on April
10 17, 2013, and resulted in 14 fatalities and
11 over 250 injuries, and widespread community
12 damage. Tonight's meeting will focus on
13 emergency response and land use planning
14 issues identified by the team at this stage of
15 the investigation.

16 It is important to mention at this
17 juncture, that these two categories discussed
18 tonight are by choice, and a subset of a
19 larger effort which is focused on prevention.

20 Before I start with the
21 proceedings I would like to introduce the
22 investigative team, which includes CSB

1 investigators from both Washington, D.C. and
2 the western regional office located in Denver,
3 Colorado. There were many contributors to the
4 work on this investigation that are not here
5 tonight, including several investigators who
6 participated in the deployment activities
7 immediately following the explosion.

8 The core investigative team
9 consists of myself, Johnnie Banks, Jerad
10 Denton, Rachel Gunaratnam, Mary Beth Mulcahy
11 who can't joint us tonight, Samuel Oyewole,
12 Reba Schroff who is not here with us, and Lucy
13 Shallow-Tyler.

14 Not continuing, we'll start with
15 an overview of tonight's agenda. Members of
16 the CSB investigation team will briefly
17 describe the West incident and the emergency
18 response.

19 Next we will have our selected
20 panelists from the emergency response
21 community come forward and provide statements
22 and answer questions from the Board

1 investigation team. We will then have a brief
2 15 minute intermission.

3 Following the intermission,
4 members of the investigation team will present
5 some of the team's findings on land use
6 planning. And we will invite our second set
7 of panelists to discuss related issues. And
8 also answer questions from the Board and
9 investigative team.

10 There will be a public comment
11 period for attendees interested in offering
12 comments for Board consideration related to
13 land use planning.

14 Finally, the team will discuss the
15 investigation path forward and list areas we
16 will examine prior to issuing a final report
17 on the West Fertilizer incident. We will now
18 move on to the investigation team presentation
19 of the incident and emergency response.

20 Consent with the CSB investigation
21 process, we have conducted an independent
22 investigation, and have interviewed key

1 eyewitnesses, photo documented the scene,
2 collected physical evidence and conducted a
3 community walk through to survey and document
4 damage.

5 As you will see later, this
6 information was instrumental in documenting --
7 in the documentation of damage to residences,
8 schools, and healthcare facilities. And was
9 useful in recreating likenesses of some of the
10 structures that were destroyed in the event.

11 In response to this incident, the
12 agency has participated in hearings before a
13 U.S. Senate Committee on Environment and
14 Public Works in June, 2013, where 17
15 preliminary findings were released. We've
16 also participated in activities related to the
17 Presidential Executive Order through attending
18 and contributing to listening sessions and
19 engaging in dialog with other agencies
20 similarly tasked with addressing the issue of
21 chemical site security.

22 Based on these findings, developed

1 over the course of this investigation, the
2 team will develop root causes of the incident.
3 And recommendations to prevent reoccurrence at
4 other entities engaged in similar commerce.

5 Briefly, some of the previous
6 relief findings observed that the warehouse
7 was constructed of wood. That there was no
8 sprinkler system available for fire
9 suppression. That firefighters had very
10 little time to make snap decisions. And the
11 State of Texas had not adopted a statewide
12 fire code.

13 Now we will provide an incident
14 description. At about 7:30 on April 17, 2013,
15 the first documentation of the incident
16 started with calls received by 911. In
17 addition to the call to report the working
18 fire at the plant was made by a West police
19 officer.

20 The fire progressed through the
21 facility rapidly. Four units from the West
22 volunteer fire department responded in

1 addition to mutual aid from fire companies
2 from nearby counties. Almost immediately, the
3 West volunteer responders began stinging hose
4 to fight the rapidly growing fire in the
5 fertilizer building.

6 Just 20 minutes after the first
7 notification was made to 911, a violent
8 explosion occurred. The time was about 7:53
9 p.m. The progression of the fire and the
10 explosion are captured in these series of
11 photos taken on the night of the incident.

12 Once the fire started, it burned
13 extremely intensely due to the presence of
14 ordinary combustibles such as seats wooden
15 bins that formed the container for the AN, and
16 asphalt shingles on the top of the roof of the
17 structure. The absence of sprinklers allowed
18 the fire to go rapidly with no abatement.
19 Finally, the AN involved in the fire was
20 likely decomposing and contributed to the
21 intensity of the fire before exploding.

22 In the aftermath of the explosion,

1 14 fatalities were reported, including 12 of
2 the emergency responders and two members of
3 the community that resided at the apartment
4 complex located west of the plant. There is
5 a 15th victim that is attributed to this event
6 who expired in route to the hospital who had
7 a heart attack.

8 There were also more than 230
9 documented injuries to emergency responders
10 and members of the surrounding community.
11 Damage to housing, businesses, schools and
12 health care facilities was wide spread in the
13 West community afterwards.

14 In addition to the immediate
15 consequences, there were likely many,
16 undocumented long term effects to the members
17 of the community that was collective
18 traumatized after the incident. Though 14
19 fatalities were documented as a result of the
20 explosion, within hours of the blast, a
21 resident of a nursing home died of a heart
22 attack in route to the hospital as I mentioned

1 earlier.

2 Investigators also became aware of
3 an increase in the number of deaths to a
4 nursing home residence in the days following
5 this incident. And we will consider linkage
6 to the fire and explosion and the role that
7 they may have played.

8 Despite not being classified as an
9 explosive, historically AN has exploded. In
10 examining previous incidents, the
11 unpredictability of AN when exposed to the
12 conditions of a fire such as the one that
13 occurred at West Fertilizer became evident.
14 Here is a list of some of the most
15 catastrophic ammonium nitrate explosions
16 documented globally for almost a century.

17 In 1921, an explosion at BASF in
18 Germany claimed between 500 and 600 lives, and
19 caused 2,000 injuries. In 1947, a ship
20 carrying 2,300 tons of wax coated AN exploded
21 in the port of Texas City, resulting in 581
22 fatalities and 5,000 injuries.

1 The terrorist injury explosion
2 claimed four lives and lead to 18 injuries and
3 resulted in the release of 5,700 tons of
4 anhydrous ammonia. And in France an explosion
5 in 2001 resulted in 31 fatalities and 2,500
6 injuries. And in another explosion in 2003 26
7 were injured.

8 In 2009 there was an ammonium
9 nitrate fire at a similar facility in Bryan,
10 Texas, which had dramatically different
11 outcomes. This facility called El Dorado
12 Chemical Company stored 550 tons of AN. A
13 fire erupted at that facility.

14 Although the storage structure
15 burned to the ground, unlike the incident at
16 West there was no explosion, loss of life or
17 major injuries recorded. Firefighters
18 conducted cooling operations on nearby
19 structures and equipment remotely.

20 The comparison of the West
21 Fertilizer incident to the 2009 fire at El
22 Dorado fire in Bryan, Texas demonstrates the

1 unpredictive nature of ammonium nitrate
2 exposed to burning conditions. In the case of
3 West, first responders had only 22 minutes to
4 access the situation and attempt to extinguish
5 the fire prior to explosion.

6 At the El Dorado incident, the
7 Bryan fire didn't arrive at the facility in 24
8 minutes after the initial 911 call was made to
9 report the fire. The first firefighter
10 arrived on the scene about nine minutes after
11 the first 911 call was made, noted that the
12 material involved presented an explosion
13 hazard. Due to a lack of water supply,
14 firefighters made the decision to let the
15 facility burn rather than attempt to fight the
16 fire and noted the explosion hazard.

17 It wasn't until one hour later
18 that the evacuation was ordered for the
19 surrounding facility. No explosion occurred
20 at El Dorado.

21 Of important note, the Bryan,
22 Texas facility rebuilt. When the rebuilding

1 commenced non-combustible materials of
2 construction were used.

3 In consideration of the potential
4 for lessons learned, the CSB found that
5 previous incident leading to fatalities of
6 firefighters and emergency response to AN
7 incidents such as the case of the Bryan
8 incident, were not effectively disseminated to
9 firefighters and emergency responders in other
10 communities where AN is stored or utilized.

11 We'll now move on to the
12 characteristics of ammonium nitrate and a
13 description of the West Fertilizer facility,
14 storage and distribution process.

15 This is a wood bin -- or this
16 wooden bin is similar to the ones used at
17 West, which stored AN prills. The prills look
18 like the small white beads or pellets as shown
19 in the enlargement panel on the left side of
20 the screen.

21 This structure, the fertilizer
22 building, located on the West site, housed

1 several of these wooden type bins that stored
2 a variety of chemicals used to make custom
3 fertilizer blends.

4 West Fertilizer was a storage and
5 retail distribution facility. They sold mixed
6 fertilizer, chemicals, farming supplies and
7 grain to the public.

8 AN was delivered by rail and
9 truck, and we delivered to the bins by a
10 conveyor belts and elevators. Custom blending
11 on site included ammonium sulfate, diammonium
12 phosphate and potassium sulfate.

13 At the time of the incident, and
14 based on interviews with employees, and
15 estimated 40 to 60 tons of ammonium nitrate
16 was stored in wooden bins in the fertilizer
17 building. The building itself was constructed
18 of wood and the roof was covered with asphalt
19 shingles.

20 There were two 12,000 gallon tanks
21 in the vicinity of the fertilizer building.
22 Finally there was a rail car positioned

1 adjacent to the plant awaiting off loading
2 that held about 100 tons of AN that toppled as
3 a result of the explosion, but was otherwise
4 unaffected in the aftermath of the event.

5 I this virtual tour, we've been
6 able to recreate the West Fertilizer building
7 allowing a view of the building, and equipment
8 as configured on the day of the incident. The
9 bins are labeled with the materials that are
10 thought to have been present on the day of the
11 incident.

12 West Fertilizer was the storage
13 and retail distribution facility that sold
14 mixed fertilizer, chemicals, farming supplies
15 and grain to the public. This structure, the
16 fertilizer building, was constructed of wood
17 and housed a variety of chemicals used to make
18 custom fertilizer blends. Also on the site
19 were two 12,000 gallon anhydrous ammonia tanks
20 and a 100 ton rail care of ammonium nitrate.

21 Ammonium nitrate is delivered by
22 rail and truck and transferred into the

1 storage facility by conveyor belts and
2 elevators. Other chemicals, such as ammonium
3 sulfate, diammonium phosphate and potassium
4 sulfate were also stored in the fertilizer
5 building for custom blending. 40 to 60 tons
6 of AN was stored in wooden bins inside the
7 building at the time of the incident.

8 In examining the classification of
9 AN, U.S. regulations do not classify AN as an
10 explosive until it has been blended with a
11 fuel source for the purpose of making an
12 explosive mixture. Therefore fertilizer grade
13 AN is not classified as an explosive, which
14 can affect the actions from firefighters
15 during response operations for fires involving
16 ammonium nitrate.

17 The next portion of our
18 presentation will examine the issues related
19 to the issues of emergency planning and
20 response. And my colleague Dr. Samuel Oyewole
21 will lead this section of the meeting.

22 DR. OYEWOLE: Thank you very much

1 Mr. Banks. The toll in the wake of the West
2 Fertilizer explosion was huge and included
3 five firefighters from the West Volunteer Fire
4 Department, two firefighters from the Abbott
5 Volunteer Fire Department, one firefighter
6 from Navarro Mills Volunteer Fire Department,
7 one duty Captain from the Dallas Fire
8 Department, one EMT from the West Volunteer
9 Fire Department and four members of the
10 public, including two good Samaritans who
11 supported the emergency response at the
12 fertilizer plant.

13 While ammonium nitrate itself does
14 not burn, the conditions under which ammonium
15 nitrate may detonate when subjected to a fire
16 exposure, are not clearly understood. And
17 current guidance does not guarantee
18 firefighters safety.

19 The deaths of the volunteer
20 firefighters and emergency responders at West,
21 Texas on the night of April 17, 2013, was not
22 the first time that firefighters would be

1 killed when responding to ammonium nitrate
2 related explosion incidents. On April 16,
3 1947, a ship containing 2,300 tons of wax
4 coated ammonium nitrate exploded in the port
5 of Texas City, killing 581 people, including
6 all the 26 Texas City firefighters that
7 responded to the incident.

8 Similarly, on November 29, 1988,
9 six firefighters from the Kansas City,
10 Missouri Fire Department, were killed in an
11 explosion involving a trailer/magazine
12 containing blasting mixtures of ammonium
13 nitrate and fuel oil as well as aluminum
14 pellets.

15 The firefighters at West, Texas
16 were aware of the magnitude of the hazard of
17 anhydrous ammonium from the tanks. A
18 poisonous cloud which could leak out of the
19 facility and drift into nearby homes. They
20 were not aware of the risk and magnitude of an
21 ammonium nitrate explosion hazard.

22 One method for improving awareness

1 of risk and hazard is to perform preincident
2 planning. However, there are no Federal
3 requirements for preincident planning at
4 ammonium nitrate facilities. Effective site
5 specific preincident planning is needed to
6 guide the fire fighters on any initial and
7 subsequent actions while on ground at a scene
8 of a fire.

9 The National Fire Protection
10 Association, NFPA, a nonprofit standards
11 organization, has been developing standards
12 directly affecting the fire service at the
13 department level since 1896. The NFPA
14 produces more than 300 consensus codes and
15 standards intended to minimize the possibility
16 and effects of fire and other risks.

17 The codes are voluntary standards
18 that each State has to adopt in order to be
19 enforced. Standards are attempts by an
20 industry or profession to self regulate by
21 establishing minimal operating performance or
22 safety criteria. These are supposed to be

1 recommended practices for fire fighting
2 departments.

3 One of such standards is the NFPA
4 1620 standard for preincident planning. The
5 2010 addition states that the preincident plan
6 should be the foundation for decision making
7 during an emergency situation, and provides
8 important data that will assist the incident
9 commander in developing appropriate strategies
10 and tactics for managing the incident.

11 Additionally, NFPA 471,
12 recommended practice for responding to
13 hazardous materials incidents. The 2002
14 addition provides guidance on how to develop
15 and effective incident response planning
16 strategy.

17 Fire fighting environments are
18 inherently unpredictable, volatile and fought
19 with risk. It is therefore important for
20 decisions to be made in a context of changing
21 priorities, on certain information and limited
22 resources. The National Fire Protection

1 Association, NFPA 472 standard for
2 professional competence for responders to
3 hazardous incidents, 2013 addition, provides
4 guidance on the competencies for awareness
5 level for personnel and competencies for
6 incident commanders.

7 Situational awareness and site
8 insight is very essential in emergency
9 situation. Especially in hazmat incidents.
10 This should include a thorough overall
11 assessment of the scene and identification of
12 all possible hazards to insure safety of the
13 emergency response crew.

14 Most fire fighting trucks and
15 vehicles are equipped with the current edition
16 of the Emergency Response Guidebook, jointly
17 produced by the U.S. Department of
18 Transportation, Transport Canada, and the
19 Secretariate of Communications and
20 Transportation in Mexico. The ERG also known
21 as the Emergency Response Guidebook is
22 intended for first responders to consult

1 during the initial phase of a dangerous goods
2 or hazardous material transportation incident.

3 The ERG gives directions on how to
4 respond to fires in transportation situations,
5 but did not give any direction in terms of
6 handling and storage of hazardous materials
7 like ammonium nitrate fertilizer. If a
8 warehouse containing ammonium nitrate is
9 treated as an enclosed space, such as stands
10 or trailers or carloads, in a fire situation,
11 some of the guidance provided by the ERG could
12 help firefighters make prompt and informed
13 decisions such as not fighting a fire
14 involving ammonium nitrate.

15 There are 15 variations of
16 ammonium nitrate listed in the current edition
17 of the ERG. Next to each AN variant is the
18 guide number that leads to information on the
19 potential hazard and the appropriate emergency
20 response. These measures however are very
21 vague and subjective to individual users.

22 The CSB compared the fire fighting

1 measures in the MSDS provided by CF
2 Industries, the manufacturer of the ammonium
3 nitrate used at West Fertilizer. The MSDS
4 provided by a similar large ammonium
5 manufacturer, as well as the current edition
6 of the DOT Emergency Response Guidebook.

7 MSDS is the Material Safety Data
8 Sheets. It's a document containing all the
9 pertinent information on a product. It is
10 provided by the manufacturer of a product.
11 These examples of guidance for fighting fires
12 involving ammonium nitrates illustrates the
13 hazards are not clearly communicated to
14 emergency responders.

15 All three highlighted guidance
16 indicate that the behavior of ammonium nitrate
17 under the conditions highlighted, are not
18 clearly understood. Also, terms such as
19 massive, major, large, protected location and
20 distance are not clearly defined in all three
21 guidelines.

22 While the West Fertilizer MSDS

1 provided by CF Industries and the ERG suggests
2 flooding a fire involving ammonium nitrate
3 from a distance, the large manufacturer's MSDS
4 suggests fighting such fires from a protected
5 location. In both cases, the same distance of
6 protected location are not clearly defined.

7 Hence a firefighter is left to
8 make a subjective judgment in determining
9 which location or area is protected. Which
10 distance is safe enough to fight a fire
11 involving ammonium nitrate, or which fire is
12 massive or major.

13 Firefighters perform tasks that
14 may often put their lives on the line. In
15 order to prevent deadly implications, it is
16 important for firefighters to receive adequate
17 training on how to effectively make timely
18 decisions in fire situations.

19 Firefighter training varies across
20 the country. Many volunteer fire departments
21 have training programs equal to that of career
22 fire departments. For example, in Texas, the

1 general requirements for volunteer fire
2 protection personnel certification programs,
3 are the same as those for career firefighters.

4 Certification for career
5 firefighters is mandatory, but for volunteer
6 firefighters, participation in this
7 certification is strictly voluntary and not
8 strictly enforced.

9 The National Fire Protection
10 Association, the NFPA estimated that there
11 were approximately over one million
12 firefighters in the United States as of the
13 end of 2012. Including 345,950 career
14 firefighters, which accounts for 31 percent of
15 the firefighter population. And 783,300
16 volunteer firefighters, which account for 69
17 percent of the firefighter population.

18 Approximately 95 percent of all
19 volunteer firefighters are in local fire
20 departments that protect fewer than 25,000
21 people. Interestingly, more than half of
22 these volunteer firefighters are located in

1 small, rural departments that protect fewer
2 than 2,500 residents, similar to West, Texas.

3 There are an estimated 30,100 fire
4 departments in the United States. Of these,
5 2,610 departments are all career, mostly
6 including 1,995 career departments. 5,445 are
7 mostly volunteer. Out of which 20,050
8 departments are all volunteer.

9 The CSB found that despite all
10 this, there are no Federal requirements for
11 volunteer fire departments, which account for
12 almost 85 percent of all the fire departments
13 in the United States to develop site specific
14 preincident plans with businesses and chemical
15 plants dealing with hazardous materials like
16 ammonium nitrate.

17 At this time, I will now turn over
18 this presentation to my colleague, Ms. Rachel
19 Gunaratnam to discuss the CSB's preliminary
20 findings on emergency response planning.

21 MS. GUNARATNAM: Thank you Samuel.
22 The CSB has found that emergency planning is

1 extremely important when responding to a
2 chemical accident. It can help reduce the
3 number of injuries and fatalities when
4 communities can effectively respond during an
5 emergency.

6 On the day of the incident, as
7 emergency responders were trying to tackle the
8 fire at West Fertilizer, many residents were
9 unaware that just a few 100 feet away was a
10 material that would detonate. Residents were
11 injured during the explosion as they were
12 watching the fire next to their windows, in
13 their homes, from their cars and on the
14 street.

15 This was because there was no
16 official evacuation order or an alert issued
17 during emergency response to let residents
18 know to evacuate or find a safe area within
19 their home. But such an order or an alert
20 would need to be preplanned. Because as
21 stated previously, there's only about 20
22 minutes between the time of the 911 call and

1 the explosion.

2 Local officials would need to know
3 ahead of time to make this decision quickly.
4 But there was no preplanning that occurred
5 prior to April 17th, even though there are
6 regulations that exist to help prepare
7 communities.

8 Two key Federal regulations that
9 address emergency planning applied at West
10 Fertilizer. The first is the Emergency
11 Planning and Community Right to Know Act,
12 otherwise known as EPCRA that Congress enacted
13 in 1986. This law is intended to help
14 communities prepare for a chemical accident.

15 EPCRA encourages emergency
16 planning efforts on the State and local level.
17 And even though EPCRA is regulated under the
18 U.S. Environmental Protection Agency, the EPA,
19 it is enforced by the State of Texas. West
20 Fertilizer was covered under this law, which
21 I will go into more detail later.

22 The second is the risk -- then

1 there's the Risk Management Program intended
2 to compliment EPCRA by requiring companies to
3 prevent a chemical accident. It was first
4 implemented in 1999, and this regulation
5 covers a list of chemicals that are primarily
6 toxic or flammable.

7 Under RMP, companies have to
8 develop a program to prevent a chemical
9 accident from occurring and then they must
10 share that program with local authorities.
11 West Fertilizer was required to do an RMP, but
12 only for their storage of anhydrous ammonia,
13 which is a toxic chemical. Ammonium nitrate
14 is not covered under this program.

15 This program which is also
16 regulated by the EPA is enforced at the
17 Federal level and not by the State of Texas.
18 Together, both of these programs encourage the
19 sharing of information between companies and
20 their surrounding communities for emergency
21 planning.

22 However, during our investigation,

1 the CSB found there were serious problems with
2 emergency planning prior to April 17th,
3 especially with implementing EPCRA, which I
4 will discuss in my next slide.

5 EPCRA is a law that provides a
6 framework for all -- sorry. EPCRA is a law
7 that provides a framework for all States to
8 follow. That framework involves four parts.
9 Emergency planning, emergency release
10 notification, hazardous chemical storage
11 reporting, and toxic chemical release
12 inventory.

13 Our focus will be on emergency
14 planning, which is what mattered at West. As
15 stated previously, this law is enforced by the
16 State and not by the Federal EPA, and is
17 administered by the Texas Division of
18 Emergency Management under the Department of
19 Public Safety.

20 Under EPCRA, a company must report
21 their chemicals that fall under two
22 categories. First they must report their

1 chemical if it is on EPA's list of Extremely
2 Hazardous Substances, EHS at certain
3 quantities. This list consists of extremely
4 toxic chemicals that would cause severe harm
5 to a community if exposed at acute levels.

6 West Fertilizer did have an EHS
7 substances, anhydrous ammonia, which they
8 reported over the years. Ammonia nitrate is
9 not on this list because it does not meet the
10 criteria of an EHS.

11 However, a company must also
12 report a hazardous chemical as defined by OSHA
13 in quantities of 10,000 pounds or more. These
14 are chemicals with physical or health hazards.
15 Ammonium nitrate fits this criteria, and West
16 Fertilizer did report their ammonium nitrate
17 in 2012.

18 After a company identified what
19 chemicals they must report, they must report
20 this to their local fire department, LEPC and
21 the State. And LEPC stands for a Local
22 Emergency Planning Committee. This Committee

1 is charged with developing an emergency
2 response plan for their district.

3 The City of West falls under
4 McLennan County, and is part of the McLennan
5 County LEPC. West Fertilizer reported in 2012
6 their quantities of anhydrous ammonia and
7 ammonium nitrate to the West Fire Department,
8 the McLennan County LEPC and the State of
9 Texas.

10 Once a company has reported this
11 information under EPCRA, the LEPC uses that
12 information to develop a comprehensive
13 emergency response plan. This emergency
14 response plan is key to preparing communities
15 for a chemical accident.

16 A plan should include procedures,
17 evacuation plans and training programs for
18 emergency responders. And include schedules
19 to exercise that plan.

20 McLennan County did develop a
21 Comprehensive Emergency Response Plan, which
22 is required by Texas to be reviewed every five

1 years. However McLennan County didn't include
2 West Fertilizer in their plan Because the
3 State of Texas believed they were exempted
4 under EPCRA.

5 The exemption that was applied
6 here is the Agricultural Use Exemption, which
7 excludes substances used in routine
8 agricultural operations or is a fertilizer
9 held for sale by a retailer to the ultimate
10 customer. Based on the language of the
11 exemption, McLennan County and the State of
12 Texas thought the exemption applied to West
13 Fertilizer.

14 So even though West Fertilizer had
15 an extremely hazardous substance and an OSHA
16 hazardous chemical, they were thought to be
17 exempt under EPCRA, therefore exempt from the
18 emergency planning requirements.

19 Federal EPA however would not
20 apply this exemption to companies like West
21 Fertilizer who blended ammonium nitrate. EPA
22 does provide some minimal guidance on their

1 website, which states that the chemicals at
2 West Fertilizer are the starting materials
3 used to make a fertilizer and not the
4 fertilizer itself. And they say retailers
5 should report the amounts held for blending to
6 produce the new fertilizer.

7 This disconnect between the
8 Federal and State agencies played a
9 significant role in the lack of emergency
10 planning at West Fertilizer, which left
11 emergency responders and residents unprepared
12 for what occurred on April 17th.

13 I will now turn it over to Johnnie
14 Banks who will introduce our panelists to
15 discuss emergency planning and response.

16 MR. BANKS: Thank you. Before we
17 introduce the panel, the Chair will Entertain
18 questions from the other Board members.

19 CHAIRPERSON MOURE-ERASO: I would
20 like to ask Board members if they have any
21 particular questions for the investigative
22 team.

1 MEMBER GRIFFON: I think I'll
2 reserve them now. Most of my questions were
3 more directed to the panelists, so. When we
4 ask the panelists if they can -- and yes.

5 CHAIRPERSON MOURE-ERASO: Board
6 Member Rosenberg?

7 MEMBER ROSENBERG: I think I'll
8 wait.

9 CHAIRPERSON MOURE-ERASO: I have
10 one question for -- in the slide number 37, it
11 was reported by Rachel that West Fertilizer
12 reported ammonium nitrate amounts to OSHA
13 under the hazardous chemicals.

14 Could you elaborate a little on
15 that. Like what did OSHA do after that report
16 in 2012 as far as you know?

17 MS. GUNARATNAM: Is this on? Okay.
18 When I was referring to that, the company,
19 West Fertilizer did report on their Tier
20 Two's. It's an inventory report. And they
21 submitted that only, as far as we know, we're
22 still looking into how far back, but we only

1 know that they reported in 2012 their
2 quantities of ammonium nitrate on their Tier
3 Two report.

4 CHAIRPERSON MOURE-ERASO: Okay,
5 thank you. Another thing is, it says that you
6 put it out under Federal EPA, there is not the
7 retail exemption on the use of fertilizer. So
8 did EPA know that there was ammonium nitrate
9 being used in the facility? And if they did,
10 what kind of actions happened?

11 MS. GUNARATNAM: Federal EPA?

12 CHAIRPERSON MOURE-ERASO: Yes.

13 MS. GUNARATNAM: No, I don't
14 believe they knew, because they're not
15 required to report at the Federal level,
16 they're only -- you know West Fertilizer was
17 only required to report at the State level,
18 so.

19 CHAIRPERSON MOURE-ERASO: I see,
20 okay. Thank you. Johnnie.

21 MR. BANKS: Thank you. At this
22 time I would like to introduce our panelists

1 for the discussion on the Emergency Response
2 and Planning. The panel for this group would
3 be Chris Barron, if you'd come up. Elizabeth
4 Harman, Mr. Frank Patterson and Glenn Corbett.

5 CHAIRPERSON MOURE-ERASO: Johnnie
6 could you --

7 MR. BANKS: I would -- I'll do a
8 brief introduction. Mr. Barron is currently
9 -- currently serves as the Executive Director
10 of the State Fireman and Fire Marshall's
11 Association of Texas, and has been with the
12 organization for over eight years.

13 Next is Ms. Elizabeth Harman. Ms.
14 Harman is representing the International
15 Association of Firefighters or IAFF. She has
16 been the Assistant to the General President
17 for Grants Administration of Hazmat, Weapons
18 of Mass Destruction Training at IAFF since
19 February, 25, 2013.

20 Also here today is Mr. Frank
21 Patterson. Mr. Patterson has more than 25
22 years of experience in the emergency response

1 and homeland security fields. And has served
2 as Emergency Management Coordinator for the
3 City of Waco and McLennan County since 1999.

4 Lastly, I'd like to introduce Mr.
5 Glen P. Corbett. Mr. Corbett is an Associate
6 Professor of Fire Science at John J. College
7 of Criminal Justice, the City University of
8 New York. He is the former Chair of the
9 Department of Protection Management.

10 He serves as technical editor of
11 Fire Engineering, a 128 year old fire service
12 journal. He is a former Assistant Chief in
13 the Waldwick, New Jersey Fire Department, and
14 has served as the President of the New Jersey
15 Society of Fire Service Instructors.

16 Thank you all so much for joining
17 us this evening. We would ask that if you
18 like to present a brief statement, and then
19 we'll entertain questions from the Board.
20 We'll start with Mr. Barron.

21 MR. BARRON: Good evening and
22 welcome to Texas. On behalf of the 23,000

1 individual firefighters and members of our
2 association, we want to extend our condolences
3 to the City of West. They were all members of
4 our organization, and certainly participated
5 in our certification program.

6 In Texas 78 percent of the fire
7 services manned by volunteer fire departments
8 across the State, over about 1,900 fire
9 departments across Texas and which about 1,600
10 of which are volunteer fire departments.
11 Training standards vary across the State,
12 because as you know in Texas, it's a vast
13 State.

14 There might be a fire department
15 in West, Texas that might run one structure
16 fire a year. And mostly run wild land fires.
17 Or there might be another fire department in
18 the Houston area that might run nothing but
19 structure fires, but never run a wild land
20 fire call.

21 So the standards and the
22 requirements are generally left up to the

1 local jurisdiction to have an authority to set
2 minimum certification standards for those fire
3 departments.

4 We see a lot of fire departments
5 that are still quite underfunded. That do not
6 have the tools, the equipment or the training
7 necessary to fight these type of fires. And
8 they do the best job that they can with what
9 they have and the resources they have.

10 Certainly West was one of those
11 fire departments that instituted a
12 certification and a training program. They
13 trained their firefighters. Several of which
14 were close to certification, if not already
15 having a certification based on National Fire
16 Protection Association standards, firefighter
17 one and firefighter two, which is what our
18 certification program is based on.

19 I can tell you that fire
20 departments all across Texas continue to
21 improve their certification, their equipment,
22 and their personnel based on the needs of the

1 community and the growing demands on those
2 fire departments, whether it's EMS calls,
3 hazmat calls, or general fire suppression
4 response.

5 We are learning a lot from this
6 incident in West. And certainly with the State
7 Fire Marshall's report, there will be a lot of
8 lessons learned that fire departments can take
9 back to their communities and implement those
10 lessons learned so that tragic events like
11 this won't happen again.

12 MR. BANKS: Thank you. Ms. Harman.

13 MS. HARMAN: Thank you. Good
14 evening. Is it on? Is that on?

15 Thank you very much for the
16 opportunity to present and chat with all of
17 you this evening. On behalf of our General
18 President, Harold Shaitberger, our condolences
19 go out to all the families and the community
20 here in West, Texas on this tragic event.

21 The International Association of
22 Firefighters represents more than 300,000

1 firefighters across the United States as well
2 as Canada. Those firefighters protect more
3 than 85 percent of the nations populations.

4 The incident here in West, Texas
5 for us really emphasizes the importance for
6 training for first responders. Particularly
7 at the hazardous materials operations level.
8 Firefighter one, firefighter two are very
9 important. Hazardous materials operations, as
10 indicated in OSHA as well as NFPA 472 is a
11 minimum level that all firefighters should
12 have.

13 With that training, it's not just
14 the skills that they take with them to bring
15 there, it's the skill of the thinking, the
16 analyzing process. Preplanning, is part of
17 that. Preplanning for these facilities within
18 the local area, we've discussed today and
19 we've heard that there are no Federal
20 regulations for that.

21 That is part of being a hazmat
22 operations person. It is part of being a fire

1 department. Understanding what is in your, as
2 we say, our first do area. What is in your
3 community? How much is in there? How is it
4 going to mix and mingle with the other things
5 that are in there? That's key. That's all
6 part of being a firefighter.

7 Recognizing the potentials for
8 that. And recognizing the potentials of those
9 incidents and merging those with the
10 capabilities of that individual department.
11 Many department as we've heard are strapped
12 for -- in budgets these days. The first thing
13 that goes when budgets are tight, are
14 training.

15 Training should never go in a fire
16 department. It can be conducted formally. It
17 can be conducted informally. The
18 International Association of Firefighters for
19 the past 25 years has provided hazardous
20 materials operations training to both career
21 and volunteer firefighters, training more than
22 5,000 first responders every year in hazardous

1 materials operations training. It's key.

2 Not only do we train recruits, but
3 at time we find that we're training incumbent
4 firefighters. Folks who have been on the job
5 for 10, 15, 20 years and have never had that
6 level of training before. And it's a real eye
7 opener for them.

8 The importance also with regards
9 to that training, is recognizing and
10 identifying the materials that are in the
11 facilities, whether it's a tanker, a rail car
12 here. This was actual fertilizer facility
13 here. What's in there?

14 A training beyond the awareness
15 level is key. That operations level is going
16 to take you there. How to use that Emergency
17 Response Guidebook. That's key. That's the
18 bible to some firefighters. It should be in
19 the pocket coat of every firefighter that's
20 out there.

21 Whether you're again on the
22 railway or you know your first do area.

1 You've got to be able to look up what that
2 chemical is.

3 And worst case scenario, if you
4 don't have that book, or you look it up and it
5 surpasses the capability that your department
6 has, you move immediately into a defensive
7 operations, and not put yourself, your fellow
8 firefighters or your community at risk. But
9 you move back to watching it and frankly
10 letting it burn if that's how it has to be.

11 We support through out training a
12 risk based approach. We call it APIE,
13 analyze, plan, implement and evaluate. We
14 embed that in every firefighter that we train.
15 So that they know whether or not they can go
16 in, they shouldn't go in, or they stand back
17 and move to a defensive operations.

18 We stand by to assist in any way
19 that we can with this community. With the
20 rest of the nation as well as Canada, where
21 our members are. With training programs, with
22 qualified, very experienced instructors that

1 come in from all over the globe to deliver
2 these training programs. We'll be more than
3 happy to share those programs, the expertise
4 and the subject matter expertise of all the
5 instructors that we have.

6 And again, thank you for the time
7 to share that, and our resources that we hope
8 to share with all of you here.

9 MR. BANKS: Thank you very much.
10 Mr. Patterson.

11 MR. PATTERSON: Thank you. My name
12 is Frank Patterson. I'm the Emergency
13 Management Coordinator for the City of Waco,
14 McLennan County, Texas. And on the agenda I
15 believe it said I was the LEPC. I'm a member
16 of the LEPC and as you all know the LEPC is an
17 industry driven committee.

18 And we are as the Emergency
19 Management Office, we are the repository for
20 the LEPC related to Tier Twos within our
21 county. And we also are involved in the
22 Emergency Management Plan. I don't know how

1 deep you want to get into.

2 I have -- I mean if you want to
3 wait and ask questions, but I did feel like we
4 maybe needed to discuss the way the State of
5 Texas does our planning so you can understand
6 that part of it. If you want to wait or you
7 want do that now, I can do it now. Okay, all
8 right.

9 In the State of Texas back in
10 1975, we've already had an all hazard plan
11 approach for the State of Texas, in which
12 there was requirements for jurisdictions to
13 plan as an all hazard approach. And when the
14 EPCRA rules came out in 1986, that -- those
15 standards in the EPCRA community rights law
16 were distributed amongst various annexes
17 within our plans.

18 Our plans are 22 annexes and a
19 basic plan. And they're functional in a
20 nature. The annexes are functional in nature.
21 So it's warning, firefighting, law
22 enforcement, things of that nature.

1 And so through that process, they
2 were broken up into the plan throughout the
3 plan. So it's not a stand alone. We have a
4 hazard material annex, but all the warning
5 doesn't matter if it's a hazmat incident or a
6 tornado or whatever it is, the warning point
7 is still the same warning point. So it's
8 those things were distributed throughout the
9 plan.

10 And that's the same thing we do
11 here. In the State of Texas we have three
12 levels of planning. Basic, intermediate and
13 advanced. In McLennan County we've been at
14 advanced preparedness levels for years. Ever
15 since I've been here, we've maintained an
16 advanced preparedness level in regards to
17 that.

18 So in specific tier two reporting,
19 the tier two reports as you all know that go
20 to the State, and they also go to the fire
21 department, which has a primary responsibility
22 for the area, and they come to the LEPC.

1 So our office, the Office of
2 Emergency Management, acts as a repository for
3 the LEPC and those tier twos as it relates to
4 that. I think for the other thing to
5 recognize, is that there are some things, and
6 I'm glad you all are here. I think there's
7 going to be great things that come out of this
8 and really goes above and beyond standards.

9 I think there's some protocols
10 that can come from this as well that will
11 really help through the process. I believe
12 that the EPCRA standard needs to be changed.
13 I believe there's things in there through the
14 reporting process and the way we get it from
15 the Federal to the State to the locals, has
16 deficiencies in there that need to be
17 addressed.

18 I know that, because I've believed
19 this since 1999 since I've been here, you
20 know, there really is no -- there is no
21 tangible, I guess punitive actions for
22 industries that don't report. There's some

1 civil things that are written in there that
2 says LEPC can do some civil actions. But what
3 business is going to go after another
4 business? That's kind of like the fox
5 watching the hen house.

6 So there's some things within that
7 I think we need to address, we need to look
8 at. I also think that through the process of
9 planning process, there's a disconnect in
10 getting that information all the way down to
11 the basic core level.

12 You know we send it in, it goes to
13 the State. It gets put in a file and says
14 okay, this community has a right to know, if
15 somebody want so call, we'll ask them about it
16 -- we'll tell them about it if they want to
17 know about it.

18 But as far as the local level, if
19 industry comes in and builds somewhere and
20 there's no requirements for that industry to
21 tell them, or if it's a small mom and pop
22 industry, and they don't know the rules, they

1 don't know to apply to begin with, the local
2 government doesn't know if they've built in an
3 incorporated area on Texas. If there's not
4 way of permitting a requirement for them to
5 get a permit to build, that they're even there
6 until years later until after they're there.

7 I mean you know, so there's things
8 that need to be addressed on the front end I
9 think help. There's things that we do as an
10 industry, as a dispatch fire industry that
11 need to be implemented on the back end of this
12 as well.

13 And that is you know, like in
14 dispatch for example, this should be a
15 requirement, that all dispatchers have that
16 information in their CAD system so when they
17 dispatch fire departments to a fire, that
18 dispatcher then brings it up, it jumps up with
19 an icon and say hey, there's something here.
20 We need to notify the firemen that are
21 responding, there's something here.

22 And that's what I'm talking about.

1 That there's things throughout this system
2 that there's holes through this that we can
3 work on. And I'm glad this is occurring that
4 you all are here, you all are looking at this
5 and we're going through this, because I think
6 we're going to see positive outcomes from it.
7 And it starts all the way through, Federal,
8 State and local.

9 So thank you all very much for
10 your time. And I appreciate being here.

11 MR. BANKS: Thank you very much.
12 Mr. Corbett.

13 MR. CORBETT: Thanks. Thank you
14 Mr. Banks. Chairman Moure-Eraso, Board
15 Members Rosenberg, Griffon, thank you for
16 allowing me to testify tonight regarding the
17 April, 2013 explosion at the West, Texas
18 fertilizer company.

19 I'd also like to extend my
20 condolences to the family and friends of those
21 who were killed and injured as well as
22 everyone else has here tonight.

1 I'll confine my remarks to the
2 issue of firefighting response to the West
3 Fertilizer facility, and the context of the
4 firefighting recommendations of Appendix E of
5 the Nationally recognized code NFPA 400, the
6 hazardous materials code. And the Chemical
7 Advisory, Safe Storage Handling and Management
8 of Ammonium Nitrate, a joint publication by
9 the ATF, OSHA and EPA.

10 While I will not focus on the code
11 provisions dealing with storage and handling
12 of ammonium nitrate tonight, I must note that
13 the ammonium nitrate provisions found in our
14 Nationally developed model codes are grossly
15 deficient, antiquated, contradictory and
16 confusing. The recommended firefighting
17 procedures found in NFPA 400 and the Advisory
18 are just one element of an entire set of code
19 provision that need to be rewritten.

20 We heard tonight about the
21 firefighting efforts that took place at West.
22 It's obvious that the West, Texas fire

1 department attempted to engage the fire and
2 attempted to extinguish the fire, contain the
3 fire. We know that they were there for about
4 20 minutes and apparently they may have been
5 on their way realizing that the fire was in
6 fact uncontrollable, may have made the
7 decision to leave and to evacuate.

8 When we look at NFPA 400, it
9 appears that the firefighting efforts at the
10 West facility were entirely consistent with
11 the following specific recommendations from
12 NFPA 400, and I quote, should a fire break out
13 in an area where ammonium nitrate is stored,
14 or in a vehicle transporting ammonium nitrate,
15 it is important that the mass be kept cool and
16 burning might be promptly extinguished.

17 Large volumes of water should be
18 applied as quickly as possible. If fires
19 reach massive and uncontrollable proportions,
20 firefighting personnel should evacuate the
21 area and withdraw to a safe location.

22 And again we hear those vague

1 indescribable terms, uncontrollable and
2 massive, whatever that means. This set of
3 provisions in 400 encourages firefighters in
4 fact to attack an ammonium nitrate storage
5 fire. It is likely that the fire department
6 supplied perhaps several hundred gallons
7 emitted on the fire.

8 We don't know a lot about what
9 exactly happened that night. But they in fact
10 of course did try to extinguish -- contain and
11 extinguish the fire.

12 The provisions that encourage
13 firefighters to keep attacking the fire until
14 it reaches again those undefined massive and
15 controllable proportions, and only then
16 evacuate the area are really problematic. It
17 appears that the West firefighters again did
18 exactly what these recommendations said to do.

19 And another seemingly
20 contradictory statement, I quote, where
21 possible firefighters should withdraw and
22 allow the structure or vehicle to burn if it

1 can be done safely. I don't know what that
2 means. Let me say it again. Where possible,
3 firefighters should withdraw and allow the
4 structure or vehicle to burn if it can be done
5 safely.

6 It appears that a firefighter
7 should only abandon firefighting efforts if
8 the burning structures with the ammonium
9 nitrate storage will not pose a threat to the
10 surrounding communities. That's the only
11 conclusion I can draw from that.

12 Given the fact that the fire was
13 venting, obviously as we saw in the video, in
14 the photographs earlier, there's another
15 provision which I'd like to mention briefly
16 here, that 400 discusses in terms of the
17 confinement of the byproducts, or the products
18 of combustion.

19 And again I quote, as much
20 ventilation as possible should be provided to
21 the fire area. Rapid dissipation of both the
22 products of decomposition and heated reaction

1 is very important. Now if you look at the
2 Advisory that the ATF, EPA and OSHA created in
3 the wake of the West incident, you'll see that
4 they sort of split hairs with that specific
5 issue about ventilation. So again, it's
6 another problem.

7 So in essence NFPA 400 provides
8 inappropriate recommendations in my opinion,
9 encouraging firefighters to engage a fire
10 unless it is massive and uncontrollable. The
11 problem with this recommendation is that it's
12 entirely too late for firefighters to withdraw
13 when the fire's in fact massive and
14 uncontrollable, placing them in grave danger
15 as well as the people in the surrounding
16 community without time to evacuate.

17 As I mentioned, OSHA, ATF and EPA
18 issued in August, 2013, their Chemical
19 Advisory dealing specifically with ammonium
20 nitrate. While it's a slight improvement over
21 NFPA 400, the Advisory fails to provide
22 definitive advice as to how and when to fight

1 a fire. To some extent it relies on the same
2 language from NFPA 400.

3 For example, the Advisory suggests
4 that firefighters and I quote, should first
5 consider if they can safely fight the fire, or
6 whether they should just let it burn. Move to
7 a safe location and focus on evacuating nearby
8 residents and preventing further safety issues
9 for the surrounding community.

10 The Advisory -- this Advisory
11 places the emphasis on a set of observed
12 conditions of anyone of the following. Number
13 one - a fire involving ammonium nitrate is
14 judged to be quote, out of control. Number
15 two - a fire is engulfing the ammonium
16 nitrate. Again, whatever that exactly means.
17 Brown or orange smoke is detected, which would
18 indicate the presence of nitrogen dioxide, or
19 number four - rapid increase in the intensity
20 or amount of smoke or fire in the area of
21 ammonium nitrate.

22 So that's both 400 and the

1 Chemical Advisory recommend firefighting of --
2 recommend fighting a fire involving ammonium
3 nitrate storage. Neither set of
4 recommendations make a distinction about the
5 amount of ammonium nitre, or the type of
6 construction the fire protection features in
7 the building. Whether it's well protected
8 with non-combustible construction, up to date
9 handling equipment and sprinklers versus a
10 wood frame structure, without any fixed fire
11 safety features as was seen in West.

12 It is my opinion that it is a
13 mistake for the code and the Advisory to
14 recommend a fire attack in an ammonium nitrate
15 warehouse such as the one found in West. It
16 is the initial wrong course of action.

17 I believe that responding
18 firefighters should concentrate their efforts
19 purely on evacuation such as was done in
20 Bryan, Texas in 2009. While firefighters is
21 sworn to protect property, the potential for
22 disaster is very high with ammonium nitrate.

1 Lives are at risk including those
2 of the firefighters. Time is not on the side
3 of the responding firefighters, it is best to
4 simply move everyone back and let the fire
5 burn itself out.

6 So with that, I'll end my
7 comments, and I would entertain questions if
8 you have any. Thank you very much.

9 MR. BURNS: Thank you.

10 CHAIRPERSON MOURE-ERASO: Yes, some
11 questions from the Board.

12 MEMBER GRIFFON: Yes, I can start
13 with a few questions. For the local Emergency
14 Planning Commission. I was curious, you
15 mentioned that the LEPC was an industry driven
16 group. And I wondered if you could just
17 expand a little bit on how the LEPC in
18 McLennan County, how is it funded? Or how
19 does it sustain it's work that you do on the
20 LEPC?

21 MR. PATTERSON: Well it's not
22 funded. It's an unfunded mandate. And so

1 what happens is, is our Office of Emergency
2 Management, we do our best to engage and keep
3 that going. That is a part of our
4 partnership, that's what we do.

5 But it is an unfunded mandate.
6 Industry, there is no -- although there might
7 be a requirement that industry participate,
8 that doesn't always mean that they're going to
9 because there's nothing on the back end of it
10 if they don't.

11 So that's kind of what I was
12 mentioned getting to earlier. But there
13 currently is an unfunded mandate. We receive
14 no funding for it. We don't have any funding.
15 And so we are actually in years past, in 2004
16 we applied for a grant through the hazardous
17 material, through the Texas Division of
18 Emergency Management, to do a commodity flow
19 study of what's coming through our county, up
20 and down our highways and interstate.

21 So that's essentially when we want
22 to do any kind of large project, either

1 industry -- the local industry has to fund it,
2 or we go out for grants. I will tell you, we
3 have a very robust hazardous material team by
4 the City of Waco, which is a paid fire
5 department.

6 In 2000, looking at the facilities
7 within our county, I quickly realized that we
8 didn't have all the tools we needed to respond
9 to some of these facilities. So working with
10 industry, we actually developed that hazmat
11 team. The industry provided resources to the
12 city to develop that.

13 Since that, it's become a regional
14 team. And what I mean regional, it's global
15 to the county as other six counties, if it's
16 requested they'll respond. And we've been
17 able to fund that through grants as well,
18 where we've gotten grants through Homeland
19 Security grant funding to buy them equipment,
20 send them to school, keep them educated. Keep
21 all that going. So that's really it.

22 MEMBER GRIFFON: Okay, and that's

1 exactly why I brought up the question, was the
2 question of the unfunded mandate. And in my
3 experience is that some the LEPCs around the
4 country that have been most effective and
5 active, they have one large industry in that
6 community that ends up putting forward a lot
7 of resources and you know, chairing the
8 committee et cetera.

9 MR. PATTERSON: That's correct.

10 MEMBER GRIFFON: And so, but I
11 appreciate the answer. Did -- in this
12 situation, did you receive an RMP from West
13 for the West Fertilizer facility, a Risk
14 Management Plan?

15 MR. PATTERSON: Not that I recall,
16 no.

17 MEMBER GRIFFON: No, okay. Okay.
18 And did you -- do you receive those from other
19 companies, the RMPs themselves, or?

20 MR. PATTERSON: I have received in
21 the past from places.

22 MEMBER GRIFFON: You have received

1 from some of them, okay.

2 MR. PATTERSON: Yes, from some in
3 the past, yes.

4 MEMBER GRIFFON: I mean is it a
5 regular thing, or is it a --

6 MR. PATTERSON: No, it's just --
7 it's not.

8 MEMBER GRIFFON: Okay, sort of
9 sporadic?

10 MR. PATTERSON: correct.

11 MEMBER GRIFFON: All right.

12 Because that's something I think we want to
13 see how they fit together. All right.

14 And this might be more general, I
15 don't know if more generally to the rest of
16 the panel. The question came up specifically
17 on the training levels, hazmat operations
18 level, and I wondered if there's any
19 requirements for the fire departments to have
20 a certain number of individuals trained at
21 certain levels, level one, level two, or
22 operations level?

1 MR. BARRON: I could answer that.
2 No, not in the volunteer world. I'm not sure
3 in the paid world if there is, but there are
4 certain requirements regarding firefighter one
5 and firefighter two that is regulated for the
6 paid firefighters of Texas.

7 MS. HARMAN: And I can address that
8 with regards to national certification
9 standards. From the National Pro Board, which
10 is an affiliate of the NFPA, there are
11 certification standards for firefighter one
12 and firefighter two, prerequisite for that is
13 hazmat operations.

14 So you will find that most career
15 professional firefighters are at a minimum
16 hazmat operations. So that should be
17 everyone. If you -- I mean across the
18 country, across Canada, if you call 911 now,
19 and a firefighter walks in this door with
20 turnout gear, you should expect that at a
21 minimum, they have hazmat operations level
22 training.

1 Are they a technician? Do they
2 understand chemistry? Are they a specialist?
3 No. That is a definitely a specialized group
4 that's usually taken on by a very large
5 department or it's done regionally, things of
6 that nature, because that gets much more into
7 a lot more education, equipment, specialized
8 apparatus, things of that nature.

9 MR. CORBETT: Just briefly, I'll
10 mention the volunteers as well. It's really
11 in a State by State basis, so certain States
12 do require that volunteers also have fire one,
13 fire two, which includes -- the fire two
14 includes the operations level training and
15 things. But again it's a State by State
16 basis, as whether it's paid and volunteer, or
17 just volunteer, just paid that kind of thing
18 across the country.

19 MEMBER GRIFFON: And do you know
20 for Texas?

21 MR. CORBETT: I haven't lived here
22 in 20 years, so I don't remember. I think

1 MR. BARRON: It is included in
2 firefighting two.

3 MEMBER GRIFFON: It is included,
4 okay. All right. And then along this idea of
5 preincident planning that was pointed out in
6 their presentation. I think -- let's see, we
7 basically said that there's no -- point out
8 that there's no Federal requirement for fire
9 departments to conduct preincident planning at
10 ammonium nitrate storage facility.

11 And I think we had another similar
12 finding related to volunteer fire departments.
13 And I wonder if -- I just wanted to ask what
14 your thoughts are on whether, if there were a
15 Federal requirement for that, do you think
16 that the -- a volunteer fire department would
17 have the expertise to be able to do that sort
18 of preincident planning, or would they need
19 other resources, you know experts, chemistry,
20 you know, other experts to help them in
21 determining actually how to do -- you know, to
22 put together the plan?

1 MR. BARRON: Coming from the
2 volunteer fire department that I grew up in,
3 we did preincident planning. And that
4 generally involved a tour of the facility. It
5 involved drawings. It involved tier two
6 reports, which are generally brought to our
7 attention.

8 That goes in a binder that goes on
9 the main apparatus, the main engines of a fire
10 department. So at least in my world we did.
11 I can't say that every fire department in
12 Texas does that. But I don't know if there
13 would be a need for experts to come in for a
14 simple preplan that would include exits, that
15 would include type of construction, that would
16 include tier two and include hazardous
17 materials identification within a particular
18 plant or storage facility.

19 MEMBER GRIFFON: Okay. Others have
20 opinions on that?

21 MR. CORBETT: Again, being an North
22 easterner, I'll just say that you know, I live

1 in a county that's got 69 fire departments.
2 Five of them are career, the rest are all
3 volunteer. And each community is different.

4 And I can tell you just from my
5 own experience, that you know, industry sort
6 of within the community are usually well known
7 to the firefighters there. And I think they
8 do -- a lot of departments will take that
9 extra step as he mentioned earlier, about
10 going out visiting the facility, meeting with
11 people, sort of trying to get an understanding
12 of what's going on.

13 But certainly I mean, again these
14 are folks that have regular jobs during the
15 day and practice at night and they're filling
16 out infer reports and all sorts of other
17 things, paperwork that they have to do in
18 today's world. And you know, being able to
19 bring in experts you know, that's done again
20 at the local level I think.

21 Once they -- if they understand
22 that this is a problem, that they will ask

1 certainly for help. At least that's been my
2 experience. Thank you.

3 MEMBER GRIFFON: Right, okay.
4 Thanks, I'll let others.

5 MEMBER ROSENBERG: I just have one.
6 Hi, I just wanted to ask Mr. Corbett. If the
7 language you read about AN, the confusing and
8 ambiguous language that you read, is that
9 typical of other chemical standards? Or just
10 -- is it just AN?

11 MR. CORBETT: Well, I mean there
12 are other --

13 MEMBER ROSENBERG: How nervous
14 should we be?

15 MR. CORBETT: Well, what's unique
16 about ammonium nitrate is that -- and again,
17 I did some work for the Board on this as sort
18 of code work, research and things. I mean a
19 lot of it comes from the 1950s, basically
20 after Texas City. And there was a heightened
21 alert, you know a level of alert for folks.

22 And I think, the fact is we needed

1 up with specific recommendations for the
2 specific chemical which you know, in other
3 realms, it's usually grouped by category. If
4 it's radioactive or flammable liquid and
5 things.

6 But this is unique in my mind in
7 the sense that there's not a lot of them out
8 there that had their own set of specific
9 recommendations. Even though I think they're
10 erroneous and probably incorrect. But that's
11 been around for again, almost 50 years now,
12 so.

13 But I don't know that there are.
14 I mean, again there's a variety of different
15 kind of training materials out there at
16 different levels. I mean a lot of us you
17 know, when we go through training and things,
18 or provide training, we try to at least get
19 the firefighters to understand you know, the
20 different categories in hazmat and generally
21 how they react. You know, what the problems
22 are, what the issues are and things.

1 But when it comes to something
2 like this and everything. Again in my mind,
3 it's somewhat unique in the sense that it has
4 it's own sort of special set of
5 recommendations.

6 MEMBER ROSENBERG: Okay, thank you.

7 CHAIRPERSON MOURE-ERASO: Thank
8 you. I have a question also for Mr. Corbett.
9 You hear our investigative team describing the
10 two incidents. One in 2009 in El Dorado,
11 Texas and the other in West Fertilizer.

12 And I wonder, first of all I would
13 like to ask you, what are your opinions, or
14 why the actions of the initial responders that
15 were the way that they were describing here
16 pretty similar, why in one case there was
17 basically no consequences, and the other case
18 was really catastrophic consequences.

19 And I would like after you give me
20 your opinion on this, I would like to ask the
21 same question to the CSB Panel, they would
22 like to elaborate a little answering that

1 specific question. Why it didn't explode in
2 El Dorado and why it did explode in West,
3 Texas? But let's start with Mr. Corbett.

4 MR. CORBETT: Yes, I think one of
5 the issues here about ammonium nitrate you
6 know, is that for one of the larger code
7 issues that I mentioned earlier again, more
8 about the storage and handling, was that it's
9 sort of a bipolar situation. On one hand we
10 sort of think of it as this innocuous
11 fertilizer. And on the other hand we think of
12 it as an explosive. And the code reflects
13 that sort of ambiguity between them.

14 Now as far as the specific
15 incidents go, one of the things that at least
16 in my mind, when I was doing the research, was
17 the fact that we don't have a lot of research
18 specifically on ammonium nitrate in its
19 habitat, meaning in its storage facility, in
20 its handling and things like that. We've got
21 a lot of bench scale research that looks at
22 the chemical itself.

1 But there's nothing to look at it
2 from the perspective of large full scale
3 testing of a storage facility, right. And you
4 know bringing in organic materials, bringing
5 in fuels, all those kinds of things. We don't
6 have that, that I could find, any of that
7 research that's been conducted.

8 And you know, I think a lot of
9 this is luck unfortunately. I mean you know,
10 we don't know, I mean again I found
11 contradictory information about ventilation of
12 the fire, right. That you know, we know what
13 happened in Texas City, that the ship was
14 sealed and the explosion occurred. 400
15 recommends that we ventilate the fire.

16 But in some cases, that's not what
17 we're recommending here and stuff. And I
18 think part of that goes back to the fact that
19 we don't know. I mean we don't know exactly
20 how these materials, exactly how they
21 detonate.

22 I mean we know that they can

1 detonate, but the mechanics of the storage,
2 the organic, the fuels, all those kind of
3 conditions together, I don't know that we
4 thoroughly understand that. And I think going
5 forward that's something that you know, some
6 entity really should be looking at and try to
7 figure out, is it shock, does that really mean
8 anything? Is it ventilation? Is it the size
9 of the fire? Is it the ammonium nitrate
10 buried under a cake of molten ammonium
11 nitrate?

12 I mean these are all things in my
13 mind that I don't know because I'm not a
14 chemist to begin with. But I don't know the
15 answers to that and I think we've got to do
16 the research.

17 I don't know if that answers your
18 question. I'm trying to.

19 CHAIRPERSON MOURE-ERASO: Yes, it
20 is. It point out too difficult. I wonder if
21 our investigator in charge, Johnnie Banks
22 would like to add more on this comparison of

1 El Dorado and West, Texas.

2 MR. BANKS: Well, it really you
3 know, resonated with us, the striking
4 difference in outcomes between the West
5 incident and the Bryan incident.

6 There was, we think, early on in
7 the response to that fire in Bryan, the
8 discovery of it -- of material safety data
9 sheet that indicated that there was ammonium
10 nitrate. And that the firefighters should
11 respond with copious amounts of water.

12 They didn't have that water, and
13 so they pulled back. They allowed the
14 facility to burn to the ground. They also
15 effected an evacuation of the surrounding
16 community. I think up to 10,000 people were
17 evacuated.

18 And those were the things that
19 stand out. As Mr. Corbett indicated, there is
20 a randomness to -- or a seeming randomness to
21 the way ammonium nitrate behaves. I mean
22 we've looked at a number of different

1 incidents where there's been a fire involving
2 ammonium nitrate and in some instances,
3 virtually the same circumstances with
4 completely different outcomes where in one
5 instance it will explode and another it
6 doesn't.

7 There's the -- as Mr. Corbett
8 said, there's the shock value, there's the
9 contamination, there's the decontamination.
10 So there's any number of different factors
11 that we see that come to the forefront when
12 you're looking at an ammonium nitrate
13 incident.

14 The West and Bryan incidents were
15 -- they really you know, struck a nerve with
16 us, because the 24 minutes that it took to
17 respond, that would have been outside of that
18 window at West. So there was, as I said this
19 morning, there was a lot of really snap
20 decisions that people were making decisions
21 based on the best information that they had.

22 And in 20 minutes they went from

1 where ever they were in West, and responded,
2 they answered the call. They brought four
3 units to the site and they began doing you
4 know, what they were tasked with doing.
5 Heroically.

6 The -- I think the wisdom that we
7 hope to bring out of this is that if there's
8 a knowledge before hand that the AN, ammonium
9 nitrate is involved, as Mr. Patterson said,
10 that that information should be in the
11 firefighters hand when they leave the station.

12 They should have that information
13 either through some device in their rigs, or
14 some hard copy that says that there's ammonium
15 nitrate, or there's some other toxic or really
16 nasty material in this building. And the
17 prudent thing to do is just to step back and
18 you know, really assess it. And get the right
19 people involved to make the decisions on what
20 to do next.

21 It's property that we're talking
22 about. And the loss of life is one that I

1 think is untenable.

2 CHAIRPERSON MOURE-ERASO: Thank
3 you. I would like to come back to Mr.
4 Corbett. You proposed like two different
5 approaches on AN. You said that the
6 guidelines, especially the very last guideline
7 that was produced by OSHA, EPA and ATF, that
8 they are vague in terms of talking about
9 actions to be taken when something is
10 uncontrollable or massive.

11 So my question is, can you
12 conceive a way to quantify the type of
13 situation? Or that -- when something is
14 uncontrollable, when something is massive,
15 that's first. And you're alternative -- your
16 other alternative that you proposed was to say
17 well, rather than deal with the specifics of
18 those situations, you feel that an evacuation
19 should be like the first action to be
20 considered.

21 And you know, so I don't know if
22 you want to comment about uncontrollable and

1 massive, and if we always should evacuate.
2 And I would like also to ask the same
3 questions to the firefighters that are
4 involved on this, or how do they feel about
5 uncontrollable, massive, or just evacuate and
6 withdraw from fighting the fire.

7 So Mr. Corbett?

8 MR. CORBETT: Yes, I -- again
9 that's an undefined term that gives me a lot
10 of angst to try to wrap my hands around. From
11 my estimation, I don't know that perhaps that
12 massive -- the problem -- my problem is this.
13 Is that if it's massive and you're getting to
14 a point where it's massive, uncontrollable,
15 you're probably behind the eight ball already
16 right off the bat.

17 And given the fact that most of
18 these facilities are in remote areas, rural
19 areas in the country and things, time is not
20 on our side here. And I don't know that
21 there's anything quantify able that we can
22 about it.

1 I think what we can say though is
2 that you know, if for example, you know, it's
3 a more modern facility, the building's
4 sprinklered, it has non-combustible
5 construction for the building and the bins and
6 you know perhaps even the bags that are used
7 are fire resistant, then I think those are all
8 things that would led me to believe that okay,
9 maybe this is something we can deal with.

10 I mean one of the things we should
11 be looking at in my opinion is video
12 surveillance. I mean cameras are cheap today.
13 We can afford them. That's not a very
14 expensive alternative. And I think having
15 surveillance equipment you know, in these
16 storage facilities, available remotely off
17 site, as we mentioned earlier, having a
18 preplan, wold allow firefighters even before
19 they even get there to look at what's going on
20 inside the building.

21 If they see that it's a wastepaper
22 basket or it's a forklift on fire, then it's

1 a whole different animal. It's not the issue
2 that we're dealing with. But if they see that
3 there's a bin on fire and a lot of ammonium
4 nitrate, I think that's a warning sign to us
5 you know.

6 I would think that if the building
7 was sprinklered though that the sprinkler
8 system would have knocked the fire down, no
9 question about that.

10 So but I didn't answer your
11 question because I don't know the answer. I
12 don't know that I can put a number to
13 uncontrollable and massive. I think if you're
14 at that point, you're way too far down the
15 trail here. And time again is not on our
16 side.

17 I mean we should -- again, you
18 know, this is a fertilizer plant. It's
19 something that -- there's no, you know if
20 there's no life hazard, you know workers and
21 things like that, then the firefighter should
22 simply pull back and evaluate the neighborhood

1 based upon their plans that they've developed
2 ahead of time you know, as far as set back
3 distances for the evac.

4 Again, I don't know that I -- I
5 didn't answer that question. I don't know
6 what the purpose, I'm sorry.

7 CHAIRPERSON MOURE-ERASO: No, no.
8 But it's very instructive what you say. I
9 would like to ask Ms. Harman and Mr. Barron
10 for the point of view of the people that have
11 to fight the fires. How do you feel about
12 evacuating or dealing with -- making a
13 decision that something is controllable, or
14 that something is not massive?

15 MS. HARMAN: Right. And you hear
16 that a lot from fire officers and folks who
17 have a lot of experience with that. And the
18 definition of looking at something and saying
19 that's uncontrollable, that's massive. That
20 comes with training. That comes with years of
21 experience.

22 That's the gut feeling that a

1 firefighter has when they're there. Because
2 they've done their preplanning, they know
3 what's in that facility. They know the
4 quantities of what's in that facility, and the
5 inter-reactions of those. And that does come
6 with experience.

7 So how you quantify that, I don't
8 think you're going to see a firefighter
9 standing there trying to do a mathematical
10 equation. And I don't know if we could come
11 up with that or if it would even be prudent.
12 But it does come down to training and
13 experience and truly preplanning.

14 You know as far as being defensive
15 operations, you know we look at different
16 situations as high risk, low probabilities, is
17 it a high probability, a low risk. And
18 there's a weighted balance at times here.

19 You know this particular incident
20 here in West, Texas for us, is really a
21 reminder that these types of tragic events can
22 happen in both rural areas and large urban

1 areas. There's been a focus over the years
2 that this is a large urban area issue, or that
3 hey, they've got a tank farm over here.

4 This was a smaller, unexpected,
5 high risk, maybe low probability that maybe we
6 got too comfortable too quick as a nation, as
7 a community. We look across, where does the
8 Federal funding go right now. It goes to high
9 risk areas. It goes to areas that have large
10 commodity flows, things of that nature.

11 So I think you know, defensive
12 operations is going to depend on what is that
13 risk? Is it a high risk, low probability?
14 Can you evacuate quicker than you can put the
15 -- then you can extinguish the blaze? What
16 are your staffing numbers? How many people do
17 you physically have? Are you going to exhaust
18 them before you know, you can get control of
19 the incident?

20 And what are the resources you
21 have with regards to equipment? And water?
22 And water supply? All of those are taken into

1 account and eventually, that incident
2 commander who should have years of experience
3 in the proper levels of training, is going to
4 make a judgement call on that.

5 CHAIRPERSON MOURE-ERASO: Thank you
6 Ms. Harman. Mr. Barron?

7 MR. BARRON: I'm going to echo what
8 she said. In addition to making those high
9 risk, those type of decisions on a scene,
10 they're going to have to also equate into the
11 fact that do they have the proper equipment to
12 put out these type of fires? Do they have the
13 water supply? Is the water supply for a
14 community available enough to fight a
15 structure fire, or fight a massive chemical
16 fire like this? Do they have enough foam?

17 So it's going to depend on a lot
18 on what type of equipment and training and
19 specialized apparatus that they might have.
20 Now along channel industry, along the Texas
21 coast where they have six thousand gallon per
22 minute trucks and foam that could go all day

1 long, it's a different story.

2 But in other areas of the State
3 they just don't have that type of equipment.
4 It's very expensive. It's very expensive to
5 maintain and it takes specialized training.

6 So it's all going to depend on the
7 location, the training, your risk assessment
8 of course. And then what type of water
9 supply, or extinguishing agent that you're
10 going to have.

11 CHAIRPERSON MOURE-ERASO: Thank
12 you. Thank you very much. I would like very
13 much to thank the panel. I think it has been
14 very useful for us to hear this. I don't know
15 if there is anything else that you want to do
16 Johnnie before dismissing the panel after we
17 thank them.

18 MR. BANKS: I just want to echo
19 your sentiments and thank the panel. It's
20 been very informative, very helpful. I hope
21 that the community appreciates the time that
22 you've taken to come here and contribute to

1 this effort.

2 It's been very, very helpful for
3 all of us, so I appreciate it. Thank you.

4 CHAIRPERSON MOURE-ERASO: Thank you
5 Johnnie. So we're going to take a -- well,
6 yes.

7 (Applause)

8 MEMBER GRIFFON: Mr. Chairman I'd
9 like to add one thing.

10 CHAIRPERSON MOURE-ERASO: Yes,
11 please. I'm sorry, if anybody would like to
12 have the last statement, please.

13 MEMBER GRIFFON: Sorry about
14 that. We think that Texas is a leader in the
15 United States when it comes to learning from
16 our lessons from tragic events. And we have
17 done so on line of duty this through State
18 Fire Marshall's Office. Mandatory legislation
19 that investigates all line of duty deaths in
20 Texas.

21 Within a matter of nine months,
22 the State of Texas developed an industrial

1 response for municipal firefighters class
2 that's 32 hours long for volunteer
3 firefighters, municipal firefighters, to
4 respond to these type of events, and have the
5 training necessary. It's a 32 hour class,
6 it's being implemented all across Texas, and
7 there is grant funding available out there for
8 that.

9 So we've stepped up above what,
10 instead of just sitting back and we're
11 throwing out training to these firefighters
12 that's even more particular to these type of
13 events. So I just wanted to express that, and
14 that we are learning from our lessons from
15 these tragic events. And we're doing
16 something about it.

17 CHAIRPERSON MOURE-ERASO: Thank you
18 very much. Any other statements for the
19 panel?

20 MR. CORBETT: Yes, just thank you,
21 I just think we've -- again we've got a lot of
22 work to do as far as the National

1 recommendations, when we have National bodies
2 telling us that we should be doing something,
3 which I -- and again, I made my case here that
4 I think is wrong. I think we need to change
5 that.

6 But thank you again for allowing
7 us to testify, all of us.

8 CHAIRPERSON MOURE-ERASO: Thank
9 you. Thank you very much. Yes?

10 MR. PATTERSON: I have one last
11 thing. I would encourage from a local
12 perspective, you know, this is the local guy.
13 When we establish the National standards that
14 we have alternatives. I've heard sprinkler
15 systems mentioned several times. I've read
16 the reports about sprinkler systems.

17 What we need to keep in mind in
18 rural America, and Texas is no different, that
19 you have water wells that supply those rural
20 water supplies. They don't have enough water
21 to supply a sprinkler system.

22 So as we come up with these

1 regulations, you could essentially -- and I'm
2 looking beyond just ammonium nitrate. I mean
3 this is what we're talking about, but what I'm
4 hoping is that this will be -- it will
5 transcend ammonium nitrate. I'm hoping we're
6 looking at more than just ammonium nitrate
7 here. I hope this is not just a one trick
8 pony.

9 So as we go through this, what I
10 hope is that we come up with alternative
11 standards. Whether it be if you don't have a
12 sprinkler system, you've got to build it out
13 of you know, concrete so thick, whatever it is
14 you know. Whatever that non-flammable
15 material would be.

16 But that we don't get so focused
17 on everything that we lose sight of the local
18 guy and the small guy in this process as well.
19 There's a balance here. And I think that I
20 just hope that as we go forward with these
21 standards, that they're realistic.

22 Even for the first responders and

1 the firefighters, that they're realistic
2 standards that we're going to look at
3 developing for the volunteer as we go forward.
4 So I appreciate your time.

5 I know in McLennan County, the
6 State you know, has a standard that doesn't
7 allow some counties to adopt fire codes
8 because they're of a certain size. Well
9 McLennan County was one of those. But we're
10 adjacent to a county that's large enough, so
11 we can then adopt codes.

12 We're looking at that right now.
13 We're looking at establishing fire codes for
14 the unincorporated areas of the country.
15 We're looking at establishing the Office of
16 Fire Marshall. But even with that, there's
17 counties in this State of Texas that can't
18 adopt fire codes because they're just not
19 allowed to under State law.

20 So -- which goes back to that
21 whole as we develop these standards you know,
22 I just encourage you all to keep that in mind.

1 And I appreciate the opportunity. Thank you.

2 CHAIRPERSON MOURE-ERASO: Yes. I
3 cannot help but after you mentioned the fire
4 codes, to ask a question. Another thing, why
5 do you think there is this regulation in Texas
6 that the small towns are not allowed to have
7 fire codes?

8 MR. PATTERSON: Well I can only
9 speak to counties. I can't speak to cities
10 you know particular. If I can speak to
11 counties, Because that's where I'm at is the
12 country level.

13 And I really can't answer that
14 question. I don't know why that is. The fire
15 Marshall will be up here in a little while in
16 the next panel. The State Fire Marshall, he'd
17 probably be the question, the one to ask that
18 question.

19 CHAIRPERSON MOURE-ERASO: Okay,
20 well I'll ask him that question.

21 MR. PATTERSON: Thank you.

22 CHAIRPERSON MOURE-ERASO: Do you

1 have any additional comments?

2 MEMBER ROSENBERG: I do not. Thank
3 you very much for the opportunity to be here.

4 CHAIRPERSON MOURE-ERASO: All
5 right. Thank you very much. So thanks again
6 to the panel.

7 (Applause)

8 CHAIRPERSON MOURE-ERASO: We are
9 going to take a ten minutes intermission to
10 continue the program. So we -- so for ten
11 minutes.

12 (Whereupon, the foregoing matter
13 went off the record at 7:23 p.m.
14 and went back on the record at
15 7:35 p.m.)

16 CHAIRPERSON MOURE-ERASO: Thank you
17 very much. We are ready to reconvene. I'm
18 going to ask Johnnie Banks, the investigator
19 in charge for the West investigation, to
20 continue with the presentations, as planned.
21 So, Mr. Banks.

22 MR. BANKS: Thank you. For the next

1 portion of our presentation we're going to be
2 taking a look at Land Use Planning, and Mr.
3 Jerad Denton is going to lead that portion of
4 the proceedings. So, Mr. Denton.

5 MR. DENTON: Thank you, Mr. Banks.
6 Welcome back, everyone.

7 In the second half of the
8 presentation the investigative team will
9 discuss issues surrounding Land Use Planning.
10 There's a particular interest in Land Use
11 Planning because of all of the CSB's
12 investigations to date, some of the most
13 severe offsite consequences the CSB has
14 encountered have been in the West
15 investigation. The fact that the fertilizer
16 facility was located near a middle school, a
17 large apartment complex, a nursing home, and
18 a high school is extremely concerning. Action
19 must be taken to insure similar facilities are
20 kept at a safe distance from the community.

21 This presentation seeks to explain
22 how the City of West came to be located so

1 close to the fertilizer facility. It seeks to
2 explore some of the offsite consequences from
3 the West incident, and it seeks to discuss the
4 scope of this problem. We'll conclude with a
5 discussion from our panel and the public to
6 determine if there might ways to utilize Land
7 Use Planning to prevent similar accidents.

8 Now, in the case of West the city
9 experienced severe offsite consequences. The
10 explosion at the fertilizer facility resulted
11 in at least 14 fatalities and over 200
12 injuries. The explosion also caused damage and
13 destruction to over 350 homes, an apartment
14 complex, three schools, a nursing home, and a
15 hospital. With housing limited as a result of
16 this explosion, many families were forced to
17 live in nearby Waco or Hillsboro. West City
18 Park which contained a playground area was
19 also destroyed by the blast.

20 Now, what follows is a blast model
21 produced after months of collecting and
22 analyzing data on the effects of the blast.

1 The CSB hired ABS Consulting to develop the
2 model. Through this model we began to see how
3 the pressure wave moved through the community
4 and the magnitude of the pressure each
5 structure experienced. Note the short amount
6 of time that passes as the wave propagates
7 through the community. As you can see, many of
8 the structures experienced pressure around 1
9 psi, which is like having 144 pounds of load
10 on a 12-inch by 12-inch floor tile. This load,
11 combined with the rate that the blast wave
12 moved at produced a substantial amount of
13 damage.

14 Now, we get to see some of this
15 damage through the next slides. Here's some of
16 the photos of the West Intermediate School
17 taken by the CSB in days following the
18 explosion. On the left there was substantial
19 damage to the gymnasium. Note the deformation
20 in the roof joists. On the right are photos
21 from where there was fire damage in the
22 school. The roof and ceiling caved in on the

1 northwest side. This damage is especially
2 concerning when we consider that the school
3 was not in session. Had it been, many more
4 could have been injured due to the extensive
5 damage.

6 The apartment complex located
7 about 450 feet from the center of the blast
8 was decimated. The building was heavily
9 damaged by the explosion with failure
10 experienced to both the walls and the roof.
11 Two fatalities occurred at the apartment
12 complex.

13 Now, to understand a little bit
14 about how the facility came to be located so
15 close to the City of West it's helpful to take
16 a historical look at the city and the
17 facility. The fertilizer facility was built in
18 1961 and opened for business in 1962. The
19 facility was used as a storage and retail
20 distribution hub that sold mixed fertilizers,
21 chemicals and farming supplies to the public.
22 The facility played an important role in West,

1 which is a farming community. It provided
2 farmers with the necessities to grow crops and
3 save them from having to make a trip to Waco
4 or Hillsboro.

5 At the time, the facilities were
6 largely surrounded by open fields leaving
7 concern for any potential offsite
8 consequences. Furthermore, no zoning
9 regulations existed at the time the facility
10 began business. The community's largest
11 concern with the facility was the occasional
12 accidental release of anhydrous ammonia.
13 However, over the years the City of West began
14 to slowly build residences, schools, and other
15 occupied buildings within close proximity to
16 the facility.

17 Now, through assistance from the
18 McLennan County Engineer's Office, the CSB was
19 able to visually show the community's
20 development over the years. We start with a
21 photo of West in the 1950s. And from this
22 photo you get the sense that the site of the

1 fertilizer facility was largely an open field.
2 Now, in the '60s the facility itself was
3 established. And in the '70s the community
4 starts developing north of downtown. In the
5 '80s more growth is located around the
6 facility itself with a track, a baseball park,
7 West City Park, and a lot more infrastructure
8 located north of the facility itself.

9 In 2010, substantial
10 infrastructure is located near the facility.
11 And, ultimately, parks, subdivisions, nursing
12 homes, schools, and an apartment complex came
13 to be located within a 600-foot radius of the
14 facility itself.

15 Now, here's a photo of the
16 facility just prior to the explosion. Notice
17 how many more buildings and schools surrounded
18 the facility, and how close they are to the
19 facility. You get a sense from the photo that
20 as the community continued to locate its
21 infrastructure near the facility it became an
22 even more attractive area to develop.

1 Here's a photo that depicts the
2 destruction of West using before and after
3 photographs. I'll point out to keep an eye on
4 some of the areas closest to the facility,
5 West Park, the apartment complex, and some of
6 the residences up here. And from this photo
7 you really get a sense of the devastation that
8 the community experienced.

9 Now, importantly, the location of
10 ammonium nitrate facilities in or near
11 populated areas exists all over the country.
12 It's not just a problem in the City of West.
13 In fact, according to data reported to the
14 Department of Homeland Security under the
15 Chemical Facility Anti-Terrorism Standards
16 there are 1,350 facilities across the country
17 that store ammonium nitrate in quantities
18 greater than 2,000 pounds. Some of these
19 facilities are located near commercial and
20 residential areas.

21 The CSB has developed a map to
22 give you a sense of where fertilizer

1 facilities like the one in West, Texas are
2 located. Note that this map is concerned with
3 fertilizer grade ammonium nitrate storage and
4 not the storage of explosive grade ammonium
5 nitrate.

6 You can see that the majority of
7 these types of facilities that have reported
8 information to the Department of Homeland
9 Security are located in the southeast. This
10 map shows that the problem is larger than the
11 West, Texas incident.

12 Now, to further our discussion of
13 Land Use Planning, we need to start with an
14 understanding of the Land Use Planning legal
15 framework. U.S. law largely assigns the
16 authority to regulate how private land is used
17 to the individual states. In turn, the states
18 generally assign this authority to their
19 individual municipalities or counties. Zoning
20 codes are, therefore, typically adopted as
21 ordinances at the county or local level.
22 However, at all levels of government there's

1 been a failure to adopt codes concerning the
2 siting of many types of hazardous facilities
3 near communities, and this includes fertilizer
4 grade ammonium nitrate facilities like the one
5 in West, Texas.

6 Another issue in Land Use Planning
7 is grandfathering, which is to say that Land
8 Use Planning and Zoning codes typically do not
9 apply to existing ammonium nitrate storage
10 facilities. So, for instance, the West
11 fertilizer facility existed prior to the
12 promulgation of the city's Code of Ordinances
13 which creates an issue of grandfathering,
14 meaning that the city ordinances did not apply
15 to the West fertilizer facility.

16 Now, this is a serious concern
17 given that many of the ammonium nitrate
18 facilities have been in existence since the
19 1960s and the 1970s. So, even if zoning
20 regulations were adopted in a municipality
21 today, ammonium nitrate facilities already in
22 existence would not be subject to such

1 regulation. Facilities that are covered,
2 however, are facilities that are constructed
3 after zoning codes have been enacted, or
4 existing facilities which undergo significant
5 modifications after code enactment.

6 Yet another issue in the Land Use
7 Planning discussion is that Texas does not
8 require the adoption of the fire code which
9 has been pointed out here today. This is
10 important because a fire code could provide
11 for important safety measures to protect the
12 community. These measures can include
13 requiring setback distances for hazardous
14 facilities. They can require non-combustible
15 materials be used in a facility's
16 construction, and they can require the
17 installation of sprinkler systems. However,
18 many rural counties in Texas cannot adopt a
19 fire code. Only counties that have populations
20 over 250,000 or counties that are adjacent to
21 a county with a population over 250,000 are
22 allowed to adopt a fire code. Therefore, the

1 majority of the counties in Texas cannot adopt
2 a fire code to prevent accidents such as the
3 West incident.

4 Furthermore, in 2003, the CSB in
5 its Third Coast Industries investigation made
6 a recommendation to the County of Brazoria,
7 Texas to adopt a fire code. The county
8 proactively adopted such a code, and while the
9 County of Brazoria, Texas is to be commended
10 for taking such action, this serves to
11 highlight the fact that the CSB has identified
12 the lack of fire codes in Texas counties as an
13 issue as far back as 2003.

14 McLennan County, where the West
15 fertilizer facility was located, had not
16 adopted a fire code, although it technically
17 had the authority to do so because of its
18 proximity to the more populous Bell County.
19 The West fertilizer facility was, thus, not
20 required to follow any NFPA or ICC
21 recommendations for the storage of ammonium
22 nitrate.

1 Now, at this time I will turn the
2 presentation over to Mr. Johnnie Banks to
3 invite our panelists to come forward and
4 participate in the discussion on Land Use
5 Planning. Thank you.

6 MR. BANKS: Thank you, Mr. Denton.
7 Okay. I am pleased to introduce our second
8 panel. First we have Mr. Bruce Johnson. As I
9 call your name, if you would just come over
10 and take a seat at the desk there.

11 Mr. Johnson currently serves as
12 the Director of Fire Service Activities for
13 the International Code Council. Before joining
14 the Code Council staff in September 2007, he
15 held a position of fire marshal for Riverhead
16 Town, Long Island, New York from 1998 until
17 2007.

18 Next we have Mr. Mark Roberts. Mr.
19 Roberts is the International Code Council
20 Senior Regional Manager of State and Local
21 Government Relations serving Arkansas,
22 Louisiana, Oklahoma, and Texas.

1 Also we have Mr. James Schwab. Mr.
2 Schwab joined the American Planning
3 Association as an Assistant Editor of Planning
4 Magazine in November of 1985. After serving in
5 several other positions, he is currently the
6 Manager of APA's Hazards Planning Research
7 Center.

8 Lastly, we have Mr. Chris
9 Connealy. Mr. Connealy is the Texas State Fire
10 Marshal and Deputy Insurance Commissioner with
11 the Texas Department of Insurance, or TDI,
12 since June of 2012.

13 Thank you all for participating in
14 the discussion on Land Use Planning, and if
15 you would like to have a brief opening
16 statement, we'll start with Mr. Johnson.

17 MR. JOHNSON: Thank you, Mr. Banks.
18 Good evening, Chairman Moure-Eraso, CSB Board
19 Members, staff, panelists, and members of the
20 community. My name is Bruce Johnson, and I'm
21 the Director of Fire Service Activities in the
22 Government Relations Department at the

1 International Code Council.

2 On behalf of ICC, our Board
3 President and CEO we extend our condolences to
4 the family, their members, and the community
5 for the loss that was suffered a year ago here
6 in West, Texas.

7 The ICC is a membership
8 association dedicated to building safety, fire
9 prevention, energy conservation and
10 sustainability. The ICC develops model
11 building codes used to construct residential
12 and commercial buildings, and a model fire
13 code to insure buildings remain safe
14 throughout their useful life.

15 The ICC also develops a model
16 zoning code, the IZC, that is adopted at the
17 local level in 11 states, including 24
18 jurisdictions here in Texas. Most U.S. cities,
19 counties, and states that adopt codes choose
20 the International Codes or I Codes developed
21 by the ICC. The I Code are currently adopted
22 at the state or local level in all 50 states,

1 the District of Columbia, Guam, Puerto Rico,
2 the U.S. Virgin Islands, and the Northern
3 Mariana Islands. It is the mission of the ICC
4 to provide the highest quality codes,
5 standards, products and services for all
6 concerned with the safety and performance of
7 the built environment. The best most effective
8 method for states to insure that their built
9 environment remains safe, sustainable,
10 affordable, and resilient is through adopting
11 up-to-date model construction and fire safety
12 codes.

13 The I Codes undergo an update
14 every three years through an open and
15 consensus-based code development process that
16 considers the latest technology, fire research
17 data, installation techniques, new building
18 products and methods, and affordability. For
19 a jurisdiction to benefit from these advances
20 in the code, routine adoption update is
21 necessary.

22 The International Fire Code, or

1 IFC, is a model code that establishes the
2 minimum fire safety levels for both new and
3 existing buildings. It is the intent of the
4 IFC to establish the minimum requirements
5 consistent with nationally recognized good
6 practice for providing a reasonable level of
7 life safety and property protection from the
8 hazards of fire, explosion, or dangerous
9 conditions in both new and existing buildings,
10 structures, and premises, and to provide
11 safety to fire fighters and emergency
12 responders during emergency operations.

13 The purpose of the International
14 Zoning Code is to safeguard the health,
15 property, and public welfare by controlling
16 the design, location, use or occupancy of all
17 buildings and structures through the regulated
18 and orderly development of land and land uses
19 within a jurisdiction.

20 The IFC contains a chapter
21 entitled "Construction Requirements for
22 Existing Buildings," or Chapter 11. The intent

1 of this chapter is to provide a minimum degree
2 of fire and life safety to persons occupying
3 existing buildings by providing minimum
4 construction requirements where such existing
5 buildings do not currently comply with the
6 minimum requirements of the International
7 Building Code.

8 The scoping section of Chapter 11
9 goes to say, "The fire code official is
10 authorized to grant necessary extensions of
11 time when it can be shown that the specified
12 time periods for compliance with these
13 retroactive requirements are not physically
14 practical, or pose an undue hardship. The
15 granting of an extension of time for
16 compliance shall be based on the showing of
17 good cause and subject to the filing of
18 acceptable systematic plan of correction with
19 the fire code official."

20 This chapter of the IFC captures
21 retroactive requirements that were
22 incorporated in earlier editions of the IFC,

1 particularly in Chapters 7, 9, and 10. These
2 requirements were previously found in
3 different chapter sections of the code, and
4 were more difficult to locate and/or enforce.
5 They are now consolidated into a single
6 chapter.

7 The IFC contains requirements for
8 the storage, use, and handling of all
9 hazardous materials in both new and existing
10 buildings. This would include requirements for
11 a site such as West, Texas Fertilizer
12 facility. The IFC establishes requirements for
13 ammonium nitrate storage, use, and/or handling
14 in the IFC Chapter 63 that deals with
15 oxidizers, oxidizing gases, and oxidizing
16 cryogenic fluids, and references the
17 requirements of applicable NFPA standards for
18 ammonium nitrate.

19 And, finally, Chapter 4 of the IFC
20 includes emergency planning and hazardous
21 material inventory statement reporting as part
22 of the fire code requirements for existing

1 buildings that utilize hazardous materials and
2 addresses the preplanning that was previously
3 talked about at the earlier panel.

4 My colleague, Mark Roberts, will
5 now make a few comments about the
6 International Zoning Code as its use and
7 adoption relates to Texas.

8 MR. ROBERTS: Thank you. Thank you
9 for the invitation to be here tonight.

10 I'm the Senior Regional Manager
11 for the Government Relations Department of
12 International Code Council serving Texas. As
13 Bruce mentioned, the purpose of the
14 International Zoning Code is to safeguard the
15 health, property, and public welfare by
16 controlling the design, location, use or
17 occupancy of all buildings and structures
18 through the regulated and orderly development
19 of land and land uses within a jurisdiction.
20 The zoning code requires adopting
21 jurisdictions to have a zoning code official,
22 establish a Planning Commission, as well as a

1 Board of Adjustments.

2 The duty of the Planning
3 Commission is to create and recommend to the
4 legislative body a Comprehensive Plan for the
5 physical development within the jurisdiction.
6 The Planning Commission is required to hold
7 public meetings that gives citizens the
8 opportunity to provide input for developing
9 the Comprehensive Plan. The Planning
10 Commission can consider areas outside of its
11 boundaries that may impact the Comprehensive
12 Plan. The plan must include official maps,
13 components that include growth and land use,
14 commercial/industrial uses, transportation and
15 utilities, community facilities, housing, take
16 into consideration environmental issues and
17 geologic natural hazards.

18 The zoning code official then
19 implements the Comprehensive Plan. Typical
20 zoning areas include agriculture, commercial,
21 commercial residential, factory industrial,
22 and residential zones. The intent of

1 designating these zones is to create a
2 jurisdiction with compatible areas for
3 specific uses while separating non-compatible
4 uses into other zones. Also, by designing the
5 zoning code would separate commercial,
6 commercial residential, and residential zones
7 from factory industrial zones that could pose
8 a hazardous threat.

9 Of importance is the requirement
10 that lawfully established buildings and uses
11 in existence at the time of the adoption of
12 the zoning code shall be permitted to have
13 their existing use or occupancy continued
14 provided such continued use is not dangerous
15 to life.

16 So, how do we determine what is
17 dangerous to life? The zoning code isn't
18 designed to give specific criteria or hazards.
19 We use the International Fire Code sections
20 for existing structures and specific
21 requirements for hazardous materials that may
22 be present in those uses.

1 The International Zoning Code is
2 an adoptable tool to provide a jurisdiction a
3 framework for zoning legislation and
4 implementation that regulates the location of
5 property uses and occupancies effective from
6 the adoption date forward. Existing structures
7 and uses are not retroactively affected. The
8 fire code, however, provides specific minimum
9 requirements to safeguard the community from
10 hazards posed by existing occupancies and uses
11 within structures.

12 That pretty much concludes what I
13 had to say. I'm open for questions. Thank you.

14 CHAIRPERSON MOURE-ERASO: Thank
15 you, Mr. Roberts.

16 MR. SCHWAB: Good evening members
17 of the Chemical Safety Board, Staff and the
18 members of the community behind me. On behalf
19 of the American Planning Association, I'd
20 certainly like to state that we certainly
21 regret the loss of life that occurred here and
22 dedicate ourselves to creating more resilient

1 and safer communities with a high quality of
2 life for all of our citizens.

3 I'd like to tell you a little bit
4 first about APA and exactly what we do, and
5 what I do there so that I can set the stage
6 for some of my remarks that follow. APA is a
7 national organization representing members of
8 the professional planning community, about
9 40,000 across the U.S., some working overseas
10 in various kinds of international practice.

11 In a few days we're about to have
12 in Atlanta a conference with about 5,000 of
13 those who attend every year to soak up the
14 various kinds of professional education that
15 we offer to that professional planning
16 community, as well as the planning
17 commissioners and volunteer members of
18 planning commissions and zoning boards of
19 adjustment at the local level.

20 I happen to manage something we
21 call the Hazards Planning Research Center at
22 APA. It's one of three programs that make up

1 something we call the National Centers for
2 Planning. The other two dealing with green
3 communities and community health. These are
4 attempts to get information, research, best
5 practices on some leading -- what we consider
6 leading edge planning issues out to this
7 community of practice.

8 One thing I want to state about
9 planning as we view it is, I understand we're
10 on a panel dealing directly with land use, but
11 we take in a broader swath of activity in
12 planning than land use alone. And I'll talk a
13 little bit about some of that as I move along.
14 And this attempt to address hazards takes in
15 more than just land use considerations, as you
16 will begin to understand.

17 So, what does the Hazards Planning
18 Research Center focus on? Well, to be honest,
19 and I shared this with the staff that talked
20 to me originally. I've spent most of my time
21 on natural hazards, but at the same time a lot
22 of the principles we have developed are

1 perfectly applicable to questions of manmade
2 hazards. And, in fact, if you follow the
3 progression of planning dealing with
4 mitigation and disaster recovery as it has
5 evolved through FEMA, a great deal of it
6 actually focuses within the context of the
7 Department of Homeland Security on all hazards
8 planning. So, we understand that, you know, a
9 hazard is a hazard. There are different
10 characteristics, but nonetheless we -- if
11 we're going to make our community safe we have
12 to take an all hazards approach.

13 Typical of the kinds of things
14 that we have focused on really two key points.
15 One, that there's a place for planners to
16 intervene to help with that process of making
17 their community safer and more resilient
18 before disasters occur, which involves hazard
19 mitigation. And I'll get more into that in a
20 moment, as well as the recovery process after
21 a disaster. How do we rebuild a community
22 effectively and make it stronger and more

1 resilient after an event has occurred? How do
2 we find those silver linings in the cloud that
3 give us the chance to rethink what a community
4 should look like after a disaster?

5 At the moment, we are actually
6 working with FEMA on the development of a
7 report due out this summer called, "Planning
8 for Post-Disaster Recovery - Next Generation."
9 It's the rewrite of a document from about 15-
10 16 years ago which I led at the time that is
11 focused on making some of these distinctions
12 between the things that we can begin to think
13 about through planning before a disaster even
14 with respect to the nature of recovery and
15 recovery management after a disaster, and
16 distinguishing those activities from those
17 that must inevitably follow the actual event
18 when we know the contours of the
19 reconstruction that must take place. A very
20 tricky subject but very important, and one
21 that we think that the entire nation really
22 needs to grapple with much more thoroughly.

1 So, there are a number of
2 resources that we have developed over the
3 years. And I've been working to put many of
4 those at the disposal of your staff so that
5 they can absorb that into the kinds of
6 presentation you saw a minute ago from Jared.

7 One of them was developed actually
8 about 10 years ago called "The Growing Smart
9 Legislative Guidebook," which was -- it's
10 about 1,600 pages. It's great bedtime reading,
11 but it's a detailed approach without a one-
12 size-fits-all solution to modernizing state
13 planning and zoning enabling legislation which
14 gets at the question of what does the state
15 permit or require from its communities with
16 regard to both planning and zoning?

17 Also, I want to mention that about
18 20 years ago before I even anticipated getting
19 so involved in disasters that I produced for
20 APA at their request a document called
21 "Industrial Performance Standards for a New
22 Century," which is geared to the question of

1 what kinds of conditions can be addressed with
2 regard to new industrial facilities at the
3 time that they are permitted so that you have
4 some performance standards that are expected
5 of that facility in an ongoing manner after it
6 is established. I can get into more detail on
7 that, but I just want to put that out there.

8 I also want to make clear that in
9 talking about hazard mitigation, and I
10 provided a document that we also did for FEMA
11 about four years ago called "Hazard Mitigation
12 - Integrating Best Practices into Planning,"
13 which dealt with how you can effectively weave
14 hazard mitigation priorities into all aspects
15 of the local planning process and not have
16 them isolated as a special process where very
17 often the local hazard mitigation plans that
18 are done for FEMA approval are done by
19 emergency managers. Planners don't get
20 involved. We're trying to change that so that
21 there's a communication going on between those
22 two sets of professionals to make that a more

1 effective document, and one more closely tied
2 to means of implementing solutions to hazards
3 in the community.

4 So that document, in particular, I
5 would encourage is something that can take
6 account of industrial hazards in the
7 community, get that research documented at
8 that stage, and then hopefully incorporate
9 that into a local Comprehensive Plan, as well,
10 so that you're addressing the kinds of issues
11 that are out there within the community of the
12 existing hazards and looking at some ways of
13 mitigating those hazards. We can get into more
14 detail on that, but I just want to establish
15 that point.

16 I want to conclude very quickly
17 with a little summary, because I think this is
18 extremely important about the applicability of
19 zoning and land use planning to these
20 particular problems with industrial
21 facilities. This is not isolated to the
22 question of ammonium nitrate, it's a question

1 of, you know, any kind of chemical or
2 explosive hazard that may exist.

3 First point, which really gets to
4 a major issue that's come up here, is that
5 zoning should be understood essentially as a
6 prospective tool, not a reactive tool, not a
7 retrospective tool, but one that deals with
8 how you permit new facilities. That means that
9 an existing facility, the grandfathering is a
10 legal question. It means that you can't just
11 go back and, you know, after-the-fact impose
12 new conditions on a facility that is already
13 permitted. However, the exception here is, and
14 this is a critical one, is that where there is
15 a change or expansion of an existing use, that
16 changes the ball game because then you can go
17 back in and reestablish new conditions, or
18 apply current zoning in a situation where the
19 facility had been grandfathered. So, that is
20 the one situation in which you are able to
21 examine older facilities. Otherwise,
22 basically, you're looking at, you know,

1 conditions on proposed facilities.

2 There is a flip side to this
3 zoning question, though, that I think is
4 absolutely critical and it was highlighted in
5 that presentation, which is if you've already
6 got the industrial facility in the case here
7 where it was out in open fields and there was
8 a fair amount of open space around it, you did
9 not have the level of hazard that was then
10 introduced over the years by the development
11 that gradually came closer and closer to that
12 facility. So, the zoning question is not
13 simply one of what is appropriate for that
14 facility? It's also a question of what is
15 appropriate around that facility once you
16 understand the nature of the hazard? And in
17 the case of an explosive hazard, I think you'd
18 want to know something about the potential
19 blast zone, what is the potential reach of the
20 impact of that explosion, and establish some
21 kind of a buffer around that area.

22 Clearly, that isn't something that

1 happened. I don't know, you know, the history
2 of that, or why, but that is certainly
3 something that if I were a city planner I
4 would be looking at that all along as a
5 critical factor. And there are a lot of
6 solutions to that, some of them not
7 necessarily involving zoning, establishing,
8 you know, just an open space zone through
9 public acquisition or maybe originally
10 requiring that facility to acquire more space
11 around itself to prevent that development. You
12 can use various kinds of deed restrictions, et
13 cetera, to prevent those problems, but there
14 are solutions to that.

15 Once you've got the situation
16 where you've got a lot of development within
17 close proximity to that facility, that --
18 those buildings are also grandfathered by
19 then. Yes, everything is grandfathered. What
20 happens then? Frankly, at that point, zoning
21 fails and what you've got is a situation where
22 you fall back on reliance on these fire, and

1 health, and environmental codes that can take
2 other approaches to solving the problem. But,
3 basically, once you've already allowed all
4 that development to happen in such close
5 proximity, zoning is no longer a tool. You
6 forfeited that tool. So, I'll stop there.

7 MR. CONNEALY: Good evening, Mr.
8 Chair, Board Members, staff of CSB, and
9 certainly ladies and gentlemen in the
10 audience. I'm Chris Connealy, the State Fire
11 Marshal, and I had the misfortune of spending
12 a month here in West while we were doing the
13 fire investigation. To say that it had an
14 impact on first responders around the state
15 would be an understatement. This is the third
16 worst loss of life for firefights in Texas
17 history. Number one, ironically, was Texas
18 City, we discussed earlier in 1947. In 1956
19 the Shamrock Oil facility where 19
20 firefighters were killed outside Dumas in the
21 Panhandle area, and then 10 official
22 firefighters but 12 responders here in West.

1 And seeing what this wonderful community has
2 gone through, and certainly the impact to the
3 families that have given up so much through
4 the loss of these folks that perished in this
5 incident and numerous injuries, and over \$100
6 million worth of damage, we've got to make
7 sure it never happens again. So, I'm going to
8 just recapture the various things have been
9 going on.

10 There's been a lot going on since
11 April 17th. The Homeland Security Committee
12 and the House has met three times. They're
13 very much engaged. We just had a hearing this
14 past Monday, and I'll get to that in a second.

15 You know, when West occurred it
16 was late in the legislative session, and we
17 couldn't even tell the legislature how many
18 ammonium nitrate facilities were in Texas. So,
19 we had to combine two federal, two state
20 databases, remove the redundancy, and we came
21 up with 134 facilities. We still had concerns
22 if that was right, so we sent our Deputy Fire

1 Marshals across the state to, one, ascertain
2 is ammonium nitrate in that facility.
3 Secondly, offer a voluntary consultation,
4 basically a voluntary fire code inspection to
5 those facilities, and we've done that in 2013,
6 and we just completed it in 2014, of all --
7 currently there's 96 AN facilities in the
8 state that have 10,000 pounds or more, split
9 over 66 counties. So, we have a good handle
10 where they're at.

11 The legislature wanted to create a
12 website that's on our website of the State
13 Fire Marshal Office where citizens can access,
14 type in their zip code and ascertain if
15 there's an ammonium nitrate facility in the
16 area. The map is pretty rough. Certainly, the
17 locals would know where that's at. You know,
18 we constantly balance security concerns, post-
19 Oklahoma City environment, along with public
20 right to know, and so that's been
21 accomplished. We had over 18,000 hits when it
22 launched from November 1st to December 1st,

1 and it continues to be very successful and
2 desired by the community. And if you have a
3 facility in your area, the local contact
4 information of the fire department in the
5 service area is contacted to talk to what I
6 refer to as Mrs. Smith, the customer, so she
7 can ascertain what's going on.

8 As we develop this database, I'm a
9 big believer in transparency, and we have
10 shared that information not only with other
11 state agencies that are our partners in this
12 endeavor, but CSB, Department of Homeland
13 Security to make sure everyone has updates of
14 what the status is of ammonium nitrate
15 facilities in our state.

16 We have also - as I mentioned,
17 these consultations have been completed for
18 two years now. And, again, the Homeland
19 Security Committee wants to continue to do
20 more, and we've risen to that challenge. And
21 now we're doing these countywide Awareness and
22 Best Practices meetings amongst these 66

1 counties.

2 I've been in Texas all my life.
3 Texas is huge, it's a challenge. And we've
4 completed 18 so far, so we have 48 more to go,
5 but we'll get there, and we're committed. That
6 will take through December. We do sign-up
7 sheets, we do evaluations. And, quite frankly,
8 the evaluations have been way beyond
9 expectations. The process, the first order of
10 business is describing the time line of what
11 happened in West, and then we go into more
12 detail what is ammonium nitrate, and the best
13 practices associated with storage of it. And
14 then we have a very frank discussion. Right
15 now we talk generically because the West line
16 of duty death report that we're charged by
17 state law to do, we expect to release that
18 next month, but in the interim we have a
19 policy, and I think you understand why, that
20 we brief the families first, and the fire
21 chiefs involved before we release it to the
22 public. And they have that right to see that

1 first.

2 So, these presentations, these
3 county presentations will change significantly
4 on the third phase when we go into great
5 detail the operational things that occurred on
6 April 17th with the West Volunteer Fire
7 Department and other fire departments that
8 responded. So, those have been ongoing.

9 As I mentioned earlier, this past
10 Monday after having done all this research -
11 you know, this is a huge public policy issue,
12 and as I mentioned, West occurred late in the
13 last legislative session. I'm a firm believer
14 when you're developing public policy and
15 you're rushing it, you're going to miss the
16 target. And to the credit of the legislature
17 they agreed, and we've been very deliberate,
18 doing quite a bit of research. Many of your
19 staff I've talked to regularly and thank you
20 for that.

21 I know a lot more about ammonium
22 nitrate. I am not a chemical engineer, but I

1 have a great appreciation what it does, and
2 understand it pretty well. Also gotten on the
3 FPA 400 Committee because we're determined
4 we're going to fix this issue. That said, we
5 had these meetings and they've gone extremely
6 well. We published the schedule where we're
7 going, we've put out a press release for the
8 next month where we'll be, and then the - we
9 also have it on our website. And we also send
10 an email to you and other agencies to let them
11 know where we're going to be. We also send it
12 to the Texas Ag Industry Association. Again,
13 we can't do this in a vacuum, not involving
14 the businesses that are making a living with
15 this product.

16 And farmers need fertilizer, and
17 I've said numerous times we are not trying to
18 put these AN facilities out of business; just
19 the opposite. West is discussing right now
20 having another fertilizer facility in the area
21 because it's a community that depends on
22 farming, and they need fertilizer. And they're

1 having to go much further distances now to
2 acquire it.

3 You know, that business is one,
4 those jobs are gone, and we need to come up
5 with solutions that are reasonable. And very
6 briefly, what that is at this point, we
7 briefed the House, we'll be briefing the
8 Senate next month, is proposing adoption of
9 NFPA-1. Well, my good friends for the
10 International Code Council, the state has
11 always used NFPA in the past, but it's quite
12 a bit of similarities between the National
13 Fire Code and NFPA-1 for ammonium nitrate
14 facilities. And, also, for that process we are
15 proposing - because right now there are -
16 well, there's 96 facilities spread over 66
17 counties. We'll be at 92 very soon; for
18 various reasons these businesses are deciding
19 not to carry ammonium nitrate or different
20 formulations that's not explosive. They're
21 making those decisions on their own. But we
22 are looking to allow a three-year phase-in

1 period because these businesses have a slim
2 profit margin. And I think when you're having
3 a retroactive aspect to code adoption you need
4 to be sensitive to these businesses to have
5 time to get to that point.

6 Certainly, I recognize there's
7 that danger in that period until you get
8 there, but also, we're also looking at - this
9 provision has been discussed, the 250,000
10 population. As I stated, Texas is huge, and
11 trying to manage a statewide fire code from
12 Austin in the State Fire Marshal Office is
13 daunting. I would rather it be managed at a
14 local level, and we're also proposing removal
15 of - or changing that statute so local
16 counties, regardless of population -

17 municipalities already can do that, that they
18 can adopt a local fire code. And they have a
19 better sense of how to manage things in their
20 community.

21 And, also, there's additional
22 funding that the legislature is interested for

1 training firefighters, if you heard with both
2 volunteer and paid, and also more training
3 with emergency management officials and
4 elected officials that serve in that capacity,
5 as well.

6 There will be more discussions as
7 we move forward. The legislature in Texas only
8 meets every two years, so it's been, I think,
9 fortuitous that it's had enough time to really
10 drill down what the issues are here. And we'll
11 be having more hearings as we go along.

12 Is everyone on board with this?
13 I'd be lying to you otherwise, no. But I'm
14 encouraged that certainly the Lieutenant
15 Governor and the Speaker of the House have
16 issued interim charges. Our marching orders,
17 prevent another West in no uncertain terms.
18 And we're committed to that process. I've been
19 a firefighter for 36 years, and what we saw in
20 West was - I've never seen that many
21 firefighters die in one incident. If that
22 don't change, I don't know what is. And that's

1 why we're on this, you know, tour of Texas.
2 You know, it's unprecedented but the feedback
3 is people are learning from the presentation,
4 and I'm hopeful that we've talked to about 775
5 folks of 18 meetings so far. This is very
6 rural areas. When we get said and done, we'll
7 have talked to two to three thousand people,
8 which is pretty significant representation of
9 rural Texas where most of these facilities
10 are.

11 And I really believe they're
12 getting it. And I think we're building - when
13 you do public policy, you just don't talk and
14 tell people what you should do, you also
15 listen, and that's what these outreach
16 meetings facilitates. And we're working with
17 industry and many other folks to, I think, get
18 this right. And I have no doubt that Texas
19 will make substantive changes next legislative
20 session, and that'll be in January. Thank you.

21 MR. DENTON: Thank you very much.
22 We'll turn it over to the Board, if you have

1 any questions.

2 CHAIRPERSON MOURE-ERASO: Yes, are
3 there any questions for the Board?

4 MEMBER ROSENBERG: Yes, I just have
5 one. Is this on?

6 CHAIRPERSON MOURE-ERASO: Yes.

7 MEMBER ROSENBERG: Okay, thank you.
8 I just wanted to know how a local community
9 like West would adopt your code.

10 PANELIST: Simply, they would start
11 looking at the codes. They would need to hire
12 - specifically, a fire code or a zoning code?

13 MEMBER ROSENBERG: Zoning code.

14 PANELIST: Zoning code.

15 Specifically, they would need to - the City
16 Council would need to organize hiring a fire
17 code official, I mean, I'm sorry, a zoning
18 code official, or a zoning code director,
19 planning director and start putting together
20 their Planning Commission. And through that
21 Planning Commission, hold the public meetings,
22 bring in the public and start planning the

1 specific, you know, Comprehensive Plan that
2 they're putting out. I mean, it's not simple.
3 I mean, it's -

4 MEMBER ROSENBERG: No, they may not
5 have the money for it.

6 PANELIST: But the nuts and bolts
7 of the work is actually at the Planning
8 Commission level when they're actually putting
9 together the Comprehensive Plan.

10 MEMBER ROSENBERG: No, I understand
11 that. I was -

12 PANELIST: Adopting the zoning code
13 is just the framework of what they have to do.

14 MEMBER ROSENBERG: Okay.

15 CHAIRPERSON MOURE-ERASO: I'm
16 sorry. How about a fire code?

17 PANELIST: You want to take that
18 one?

19 MR. ROBERTS: Well, Mr. Chairman,
20 the conversation started a little bit in the
21 earlier panel about some of the restrictions
22 that exist in Texas law right now, so my

1 understanding is that a county that doesn't
2 have a population of 250,000, or is not
3 adjacent to a county with that population is
4 prohibited from adopting a fire code. So,
5 State Fire Marshal Connealy was saying that
6 that's something that requires legislative
7 action to change, and that's going to be a
8 process that the State has to undertake.

9 You know, really when you look at
10 what ICC does, we're a membership
11 organization, so we produce a model code, and
12 we produce a family of codes. Fire code is one
13 of them. It's intended to work as a companion
14 code with the International Building Code and
15 other codes that address different aspects of
16 safety in the built environment. But that
17 model code needs to go through a formal
18 legislative process by a jurisdiction that has
19 the authority to adopt, administer, and
20 enforce that code.

21 And a big part of that is not only
22 going through that adoption process, and it is

1 a process that requires public input, of
2 course, particularly on an initial adoption of
3 a code where one hasn't existed before. But
4 there's also a cost associated with that
5 adoption, and it's an investment in the
6 community.

7 The next step is the
8 administration and enforcement of any of those
9 model codes, and that requires resources,
10 whether it's from the State Fire Marshal
11 Office as a fire code enforcement, or that's
12 given down to the local level. There needs to
13 be resources in place, there needs to be
14 training so that code is understood and it's
15 consistently and effectively implemented in
16 the communities. So, it's a complicated
17 process, particularly on a jurisdiction that
18 doesn't have any codes and needs to move in
19 that direction.

20 CHAIRPERSON MOURE-ERASO: Thank
21 you.

22 MEMBER GRIFFON: Yes, I have a few

1 questions. Let's start with Mr. Connealy. I
2 appreciate the update on what's been happening
3 in Texas since the incident. And I was
4 wondering if - and you might not be the
5 perfect person to answer this question, but
6 you're here, so I'm going to ask it. And I was
7 wondering if - what has Texas done since the
8 incident with regard to Land Use Planning? Has
9 that come up in the hearings, and is there any
10 initiatives, any work in -

11 MR. CONNEALY: It has come up, and
12 that's something, as these other gentlemen
13 have discussed, that is needed. We have a
14 number of facilities in the State that we
15 verified that are in downtown or significant
16 infrastructures by them. When we do these
17 county Best Practices meetings, we provide a
18 flash drive using the software program that
19 estimates the blast zone. We give that to the
20 local officials so they can use it for
21 emergency management purposes, of what is the
22 potential damage that's going to occur if

1 something happened there. So, that's been very
2 well received.

3 But, yes, we're constantly
4 reinforcing. I mean, when we have these Town
5 Hall meetings, if you will, there's great
6 concern with that. And, hence, while we need
7 to get ammonium nitrate either retrofitted
8 with sprinklers if you're going to have it in
9 a combustible structure, or segregate it and
10 put it in a non-combustible storage bin. Both
11 those meet the code, Best Practices, if you
12 will, and we've largely resolved the issue
13 along with your general fire inspection for
14 other things.

15 But the scenario in West, as you
16 all know, as well as we do, that the fire
17 originated the seed room. It traveled to the
18 ammonium nitrate bin, and encircled it.
19 There's combustibles in the seed room, there's
20 combustible wood frame structures that
21 supports the building, and then we get - the
22 fire gets to the ammonium nitrate bin, it has

1 plywood and wood supports in the bin. The fire
2 is continually growing. There's a roof over it
3 so there's pressure being built up, these
4 oxides of nitrogen that's being produced. We
5 also have carbon black that's dropping onto
6 the ammonium nitrate pile, and when the roof
7 structure, those wooden members are consumed
8 by the fire and the roof collapses into the
9 pile, we had two explosions. First is when the
10 roof structure collapsed as verified the
11 Seismic Center, and then milliseconds later
12 the big explosion everyone saw on TV. So, that
13 sequence of events can be managed either by,
14 in most cases, controlled by a sprinkler
15 system, or if the ammonium nitrate is not in
16 that combustible structure, you've gone a long
17 ways to minimize your risk exposure. So, that
18 sequence of events, there has to be an
19 interject. And if you can do that -
20 obviously, we would prefer to see these
21 facilities in a non-inhabited area, but we
22 have 46 that have combustible construction of

1 these 96 facilities, and that's why we have
2 the retroactive provision because we're not
3 going to change anything unless we get
4 retroactive requirements to have them come
5 into compliance, as well. We just have to get
6 ammonium nitrate away from combustibles.

7 MEMBER GRIFFON: And I was actually
8 asking the question also in terms of the
9 broader question of just high-hazard
10 facilities, you know, and how they are - how
11 you do the Land Use Planning for those around
12 the state, and whether any - and I don't know
13 what the current situation is. Does the State
14 put out guidance - I think I'm following up
15 on Dr. Rosenberg's question, you know. I can
16 picture the local Planning Board grappling
17 with how to zone for a high-hazard facility,
18 and whether, you know, is there guidance from
19 the State? Are there, you know - and are
20 there any recommendations to improve or change
21 that, or that kind of thing?

22 MR. CONNEALY: Absolutely. We want

1 to make sure that cities have the capability
2 to provide zoning. If they don't have a local
3 zoning issue or a building code, or fire code,
4 there's a remedy there that removes those
5 barriers so they could do just do that.

6 The challenge is with existing
7 facilities and the infrastructure that's
8 around them, you know. I'm not sure how that
9 will play out long term because they're there,
10 such as West. The town grew up around it.

11 MEMBER GRIFFON: Right.

12 MR. CONNEALY: There's no malice
13 involved. It just happened.

14 MEMBER GRIFFON: Yes.

15 MR. CONNEALY: You know, as was
16 stated earlier, that we like to be (inaudible)
17 more of the planning than I am.

18 MEMBER GRIFFON: Okay.

19 MR. CONNEALY: That there's ways of
20 avoiding that. In some cases, you know, the
21 cow is already out of the barn.

22 MEMBER GRIFFON: Thank you. Thank

1 you. I just wanted to ask ICC, the - you
2 mentioned the International Zoning Codes. How
3 - can you just get into a little bit of how
4 they address siting a hazardous facility near
5 a community, or what guidelines do you have,
6 or some specificity on how it deals with
7 residences, schools, a situation like that was
8 here?

9 MR. ROBERTS: The code, basically,
10 just establishes zones, whether it's
11 commercial, commercial residential,
12 residential, factory industrial, schools
13 generally fall in line with zoning with
14 residential. And it just allows - the
15 community has its own geographical area to
16 deal with about how to split those up.

17 MEMBER GRIFFON: Okay.

18 MR. ROBERTS: So, as far as exact
19 guidelines about a hazardous facility, it
20 would just fall as factory industrial, and
21 then you would rely on other codes like the
22 fire code for guidance on just what that

1 hazard is.

2 MEMBER GRIFFON: Okay. And does it
3 include any kind of risk assessment, or risk
4 analysis?

5 MR. ROBERTS: Not in the zoning
6 code itself, but -

7 MEMBER GRIFFON: Not in the zoning
8 code.

9 MR. ROBERTS: - but certainly in
10 the fire code -

11 MEMBER GRIFFON: The fire codes.

12 MR. ROBERTS: The fire code, you'd
13 have risk assessment on each structure.

14 MEMBER GRIFFON: Okay.

15 MR. ROBERTS: For existing, as
16 well. And, again, like we've said over and
17 over, the zoning code would not apply to
18 existing structures.

19 MEMBER GRIFFON: Right.

20 MR. ROBERTS: You would have to go
21 to a fire code for that.

22 MEMBER GRIFFON: Right. And then

1 the - this question is kind of open, I think,
2 to anyone. The question of the local Planning
3 or Zoning Boards, you know, I'm just wondering
4 how - just from all your experience whether
5 they have the resources, the tools, the
6 capability of making these judgments on - you
7 know, I think part of it is they have to know
8 enough about these complex facilities to
9 determine, and to do those calculations to
10 determine if the risk is too great to put this
11 type of facility in proximity to schools or
12 other sensitive areas. So, I'm wondering if,
13 you know, in your experience what's the
14 capabilities of the local Planning Boards?

15 MR. SCHWAB: I would like to offer
16 a little different model here on that point,
17 because one of the things that we've worked
18 very hard to emphasize in this regard is, you
19 know, planners have a certain kind of
20 training. They have to understand spatial
21 relationships within a community, they
22 understand issues about economic and community

1 development, and so on, but can't possibly be
2 trained themselves in depth on issues like how
3 ammonium nitrate is handled.

4 MEMBER GRIFFON: Right.

5 MR. SCHWAB: That's just not part
6 of their training. What we can do, however, is
7 planners are very well trained in most cases,
8 or should be as, effectively, orchestrators of
9 public policy within a community. And
10 particularly, also, orchestrators of public
11 participation within a community to rally the
12 public to participate in the process of policy
13 making.

14 One of the things that they can do
15 as a result is figure out who does have that
16 expertise and how to bring them, effectively,
17 into the planning process. And we go through
18 this model repeatedly on a number of
19 questions, not just this one. Just let me give
20 you a couple of examples.

21 A few years ago we were working
22 with the Forest Service on a project called,

1 "Planning the Urban Forest." Planners are not
2 foresters, they're not expected to be
3 arborists, they're not tree specialists, but
4 clearly they understand that that's a goal
5 within the community to have better tree
6 canopy, and it does all sorts of - they can
7 begin to understand what are the outcomes of
8 that that benefit the community. So, what you
9 do is then go and get that expertise. You have
10 arborists, or urban foresters, or people with
11 that expertise and you bring that - you have
12 that discussion about where you can inject
13 that expertise into the planning process.

14 The same thing goes with this
15 whole field of all kinds of disasters, natural
16 or manmade. There are emergency managers who
17 have a good deal of that expertise. There are
18 firefighters who have that expertise, and you
19 bring them into that discussion, and then talk
20 about where in the - what would be an
21 effective element of that zoning code, at
22 least prospectively looking at facilities that

1 don't exist already, to address those kinds of
2 things up front before you start permitting
3 development. So, a lot of this is really
4 communication and coordination between -
5 interdisciplinary communication and
6 coordination that has to go on to make this
7 happen effectively.

8 The code that they're talking
9 about provides a certain basic framework, but
10 beyond their code, I would say from long
11 experience and watching communities function,
12 and looking at the peculiarities and
13 idiosyncracies of every community, there is
14 inevitably some customization that must take
15 place. And there is no escaping the
16 responsibility in local planning of thinking
17 through what are the issues that confront us
18 in this particular landscape within these
19 boundaries, whether that be ammonium nitrate,
20 or a railroad that goes through that may be
21 carrying who knows what. You know, you just
22 need to take a look at what is in that

1 community that poses a threat, and then figure
2 out what is an effective solution, bringing
3 together the best expertise you can marshal.

4 MEMBER GRIFFON: Well, thank you
5 for reframing my question, actually. You got
6 to the point that I wanted to get to, so that
7 was very good. I guess I could see, and you
8 don't need to necessarily answer this
9 question, but I guess one concern that could
10 come up in that kind of scenario is as a local
11 Planning Commission is bringing together
12 expertise, I think often it's likely that the
13 most in depth expert in the room is going to
14 be the very people that are trying to build
15 their facility. So, can - does the town have
16 independent resources to pull in when there's
17 a question, or -

18 MR. SCHWAB: Actually, this gets to
19 a much - an even - I'm going to reframe even
20 larger here.

21 MEMBER GRIFFON: Oh, please,
22 please.

1 MR. SCHWAB: Because it does get to
2 the question of a State role, but it also gets
3 to other kinds of resources that are out
4 there. I mean, I think you have to think
5 outside the box sometimes.

6 MEMBER GRIFFON: Yes, I agree.

7 MR. SCHWAB: There are, for
8 instance, academic resources, community
9 colleges, universities that often have the
10 kinds of expertise without being tied to a
11 particular industry or vested interest that
12 can be tapped. And we often - you know, that
13 I think is one great tool.

14 There are states that actually use
15 - Iowa State University actually has an
16 extension service that includes planning
17 advice for local - particularly for rural
18 communities, you know, they make their
19 planning school essentially available to those
20 communities to help with that process.

21 MEMBER GRIFFON: And that's why I
22 asked the prior question, was as the State -

1 I mean, I think State guidelines in this area
2 might be very useful to help -

3 MR. SCHWAB: Yes, and the State -

4 MEMBER GRIFFON: - so that local
5 communities know where to turn if they're, you
6 know, looking for those other resources.

7 MR. SCHWAB: Sure. The State itself
8 actually can on occasion, you know, if it
9 chooses provide some of that kind of technical
10 expertise.

11 MEMBER GRIFFON: Great, great.
12 Thank you. Thank you.

13 MR. ROBERTS: Mr. Griffon, if I
14 may.

15 MEMBER GRIFFON: Oh, sorry.

16 MR. ROBERTS: I'd just a little bit
17 to Mr. Schwab's perspective there. You know,
18 we're looking at that we mentioned before the
19 all hazards approach, you know, and I think we
20 have a multidisciplinary item that we have to
21 look at here. And maybe from that 10,000 foot
22 level the reason that the ICC produces a

1 family of codes is that they're all meant to
2 coordinate and work together, and not just
3 focusing on ammonium nitrate, or even
4 hazardous materials but, you know, other
5 natural events that we have to address in our
6 communities. That's why if you have a
7 community that just has a construction code,
8 that's probably not enough because we want to
9 make sure that that building is kept at that
10 level of safety throughout its life, and
11 that's where a fire code comes in. Putting the
12 right buildings, you know, in the right places
13 is about the zoning code, and that's the
14 proactive piece.

15 And just examples, you know, of
16 part of the construction code, we take for
17 granted that there's an National Electric
18 Code. Well, if we just follow the construction
19 code and we don't deal with the safety of
20 electric, we haven't created a safe building.
21 If we haven't adopted a fuel gas code, we may
22 have fuel gas in that building. It's not going

1 to fall down, but we may not have a safe gas
2 service. So, those codes all need to be
3 coordinated.

4 And kind of de facto what that
5 does is it brings all those different
6 expertise, those different disciplines of code
7 officials together to insure that all of those
8 things are being addressed comprehensively
9 when you look at how a building is built, and
10 how it's maintained. So, not having that
11 comprehensive approach, you're working with a
12 handicap because you haven't utilized all the
13 resources in the toolbox to help address that
14 concerns that we're here to prevent, and
15 that's basically keeping a safe and
16 sustainable environment.

17 MEMBER GRIFFON: Thank you for the
18 addition. And thank you, Mr. Chairman.

19 CHAIRPERSON MOURE-ERASO: Thank
20 you. I have perhaps a last question, and
21 probably is a historical question to Mr.
22 Connealy, and probably to Mr. Johnson, too.

1 And the question is why isn't that in Texas
2 what's considered some sort of a reasonable
3 approach not to have a fire code on the small
4 towns? I mean, what is the historical reason
5 that this happened?

6 MR. CONNEALY: Mr. Chair, I
7 honestly don't know. I don't know where that
8 statute originally came from, and why, but I'm
9 very encouraged that the legislature, at least
10 the House -

11 CHAIRPERSON MOURE-ERASO: Is there
12 any advantage not to have a fire code?

13 MR. CONNEALY: Well, as a fire
14 marshal I don't think so, obviously.

15 (Laughter.)

16 MR. CONNEALY: I'm very pro fire
17 code. As I stated earlier, I think it's better
18 managed at a local level. And I'm very hopeful
19 that that will change. And I think with the
20 events of West that has shed light, and I
21 think that will come to fruition this time
22 around.

1 Having the resources to implement that code
2 and do the inspections that are necessary and
3 the administration is a key ingredient to
4 having a truly safe and sustainable
5 environment. So, adopting the code and having
6 the authority to do that is just the first
7 step in that process of insuring the safety of
8 the built environment.

9 PANELIST: It might be worth
10 noting, too, that not only do we have the fire
11 code issue, Texas is the only state that I
12 know of that does not give its counties zoning
13 authority either, which is something that
14 might be worth considering in the next
15 legislative session.

16 CHAIRPERSON MOURE-ERASO: Very
17 interesting. Very interesting. Okay. I would
18 like to thank the panel. This has been very,
19 very informative.

20 MEMBER ROSENBERG: Thank you.

21 (Applause.)

22 CHAIRPERSON MOURE-ERASO:

1 Appreciate you bring here.

2 I would like now to give the floor
3 to Dr. Daniel Horowitz, the Managing Director
4 of the Chemical Safety Board to direct the
5 discussions on public comment, so Dr.
6 Horowitz.

7 DR. HOROWITZ: We'll have public
8 comments on any aspect of what you heard, or
9 anything that you didn't hear that you'd like
10 the CSB to look into further. Only a handful
11 of people signed up for comments, but really
12 it is open to anyone who would like to say
13 anything for three to five minutes. And when
14 you make your comment, please do say and spell
15 your name so that we can get it right in the
16 transcript.

17 Mayor Muska, did you have an
18 additional comment you'd like to make? Go
19 ahead. If you want, you can use either podium.

20 MAYOR MUSKA: Thank you. And,
21 again, my thanks to the Chair, and Directors,
22 and investigators on your work this past year.

1 West has come a long way. We
2 didn't have a fire code, we're working on a
3 fire code. We didn't have a building code, we
4 now have a building code in place. West is
5 moving forward.

6 It will not be defined by the
7 events of April 17th. Zoning and Planning, we
8 have secured with donation from St. Vincent de
9 Paul, KAI Group out of Atlanta, and they have
10 come in. And your question was how do you do
11 that? We had a group of business leaders that
12 were the core of it, and they met with the
13 business leaders first. And then we had about
14 three different public meetings on planning.

15 Now, this is planning that is
16 outside the city limits right now, but we have
17 an idea of where we will be going. So, for
18 instance, by the Interstate it'll be
19 commercial. Down east of West will be more
20 residential, so we will have a plan, a
21 Comprehensive Community Plan that we're
22 working on. That should be finalized by, I

1 think, the end of this month or next month.

2 You mentioned fire sprinklers.

3 Yes, fire sprinklers or concrete bins would
4 definitely be, you know, something that could
5 save a lot of lives if this were to happen
6 again.

7 And as I sit here and I listen to
8 the various suggestions from the Chemical
9 Safety Board and the investigation of 417
10 Fertilizer Plant, I can't help but wonder if
11 the agency is looking in the wrong direction.
12 In my opinion, you are looking at the
13 distribution end of nitrogen-based fertilizer
14 products, and the products and the safety
15 hazards it poses to communities located around
16 these plants that store the product.

17 It seems to me that it would be
18 more effective and easier to regulate if you
19 had a handful -- a mandate for a safer
20 product. Then you're managing a handful of
21 manufacturers instead of thousands and
22 thousands of fertilizer plants. It just seems

1 that would be the easier way if you wanted to
2 do that, in my opinion, my humble opinion.

3 It my opinion, it also needs to
4 concentrate on the safer production of this
5 which would then remove the safety hazards
6 associated with it being transported. You
7 heard a number of trains come through here. I
8 can guarantee that that was probably on some
9 of those trains that go through this town
10 every day. So, if it was a safer product, the
11 transportation of that product would also be
12 safer, in addition to the storage at the
13 facilities.

14 The end result would be a safer
15 product and would also reduce the unlawful use
16 of the said product such as the case in
17 Oklahoma City. And as well noted, the cases
18 that - where the product was used in Iraq and
19 Afghanistan as an IED component to a bomb. The
20 military is already looking at this because
21 that's the main ingredient of IEDs in Iraq,
22 was nitrogen-based fertilizer.

1 As for the Land Use discussion, I
2 have many concerns and strong opinions on the
3 lack of regulations for a general law city the
4 size of West. Due to state law we do not have
5 the ability to regulate any activity outside
6 our city limits. We don't have the ability to
7 regulate anything inside the one-half mile
8 ETJ, which is the Extra Territorial
9 Jurisdiction. We don't have the ability to do
10 that. That is something that Texas law
11 prohibits a town the size of West from doing.
12 I'm working on that. That's one of my marks
13 that I'm working on, but your report states
14 that cities have the responsibility to enforce
15 the fertilizer plants, but my question is how
16 we could regulate a fire code when we - when
17 most plants are outside our jurisdiction. We
18 can have a fire code across the tracks from
19 it, but if it's across the tracks, it's not
20 going to be in our jurisdiction so we cannot
21 tell it what to do.

22 The City of West Fire Department

1 is only responsible for fire protection in our
2 corporate city limits. Any response to outside
3 fires is a matter of courtesy, and we respond.

4 It is my hope that the lessons
5 learned from the April explosion, and the fire
6 departments across the country have taken a
7 closer look and interest in how they respond
8 to chemical fires. If that occurs, then the
9 lives of the first responders that perished
10 won't go in vein. These opinions are my own,
11 and I appreciate the opportunity to speak to
12 you today. Thanks.

13 CHAIRPERSON MOURE-ERASO: Thank
14 you, Mr. Mayor.

15 (Applause.)

16 CHAIRPERSON MOURE-ERASO: A comment
17 I would like to say to your comments, one of
18 the - or the issues that we are looking very
19 carefully, and the investigative team is
20 looking is at inherently safer technologies on
21 the materials itself that we are using as
22 fertilizers. And one of the things that we are

1 looking at is what kind of formulations could
2 be there, could be rethought that will make
3 the ammonium nitrate substantially less
4 explosive than it is. And that is something
5 that is what you are suggesting, that is
6 rather than looking at what we have, why don't
7 we look at the front end of the process and
8 see what is what we are using, and how can we
9 make that safer rather than trying to
10 remediate what could happen at the final end.

11 MAYOR MUSKA: I was doing research
12 and it cost about 15 cents a ton to put a
13 coating on ammonium nitrate, so it's not
14 overbearing, I think, or cost prohibitive to
15 do that. And this technology has been around
16 for about 10 years, so that's an area, like I
17 said, if you chop it off at the head, you
18 don't have to worry about it.

19 DR. HOROWITZ: Thank you. And I
20 think we'd be remiss if we didn't thank the
21 Mayor also for helping us arrange the facility
22 tonight, and for your hospitality to our team

1 when we were here for several months under
2 very difficult circumstances. So, thank you.

3 CHAIRPERSON MOURE-ERASO: And also
4 let me add for the leadership that the Mayor
5 has demonstrated in this very difficult year.
6 I would like to congratulate you in the work
7 that you have done for this town.

8 MAYOR MUSKA: Thank you.

9 (Applause.)

10 DR. HOROWITZ: Next is Mr. John
11 Crowder, Pastor, First Baptist Church. Mr.
12 Crowder.

13 MR. CROWDER: Thank you, Mr.
14 Chairman, Members of the Board. In the first
15 part of our meeting tonight we heard Mr.
16 Corbett read from approved manuals information
17 about how firefighters should respond to fires
18 in which ammonium nitrate is involved. The
19 prescribed plan of action, as I understand it,
20 is to apply water unless the fire gets too
21 serious or "massive." If the fire is too big,
22 firefighters are encouraged to withdraw.

1 It's my understanding that our
2 firefighters appropriately implemented those
3 suggested plans. Although no one mentioned it
4 here tonight, an order was given that night to
5 withdraw. While we have all had an entire year
6 to assess the situation, to evaluate the needs
7 and prioritize the various options, our
8 firefighters had 20 minutes to get to the
9 scene and then do all that assessment,
10 evaluation, and clarification of priorities.

11 Within that short 20 minutes, our
12 local heroes showed up, got organized, did
13 exactly what the expert tonight said they
14 should have done. They put water on the fire
15 until it was clear that the fire was
16 "massive." At that time, they made the right
17 call and ordered a defensive stance.
18 Unfortunately, time ran out before they could
19 fully carry out that order. Our heroes gave
20 their lives insuring a future for their
21 families, friends, and neighbors, and we as a
22 community will always be grateful for their

1 sacrifice.

2 (Applause.)

3 DR. HOROWITZ: Thank you, Mr.
4 Crowder. And just for clarification, I think
5 what Professor Corbett was quoting was the
6 NFPA guidance, actually, which he was stating
7 was effectively followed, and he'd like that
8 guidance to be changed in light of this
9 tragedy.

10 Next is Ken Paterson. Mr.
11 Paterson. Charlie Muscwhite (ph).

12 MR. MUSCLEWHITE: Thank you. Thank
13 you for being here. Thank you for what you've
14 done over the last year. I also want to thank
15 Mayor Tommy and Pastor Crowder. I echo exactly
16 their comments. I'm a property owner in West
17 now.

18 I had the same question as Mayor
19 Tommy, which is - and Pastor Crowder brought
20 it up to some extent. We heard a lot of talk
21 about what the firemen should do, and not do,
22 and the first responders, and even the elected

1 officials, that we're looking at how to change
2 behaviors there. And a lot of talk about what
3 the City of West should do, and the growth
4 pattern, et cetera. And like Mayor Tommy, I
5 didn't hear anything tonight about the
6 manufacturers of the product until, Mr.
7 Chairman, you brought it up in response to
8 Mayor Tommy's question.

9 I greatly appreciate hearing that.
10 I think that's a very important aspect of your
11 investigation, and it's good to hear that
12 you're on top of that.

13 Mr. Fire Marshal, you mentioned
14 that there are four facilities in this state
15 right now that have stopped distributing
16 ammonium nitrate fertilizer based nitrogen
17 product, and I applaud that. I'm curious, if
18 four can do it, why can't they all do it? Why
19 can't the manufacturers themselves stop it?
20 What is the need for it? If you can make it
21 safer, as Mayor Tommy says, for so little
22 money why not do so?

1 I stepped outside about halfway
2 through this meeting and there was a train
3 stopped outside, literally less than a
4 football field from this facility, and all I
5 could count because it was hopper car from
6 horizon to horizon were 40 hopper cars. And as
7 Mayor Tommy said, any one of those hopper cars
8 could contain the exact same nitrogen-based
9 fertilizer product that blew up and that
10 survived in the hopper car that was waiting to
11 be distributed. And no one - I don't know how
12 I know as a citizen whether or not this group
13 of hopper cars contains potentially a small
14 nuclear device, 30,000 tons in any hopper car.

15 It's mind boggling to me that the
16 manufacturers can put the product out into the
17 stream of commerce like this without warning
18 the public, identifying it. And at some point
19 someone asked about who is in the best
20 position, who had the most knowledge to be
21 able to determine what to do about this
22 potential danger that many people are facing

1 without any knowledge?

2 According to what I heard from the
3 fire marshal, there are 46 facilities in this
4 state that are still storing nitrogen-based
5 fertilizer product in combustible facilities.
6 And, again, where are the manufacturers, and
7 I've heard the term in this state is, "Me no
8 Alamo," and it refers to the fact that these
9 are the guys who are making the money off of
10 the product. Why aren't they going to these
11 places and insuring that their product is not
12 being delivered by the ton, by the tens of
13 tons, by the thousands of tons to these
14 facilities with these combustible materials
15 that are holding it in, and avoid a repeat of
16 what happened here just over a year ago. So,
17 I again want to echo the comments of Mayor
18 Tommy and Pastor Crowder, and just make that
19 point.

20 I don't know, every time I pull up
21 to a train crossing now and watch these hopper
22 cars go by, I do not know in my mind whether

1 or not any one of those cars were it to -
2 that train to go off the track, what would
3 happen? Am I looking at being Ground Zero in
4 a small nuclear device detonation? I mean,
5 that's the fear I have just as an ordinary
6 citizen.

7 The fact that these train cars
8 stop in this city, you can move the facility
9 outside of the Town of West even further, but
10 if it's on those train cars and those train
11 cars are parked so that they can switch,
12 because this is a switching town where they
13 pass each other, there's still going to be
14 people exposed. I mean, you can do all that
15 you want to do at any one distribution point.
16 That's still not going to protect the public
17 as the product is coming from Yazou,
18 Mississippi to these 92 towns in the State of
19 Texas, and sitting in these 92 towns in the
20 State of Texas, at this the height of the
21 growing season.

22 I'm curious what the chemical

1 companies have told you that they have done
2 since this explosion last year to avoid this
3 kind of exact occurrence happening again this
4 year. I mean, we are here at the height of the
5 growing season when fertilizer, including
6 nitrogen-based fertilizer products are
7 supposedly floating around the state to this
8 96 facilities, so I'm curious if you all have
9 heard from the chemical companies what they're
10 doing to minimize the risk, such as going to
11 these 46 remaining facilities that have a
12 combustible storage situation and saying look,
13 we're not going to deliver to you unless you
14 get it built right. So, that's my question.

15 CHAIRPERSON MOURE-ERASO: A comment
16 to your question. We have been in contact with
17 the Fertilizer Institute, and also with other
18 organizations that are representing the
19 manufacturers of ammonium nitrate. And they
20 have reacted very swiftly in organizing an
21 organization among themselves that is going -
22 - is looking at the safe handling, and the -

1 I mean, it's a very well organized code of
2 conduct among the people that - in the
3 organizations that are using the chemical. And
4 we have been very positive about that
5 development.

6 What worries us is that only the
7 people that belong to that organization are
8 the ones that should choose, should volunteer
9 to adopt that code and to adopt those
10 practices. And as we know, there are a number
11 of distributors of the chemicals, and sellers
12 of the chemical that have - will choose not
13 to volunteer. So, that's why, as you will see
14 in the way that we are developing our
15 investigation, we are looking at making a
16 regulatory analysis and see what will make
17 people and the industry pay attention and
18 accept a particular change that will make a
19 difference, is that we have a regulation. We
20 have a regulation that applies to everybody
21 that makes a level playing field for
22 everybody, and that is not volunteer. You

1 cannot choose not to do it. I mean, that's the
2 difference with having a regulation. So, in
3 our paths of investigation what we are looking
4 is what that regulation must be that compel
5 people to do this legally rather than simply
6 rely on establishments volunteering to do it.

7 DR. HOROWITZ: Thank you. Next is
8 Jack McCavitt (ph).

9 MR. McCAVITT: Thank you, Mr.
10 Chairman, and Board, and investigative staff
11 for the opportunity to speak to you.

12 A few minutes ago, our State Fire
13 Marshal spoke with wisdom I thought when he
14 was talking about the loss of the
15 firefighters. And he said we have to make sure
16 this never happens again. And we certainly all
17 support that. And I agree completely that it's
18 appropriate for the Board to be concerned
19 about emergency response, and Land Use
20 Planning, but I hope that the Board will put
21 even more emphasis on prevention of fires
22 impacting ammonium nitrate and the safe

1 storage of ammonium nitrate so that the
2 firefighters are not ever exposed to the risks
3 of those fires. Thank you.

4 DR. HOROWITZ: Anyone else who
5 would like to comment, who didn't - David,
6 please. For those of you who don't know, David
7 White, the publisher of Industrial Fire World
8 has long worked with the CSB on education
9 efforts for oil site safety, which we very
10 much appreciate.

11 MR. WHITE: I was going to kind of
12 slip up here and not let anybody know that I
13 was here, but I guess that didn't work. But
14 seriously, thanks to the Board, and the Staff,
15 and the invited speakers and things.

16 I've been around a long time in
17 this business called firefighting. I've seen
18 four firefighters killed at fires that I was
19 at. It's not a good day. And firefighting is
20 a dangerous game. And I don't use the word
21 game just because we are going in when
22 everybody is coming out. And the thing about

1 firefighting we have to understand is, in my
2 50 years, and that's how long I've been in
3 this game, we have been teaching and talking
4 about the same things, pre-fire planning,
5 training, you know, and things like that.

6 I don't know if we'll ever get
7 there. And I'm being very honest because, you
8 know, it's not rocket science to go out here
9 and inspect a building, you know. I mean, and
10 you don't have to - and I'm going to tell you
11 this, you don't have to be a certified fire
12 inspector with a Ph.D. I mean, I can go in a
13 building say, man, you've got ammonium nitrate
14 here. And then you talk to the guy about it
15 and so on and so forth. And we can make a big
16 effort on this across this great State of
17 Texas if we'll just go out there and do
18 something.

19 I mean, I don't know what the
20 number is, but I know there's over 2,000 fire
21 departments in Texas, and how many of those
22 have the firefighters even walked in the door

1 to say what have they got here? And that's
2 what we've got to do. We're firefighters,
3 that's the game we play, that's the job we
4 have. And I think that we just need to wake up
5 and quit offering excuses.

6 I mean, the industry - and I'm
7 working, making a living on industry. But
8 industry will sit there and then they'll mealy
9 mouth around about it, and then all of a
10 sudden they'll say well, we've done the best
11 we can. No. We haven't - here they come now.

12 (Laughter.)

13 MR. WHITE: See? I mean, that's
14 planned. You got that scheduled just right
15 this time. But what I'm saying to you, one
16 other thing that I want to tell you about
17 ammonium nitrate, and I've been around it
18 because I'm from South Texas, we lived on
19 fertilizer and plants and things.

20 I never saw ammonium nitrate fire,
21 but I know it happens. I've seen all the
22 videos and the pictures, and everything else.

1 I want somebody to go out there and push the
2 government or the industry push somebody to do
3 some research because I want to know why at
4 West, Texas you had a building full of
5 ammonium nitrate, you had another building
6 full of it, and this one blew away and killed
7 a bunch of people, and this one is still
8 there. I want to know why in Bryan, Texas. I
9 live in College Station right next door, they
10 had a building full of ammonium nitrate on
11 fire and some of it was in sacks. And I
12 remember hearing the volunteer firemen that
13 day saying I don't know what this stuff is but
14 it says it's ammonium nitrate, and the stuff
15 is burning right in front of him. Why did he
16 even have to ask when he figured out it was.
17 He should know that.

18 The other thing is, I go around
19 the world and I look at different plants and
20 things, and I've been into explosive plants in
21 Europe and things like, and done consulting
22 work. You know what a lot of them do? And this

1 is the cheapest thing you can. They berm up
2 the dirt about 15-foot high, as much as they
3 can around the plant, plant heavy forests or
4 trees on top of that, and then if there's a
5 blast either here or here, that blast hits
6 those trees and that berm, and it's diverted
7 up. And right there is not even hardly hurt.
8 I've seen the research photos that show that.
9 But I still want the National Bureau of
10 Standards or somebody to go out here and
11 please help us by whether it's 15 cents a
12 thousand as somebody said, or it's \$5 a
13 thousand. I don't care. We've got to do it
14 better, and safer, and smarter. Thank you very
15 much.

16 (Applause.)

17 DR. HOROWITZ: Thank you. Anyone
18 else?

19 MR. WEEKS: Can we just ask a
20 couple of questions of the -

21 DR. HOROWITZ: Sure. You want to
22 come to the mic, or one of the mics and we'll

1 help you as best we can.

2 MR. WEEKS: Hi, my name is David
3 Weeks. The 40 to 60 tons you mentioned it may
4 be have been in one bin or two, what is your
5 best guess?

6 PANELIST: In talking to employees
7 they place the majority of the material in the
8 northeast corner, quadrant of the - or
9 northwest quadrant of the building.

10 MR. WEEKS: What is the size of the
11 bins in terms of length, and width, and
12 height?

13 PANELIST: Well, we're still
14 establishing that.

15 MR. WEEKS: You're still - so, in
16 your discussions, like I have seen bins 10-
17 foot wide and 20-feet long, I've seen them 20-
18 feet wide and 40-feet long. Do you have any
19 sense of the size of these bins?

20 PANELIST: We have some, yes.

21 MR. WEEKS: Can you tell us what
22 that is?

1 PANELIST: We're still working on
2 making sure that those figures are accurate.

3 PANELIST: The drawings and so on
4 in the final report. And I think the model
5 that you saw today is also to scale as much as
6 we can, 3D model that's available -

7 MR. WEEKS: Okay. And the - have
8 you calculated a TNT equivalency of the
9 explosion?

10 PANELIST: Yes, we have.

11 MR. WEEKS: And what number is
12 that?

13 PANELIST: We're not at liberty to
14 divulge that right now.

15 PANELIST: That will be part of our
16 final blast reconstruction. It's still
17 ongoing.

18 PANELIST: It's a work in progress.

19 PANELIST: So we should have that.

20 MR. WEEKS: Have you put an
21 estimate on the length of time the ammonium
22 nitrate was in the bin?

1 PANELIST: We have some information
2 from the folks that work there on when the
3 material was delivered. As we understand it,
4 there was a high turnover because of the
5 planting season. There was that rail car full
6 of ammonium nitrate. There were farmers that
7 were coming and picking up supplies of
8 ammonium nitrate. There was ammonium nitrate
9 being delivered, so there was a high turnover
10 from what we gather.

11 MR. WEEKS: So, it was turning over
12 in matters of days, would you say that?

13 PANELIST: I think that's a safe
14 assumption.

15 MR. WEEKS: Thank you.

16 PANELIST: You're welcome.

17 DR. HOROWITZ: Very fair questions,
18 and we'll certainly endeavor to answer those
19 and others in the final report. Yes, ma'am?

20 MR. WHITE: My name is Lynn White,
21 and I've been traipsing after David for the
22 last 40 almost years, and learned a lot just

1 by observation. But I'm a puzzle worker and I
2 know that you can have thousands of pieces and
3 think you've solved the puzzle and then
4 there's always one that's missing, or somebody
5 did something with it that messes you totally
6 up. So, I've been listening, and if one of the
7 puzzle pieces that I'd like for you to think
8 about, and that goes back to the Planning and
9 Zoning part of it. There's a culture in
10 Planning and Zoning that wasn't mentioned, and
11 it's called developers drive zoning in most
12 cities, in the City of College Station where
13 growth is happening phenomenally. Since it
14 started when I moved there in '72 where 95
15 percent of what's there now was not there
16 then. It's been development-driven.

17 David and I bought a property
18 outside the city limits that had a warehouse
19 on it. Bella Corolli (ph) and Mary Lou
20 Rettling (ph), and one of our gymnastics gyms
21 wanted to make it into a world-class
22 competition gymnastics gym. But it had been

1 taken in, annexed by the city without any
2 input to us or from us. We did not know until
3 they came to get this, and we went to the city
4 about what we would have to do to do this,
5 that it was - we are in a zone for heavy
6 industry only.

7 Immediately behind our warehouse
8 is a park that is the runoff control for a
9 subdivision behind it, a residential assisted
10 living facility on this side of us across the
11 street, a retirement complex on this side.
12 This whole street, heavy industry only.

13 Needless to say, we didn't get the
14 gym even after making the investments to meet
15 the code, but we were told on final
16 walkthrough you've met the code, but we have
17 to treat it as heavy industry only.

18 Now, we all had been told you can
19 move commercial into industrial, but not
20 industrial into commercial, and that's the
21 basis on which it was all made. What we have
22 learned is that developers keep areas from

1 being developed until they're ready to make
2 their money off of it by getting it zoned as
3 something it can never be used for until
4 they're ready to go with it.

5 So, there's other zones around
6 College Station, you know, so when we talk
7 about Planning and Zoning, I've observed our
8 Commission being guided by local decision
9 makers and by the people that coach them from
10 City Hall, and doing the best job they know
11 how. But somehow they have to be informed
12 about if it's going to be heavy industry only,
13 what does that really mean? If you're going to
14 let them develop along by this fertilizer
15 facility, what does that mean?

16 So, if we have flood control rules
17 and policies with a 100-year flood plain, why
18 not have a rule that says if it's in an
19 industrial zone within a certain distance the
20 developer has to pay this tremendous fee for
21 liability to that area, or some sort of
22 incentive comparable to flood control for

1 hazard control in a zone. Just a thought.

2 And on the railroad cars, if you
3 get one of those little code books, you can
4 know by the code on it everything that's
5 driving on down your highway in a truck, and
6 everything that's on the train. That's the
7 living with David.

8 DR. HOROWITZ: Thank you. Yes, sir.

9 MR. HOSTEAD: My name is Kirk
10 Hostead (ph). I hate to pick on Professor
11 Corbett again, but I noticed you mentioned the
12 video cameras, remotely recorded video
13 cameras. To me that just seems like common
14 sense.

15 It seems kind of ridiculous that
16 ammonium nitrate is not classified as an
17 explosive, but either intentionally or even
18 accidentally it can be turned into a high
19 explosive in less than five minutes, just
20 incredibly easily. You would think that
21 somebody would want to monitor that. You know,
22 maybe even an armed guard or two, but security

1 cameras, that's pretty cheap, pretty easy.
2 And, of course, you have to record it
3 remotely, otherwise something goes wrong,
4 you've got no video. But if the West
5 Fertilizer Company had had those cameras
6 monitoring that ammonium nitrate a year later
7 we would not be wondering how that fire
8 started. So, that's a really good idea that we
9 should probably talk more about.

10 Also, I hate to pick on City
11 University of New York, but one of your fellow
12 professors, Dr. Mishio Kaku (ph). In the past
13 year there's been a lot of speculation on what
14 actually caused the explosion because, you
15 know, like we've been saying all night, at
16 Bryan, pretty much the same situation, no
17 explosion.

18 And if you Google explaining the
19 physics behind the West blast, you see Dr.
20 Mishio Kaku from City University of New York
21 on CBS This Morning after the explosions. And
22 he was speculating rather convincingly that

1 the firefighters could have caused the
2 explosion by spreading water on an anhydrous
3 ammonia leak, that there could have been a
4 chemical reaction between the anhydrous
5 ammonia and the water. And I just want to get
6 your opinion, if you think that there's any
7 possibility whatsoever that that could have
8 contributed to the explosion?

9 PANELIST: Can I respond?

10 DR. HOROWITZ: Sure.

11 PANELIST: Okay. Just real quickly,
12 just a reminder there's about 8,000 faculty at
13 CUNY, so I'm just one of them.

14 DR. HOROWITZ: Well, we expect you
15 to answer for all of them.

16 (Laughter.)

17 PANELIST: Yes, I can't answer for
18 him. I don't agree with that. I don't think
19 that had anything to do with it. I think, you
20 know, we realize that the anhydrous ammonia
21 was a concern, I think, you know, for the
22 firefighters that were there, but I don't

1 think that had anything to do with it. I
2 certainly wouldn't agree with that, you know.
3 I disagree with a lot of the faculty all the
4 time, so that's not to endorse that opinion,
5 basically.

6 MR. HOSTEAD: Is there anybody else
7 that has any kind of opinion on that?

8 PANELIST: We've never cited that
9 as a factor.

10 MR. HOSTEAD: Well, it's not even a
11 possibility, because at the time of the
12 explosions the firefighters weren't spraying
13 any water, and the anhydrous tanks weren't
14 leaking any anhydrous ammonia, so that had
15 nothing to do with it.

16 PANELIST: I don't believe so.

17 MR. HOSTEAD: But a year later
18 people that are curious that don't know these
19 kinds of details about what happened still
20 think that the firefighters might have
21 possibly actually caused the explosion. So,
22 it's important that everybody understand that

1 that's not true. And when you get back to New
2 York, I'd appreciate if you'd stop by and say
3 hey, Mishio, could you talk to CBS and maybe
4 get that off their website because it's just
5 stupid. It's disrespectful to the firefighters
6 who did everything right.

7 Just one more quick question.
8 Reverend Crowder, there you are, he mentioned
9 that a year later, you know, the firefighters
10 had roughly 20 minutes to make snap decisions,
11 figure out what needs to be done. And Reverend
12 Crowder said that for the most part they did
13 pretty good.

14 They had 20 minutes, you all have
15 had a year. Is there anything that any of you
16 all can think of that they could have done
17 differently, or should have done better?

18 PANELIST: I think if you look at
19 this investigation from the very outset, it's
20 been done with the highest regard for those
21 men that died. It's not an easy task to do
22 what firefighters do. Everybody on this panel,

1 everybody on this Board has the highest
2 respect for people that do that work, and the
3 last thing that we would do would be to malign
4 anyone for doing what these men did at the
5 spur of the moment.

6 As I said earlier, they left
7 whatever they were doing. They got a page and
8 they left. They told their families I'm going
9 to respond, I'll see you later, and they never
10 came home. We get that, so any hint that
11 something that we've been part of or that
12 we've put forth in this investigation is
13 really missing the point, there's nothing from
14 day one that we've said that hinted that
15 anyone did anything wrong at that fire.

16 MR. HOSTEAD: Oh, no, no, no, no.
17 And I'm not saying that. Not only did they not
18 do anything wrong, I have yet to find anything
19 they could have done better, or not just them,
20 anybody anywhere. And I really want to know if
21 you think that there's something that anybody
22 could have done better in that situation, it

1 would be good to know for future reference,
2 you know, in that situation.

3 They were walking into a bad
4 situation, but they figured out what needed to
5 be done pretty quick. And if anybody, you
6 know, maybe even offline afterwards say, you
7 know, well, maybe they could have tried this,
8 I'd be interested to hear that.

9 I know that lately there's been a
10 lot of speculation, especially around the one-
11 year anniversary that they should have just
12 left. They should have just pulled back
13 immediately and, you know, I don't think that
14 that was an option for them considering the
15 wind was blowing the smoke in the direction of
16 the West Rest Haven, and they knew there were
17 people in there. And if they did just leave
18 and not try to contain the fire, that those
19 anhydrous tanks would have vented and all that
20 anhydrous ammonia would have blown directly
21 towards West Rest Haven. So, I mean, in case
22 anybody was thinking of that, that would have

1 been alive if they had of just pulled back,
2 I'm just speculating. I'm not speaking on
3 behalf of any of the firefighters, and for
4 anybody who already knows that I'm the one
5 that put together the PowerPoint on the likely
6 causes of the explosions, I'm not speaking on
7 behalf of any of the firefighters. And the
8 firefighters, none of the firefighters are
9 convinced that the wind or the high-tension
10 power lines contributed to that huge explosion
11 and the smoke.

12 But before you guys go back to
13 D.C., you really need to talk about this. This
14 is on your website. This is a screenshot of
15 the four cell phone videos, and it pretty
16 clearly shows that you haven't analyzed the
17 video correctly. And you haven't collaborated
18 very well with the State Fire Marshal's
19 Office. I was hoping that tonight we'd talk
20 more about what was different between West and
21 Bryan, why other ammonium nitrate fires that
22 weren't contained didn't detonate, and West

1 did. And that the explosion that detonated the
2 ammonium nitrate came from outside of the
3 building through the smoke which, obviously,
4 you all haven't looked at that closely. But we
5 can talk more about that later, but that's
6 also important to understand because there was
7 something very unusual about the smoke from
8 that fire that needs to be figured out, what
9 was in that smoke, what it consisted of, what
10 made it so explosive, and how do you prevent
11 that in the future? Because some of these
12 chemicals that existed in that smoke can be
13 combined from other chemical fires. And, you
14 know, we need to know what happened. We need
15 to figure out why that smoke was so explosive.

16 DR. HOROWITZ: Okay, thanks.

17 MR. HOSTEAD: Thanks.

18 DR. HOROWITZ: That's all. Any
19 others? Yes, ma'am. Would you -

20 AUDIENCE MEMBER: I was in a direct
21 line across the tracks and there were cinders
22 with fire in the smoke.

1 DR. HOROWITZ: Okay.

2 AUDIENCE MEMBER: And the
3 firefighters did everything could. I have two
4 sons that were over there fighting the fire.
5 If they had not put the water on it that they
6 did, and the way the wind was blowing, that
7 car on the railroad would have exploded, and
8 people within seven miles would have been
9 dead.

10 DR. HOROWITZ: Any others? Yes,
11 sir?

12 MR. YUTTER: My name is Charles
13 Yutter (ph). I'm a lifelong West resident, and
14 I do believe - I believe the smoke did do it.
15 I think that what happened is that when the
16 carbon, like the State Fire Marshal was
17 saying, from the - you got the different
18 things that were burning, such as the shingles
19 and stuff, and you can get - when you get a
20 smoke mixture it can support an arc causing
21 phase to ground, or phase to phase faults.
22 This is off the internet, Transmission and

1 Distribution (inaudible) November 1, 2000.

2 And more than likely when it went
3 through those transmission lines, it
4 discharged across there. One of those lines,
5 if I remember, I live five miles southeast of
6 town, but when I came to town and went to the
7 Rest Home to get people out, and if I remember
8 correctly, there was one of those high-power
9 voltage lines which were put there in the
10 early 1900s, I believe before 1910. I think
11 one of them was down by the football field, if
12 I'm not mistaken. But I believe that's where
13 it was down, and it probably discharged
14 further down by the smoke, and then that was
15 the weak link. And probably that's what caused
16 - now, what caused the initial fire, I don't
17 know. But I believe, until I'm convinced
18 otherwise, and I got to spoke to Mr. Mates
19 (ph) about that, and the lady here, Ms.
20 Rosenberg, I believe, earlier. And I
21 personally believe that's what caused the
22 explosion itself.

1 DR. HOROWITZ: Thank you.

2 AUDIENCE MEMBER: That was the
3 first explosion.

4 DR. HOROWITZ: I think that -

5 MR. YUTTER: I'm talking explosion
6 as far as the big blast, because that's when
7 the smoke was - the smoke was blowing from
8 the southeast, and I live southeast of town,
9 but the smoke was blowing - I mean, the wind
10 was blowing heavy that night from the
11 southeast to the northwest, which would have
12 put it right through those transmission lines
13 on Reagan Street that were built in the early,
14 early 1900s.

15 DR. HOROWITZ: Thank you. I think
16 that's it, Mr. Chairman.

17 CHAIRPERSON MOURE-ERASO: Thank you
18 very much. So, I would like to give the floor
19 to Mr. Banks about the next steps on the
20 investigation.

21 MR. BANKS: Okay. I know it's been
22 a long evening, so I promise we're winding

1 down.

2 As a path forward for the balance
3 of this investigation, the team will be
4 looking at AN explosion blast modeling and
5 impact analysis. We'll be doing some -
6 conducting some laboratory testing of AN.
7 We'll be performing an analysis of fire code,
8 and I think the information that we've
9 gathered here tonight will be very helpful for
10 us moving forward.

11 Obviously, there will be a
12 regulatory analysis to consider applicability
13 of regulations that are in place now and maybe
14 the implementation of new ones. We'll develop
15 recommendations, and that's part of our
16 process. We have one of our recommendation
17 specialists here tonight with us, Ms. Morgan.
18 And those are really the - really touchstone
19 to our process is recommendations that are
20 logically connected to a root cause.

21 Then, finally, we'll develop a
22 full report. And we hope to get that completed

1 by year's end with any luck, and not any other
2 major events happening. And then we'll have a
3 final public meeting. We owe that to the
4 community to come back and give them their -
5 the final assessment of what happened. And at
6 that time with your recommendations, submit
7 that to the Board for their consideration and
8 vote. I hope they will find that it passes
9 muster and will vote to accept it. But that
10 will also be an opportunity for the public to
11 come forward and give us input, as well, at
12 that time.

13 Before I move off, I want to thank
14 Mayor Muska for your graciousness throughout,
15 to the community of West for your
16 graciousness, your accepting us as we came to
17 do our task under very trying conditions. And
18 I want to also thank you for your presence
19 here tonight. To our panel, I want to thank
20 you for your contribution to our collective
21 efforts. There's a wealth of information that
22 we gathered here tonight that we would not

1 have gathered had you not taken time from your
2 busy schedules to come and participate with
3 us, so I thank you. Mr. Chairman.

4 CHAIRPERSON MOURE-ERASO: Thank you
5 very much, Mr. Banks. So, as closing remarks,
6 I will say that thank you for your attendance
7 at this public meeting today. This has been a
8 very insightful and stimulating day for all of
9 us, and especially I thank the team for their
10 dedication to this project.

11 I also want to thank each of the
12 Board Members for their comments here today.
13 All of us share a strong interest in
14 preventing these type of explosions in the
15 future, and we'll all be working together now
16 with the staff to see that important
17 recommendations that are developed for these
18 investigations are put into place and we'll
19 act on them.

20 I also would like to thank all of
21 you that were here, especially the panel
22 members that addressed us, and also the

1 members of the audience for their
2 participation, and also for their long range
3 of attention that they have to have for this
4 very extensive meeting. So, thank you very
5 much and this meeting is adjourned.

6 (MEETING ADJOURNED.)
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