

UNITED STATES OF AMERICA

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CHEMICAL SAFETY AND HAZARD

INVESTIGATION BOARD

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Public Meeting
CAI/ARNEL CHEMICAL PLANT EXPLOSION
DANVERS, MASSACHUSETTS

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Tuesday
May 13, 2008

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North Shore Ballroom
Sheraton Ferncroft Resort
50 Ferncroft Road
Danvers, Massachusetts

PRESIDING:

JOHN BRESLAND

Chairman

U.S. Chemical Safety & Hazard

Investigation Board

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P R O C E E D I N G S

(6:33 p.m.)

CHAIRMAN BRESLAND: If you can take your seats we can get started momentarily. We'll have to stop talking as well. We will go ahead and get started.

Good evening and welcome to this public meeting of The U.S. Chemical Safety Board, the CSB. I'm John Bresland, Chairman and CEO of the Board. With me this evening are board members, Gary Visscher, William Wark, and William Wright on my left. Also joining us is our General Counsel, Chris Warner and the CSB stock members who are responsible for the investigation.

Before we begin, I would like to point out some safety information. We do have exits here, exits over on my right and exits on my left. And if there is an emergency, please take those exits and they'll take you outside the building. And we have plenty of firefighters here this evening as well to make

1 sure that everything goes according to plan.

2 I'd also ask that you please mute

3 your cell phones and pagers so that are

4 proceedings this evening are not disturbed.

5 And I'd also ask that the people who are

6 sitting up here at the front turn off their

7 Blackberries completely, because apparently

8 Blackberry signals are picked up by the

9 microphones. And for the people who, the

10 panelists who will be speaking later on, if

11 you could turn off your blackberries when you

12 get up to the table to avoid that interference

13 also. I will take a minute or a few seconds

14 to allow you to turn off your Blackberries.

15 Before we start, I would like to

16 read a statement from Senator John Kerry.

17 Senator Kerry's statement is as follows:

18 "Eighteen months ago, the Danvers explosion

19 destroyed homes and businesses beyond repair,

20 and drove more than 300 people out of their

21 homes at Thanksgiving. We now know what

22 caused the explosion, and what needs to be

1 done to prevent similar instance in the
2 future. I applaud the work of the CSB to
3 uncover exactly what happened that November
4 morning, as well as the efforts made by the
5 Massachusetts First Responders whose swift and
6 effective response helped to contain the
7 damage and deliver residents to safety."

8 I would also like to thank Senator
9 Ted Kennedy and Congressman John Tierney for
10 their support during our investigation. Mr.
11 Matt Patton from Congressman Tierney's office
12 is here this evening representing the
13 Congressman, and we thank you for attending
14 this evening, Mr. Patton.

15 The CSB is an independent, non
16 regulatory federal agency that investigates
17 major chemical accidents at fixed facilities.
18 The investigations examine all aspects of
19 chemical accidents including physical causes
20 or human error, as well as inadequacies in
21 local, state or federal regulations, industry
22 standards and safety management systems. The

1 product of our investigation is a written
2 report which includes safety recommendations
3 designed to prevent similar accidents in the
4 future.

5 The purpose of this evening's
6 meeting is to allow the CSB's investigation
7 team to present its findings and
8 recommendations resulting from the
9 investigation of the November 22, 2006
10 explosion at the CAI/Arnel facility in
11 Danvers, Massachusetts. Following the
12 investigation team's presentation, a panel of
13 local and state officials will describe
14 changes in the regulation of chemical
15 facilities that have been proposed or
16 implemented since the accident.

17 The Board would like to thank the
18 panel participants for accepting the CSB's
19 invitation to participate in this evenings
20 meeting. They are Massachusetts State
21 Representative Ted Speliotis, Massachusetts
22 State Fire Marshal Steven Coan, Danvers Fire

1 Chief James Tutko, Concord Fire Chief Kenneth
2 Willette, and local community leader Susan
3 Trapeano. And I will introduce them in more
4 detail later in our program.

5 Following the panel portion of
6 this evening's meeting, we will open the floor
7 to public comments. If anyone in the audience
8 wishes to comment publicly, please sign up at
9 the tables in the check-in area, just outside
10 the door, and I will call your name at the
11 appropriate time. I will first call those
12 people who have signed up, and then I will
13 open the floor to anyone else who wishes to
14 speak. Please note that we have to limit
15 public comments to three minutes each.

16 And also note that we are not able
17 to take questions for the investigators
18 directly from the audience. And so I will ask
19 that all comments be directed to me as the
20 presiding official this evening. If there is
21 a point that is raised in your comments where
22 I believe the investigation staff can provide

1 some immediate clarification, I will ask them
2 to do so. The meeting will conclude with a
3 discussion by the Board Members and a vote on
4 the final report.

5 During the early morning hours of
6 November 22, 2006 a powerful explosion
7 destroyed the CAI/Arnel Inc., and Paint
8 Manufacturing facility in Danvers. Scores of
9 nearby homes and businesses were damaged, some
10 beyond repair. There were no injuries in the
11 plant, which was unoccupied at the time, but
12 a number of local residents did require
13 hospital treatment.

14 The Chemical Safety Board has been
15 in operation for ten years, and the Danvers
16 accident caused the most severe community
17 impact of any accident that we have
18 investigated. Many of you here this evening
19 were affected by the devastation that early
20 morning in November 2006. I walked the
21 Danversport neighborhood a few weeks after the
22 explosion and I was moved by the destruction

1 and the terrible impact on the local
2 residents. I went back to the neighborhood
3 again this afternoon, and I was happy to see
4 that it is getting back to normal.

5 The Chemical Safety Board's
6 process is as follows. Each independent Board
7 Member has had the opportunity to study the
8 draft report and come to this meeting with his
9 own opinions. The public meeting is the Board
10 Members opportunity to discuss our opinions
11 about the report and its recommendations. Our
12 objective is to leave here this evening with
13 strong effective recommendations based on the
14 reports findings. We want those
15 recommendations to help prevent similar
16 accidents in the future.

17 I would like to thank the CSB Team
18 for their diligent work on this investigation
19 and I would also like to thank the Danvers
20 community for your continued interest in our
21 investigative efforts.

22 I will now recognize other Board

1 Members for an opening statement.

2 Mr. Visscher.

3 MR. VISSCHER: None.

4 CHAIRMAN BRESLAND: Mr.

5 Wark.

6 MR. WARK: None.

7 CHAIRMAN BRESLAND: Mr.

8 Wright.

9 MR. WRIGHT: None.

10 CHAIRMAN BRESLAND: Thank you.

11 At this time I will ask CSB
12 Investigations Manager, Stephen Selk to
13 introduce the investigation team. Mr. Selk.

14 MR. SELK: Good evening Chairman
15 Bresland, Members of the Board, and Mr.
16 Warner. Good evening officials and ladies and
17 gentlemen.

18 Unable to be present with us
19 tonight are two investigators Johnnie Banks
20 and Angela Blair. Mr. Banks is a graduate of
21 the University of California at Berkeley and
22 is a Certified Fire and Explosion

1 Investigator. Ms. Blair is a professional
2 chemical engineer.

3 Joining me at the podium tonight
4 is Jeffrey Wanko. Mr. Wanko is a professional
5 chemical engineer and a certified safety
6 professional. He holds an advanced degree in
7 Environmental Sciences from the Illinois
8 Institute of Technology.

9 Also at the podium is Robert Hall,
10 a former naval nuclear reactor operator. Mr.
11 Hall is a Penn State engineering graduate and
12 holds an advanced degree from the George
13 Washington University. Mr. Hall will be
14 presenting the staff's recommendations to the
15 Board tonight.

16 Also with us and seated in the
17 front row is Mary Nicotin, Mary's background
18 is in psychology and she was most recently
19 working on doctoral studies at the University
20 of New Hampshire.

21 Finally, the Lead Investigator is
22 Mr. John Vorderbrueggen. Mr. Vorderbrueggen

1 is a graduate of the California Polytechnic
2 State University, he is a professional
3 mechanical engineer. And I would like to
4 mention that for the last several months,
5 Mr. Vorderbrueggen has spent his time at the
6 explosion site of the Imperial Sugar Company
7 in Savannah, Georgia. Mr. Chairman, as you're
8 aware that accident took thirteen lives and
9 injured many dozens more. So I am very
10 grateful, I would like to recognize Mr.
11 Vorderbrueggen's public service, it's a
12 pleasure to work with you sir, and I welcome
13 you to the podium.

14 MR. VORDERBRUEGGEN: Thank you
15 Steve. Chairman Bresland, Members of the
16 Board, General Counsel, ladies and gentlemen.

17 You've heard the introductions,
18 quickly I will go through the outline of my
19 presentation today, I will talk about the
20 investigation process, I will present the
21 incident summary, which is where we will show
22 the video, which is the best way to show

1 exactly what happened based on our findings.
2 We will then, or I will then present the
3 investigation findings as a result of our
4 activities and then we will turn it back over
5 to Chairman Bresland for questions from the
6 Board back to the investigation team,
7 ultimately Mr. Hall will present
8 recommendations to the Board for consideration
9 and finally Board discussion and vote.

10 Why did we investigate this
11 incident? It's pretty obvious. And as
12 Chairman Bresland just mentioned, this
13 explosion caused the most significant
14 community impact in the ten year history of
15 the Chemical Safety Board. Ten people
16 required hospitalization, and that doesn't
17 count the many dozens that were injured that
18 luckily didn't have to be hospitalized, but
19 I'm sure that they received cuts, bruises and
20 other, thank God, non life threatening
21 injuries, minor injuries.

22 At least 300 residents were

1 displaced from their homes. As many of you in
2 this room were in that group. There was
3 widespread property damage, and the latest
4 information, and we will update our draft
5 report, it is 24 homes were damaged beyond
6 repair and 6 businesses, and that includes the
7 CAI and the Arnel facility were damaged beyond
8 repair from this tremendous explosion. Marina
9 buildings and boats were heavily damaged,
10 dozens of windows were shattered as far away
11 as a half a mile at the Bishop Fenwick High
12 School, south of the facility. And damage was
13 reported as far two miles from this facility
14 from this explosion.

15 Now, for the process that we went
16 through to come to the conclusions that our
17 report has, and ultimately to the
18 recommendations that we urge the Board to
19 accept tonight. First, the investigation team
20 documented community damage, we interviewed
21 residents and business owners who had
22 experienced this event and the impact from

1 this event. We collected and analyzed
2 flammable liquid samples from the facility.
3 We were interested there, for example, there
4 are underground storage tanks that contain
5 flammable liquids and we wanted to confirm
6 that the material in these tanks were what the
7 company expected them to be, just in the off
8 chance that maybe there was a wrong material
9 that might have contributed to this event.

10 We also collected and examined
11 important physical evidence. We did collect
12 some samples of material that could have been
13 ignition sources, small fans and other small
14 appliance type devices that were in the
15 debris. And we also looked at the large
16 mixing tank which you will see in the
17 presentation, turns out to be the focus of our
18 investigation, as it relates to the activities
19 of the day before the accident and what led to
20 this terrible accident.

21 We also interviewed all of the
22 employees of both CAI and Arnel who were

1 working in that facility, and we interviewed
2 the management personnel, all of those, of
3 course, at Arnel, that was their only
4 operating facility, and the management
5 personnel that were key in routinely in CAI's
6 operations in Danversport.

7 We also estimated the explosive
8 force that this event caused throughout the
9 community and we duplicated and analyzed the
10 chemical recipe that CAI had actually mixed
11 the day before this event. And the purpose of
12 that was to identify the boiling
13 characteristics of the liquid as well as
14 characterize the vapor that was being, that we
15 expected would be released from this mixture
16 in the event that it over heated and boiled.

17 We examined the role of federal,
18 state and local regulations, that was twofold
19 purpose, we were looking to see how the
20 existing regulations were applied, could be
21 applied to prevent these types of events, but
22 we were also looking for opportunities for

1 these different statutes and regulations to be
2 improved, is there opportunities to improve.

3 And then finally, we examined the
4 role of the National Fire Codes for similar
5 purpose, what codes are mandated by the
6 Commonwealth of Massachusetts, there may be
7 some codes mandated by the local government,
8 the Town of Danvers, and then also we were
9 looking, are their opportunities for these
10 codes to improve as a result of the learnings
11 from this event.

12 I will now move in to the incident
13 summary. And to discuss exactly what we found
14 in this event.

15 Two companies shared the facility
16 and they had shared that facility as two
17 independent companies since 1985. CAI Inc.,
18 is headquartered in Georgetown, Massachusetts
19 which, Members of the Board, is about 13 miles
20 north of Danversport. There were 20 employees
21 employed by CAI at the time of this incident,
22 and seven or eight employees worked, routinely

1 worked in the Danversport facility. And they
2 manufactured solvent based printing inks in
3 Danversport. They also manufacture water-
4 based printing ink in Georgetown.

5 The other company, Arnel Company
6 Inc., had nine employees at the time of this
7 incident, working all in Danvers, that's their
8 only operation location, and they manufactured
9 solvent based stains, paints and adhesives.

10 And it is also important to note that these
11 two companies operated as a single company
12 prior to 1985, so the history of operations at
13 this facility does date back prior to the 1985
14 time frame of this business reorganization, if
15 you will.

16 This next slide is an aerial shot
17 of the Danversport peninsula, circled in green
18 is the facility structure itself, and to the
19 east, to the east south east is the, it's a
20 very popular marina, and this picture is
21 actually representative of the time that this
22 occurred, because as you can see, most of the

1 boats are out of the water and covered for the
2 winter. And there were quite a few hundred
3 boats stored at the facility. Route 35, Water
4 Street, is a main thoroughfare, north south,
5 that goes about 200 feet west of the facility.
6 There are three small businesses that are
7 between Route 35 and the facility, and one in
8 particular, and you will see photos of it a
9 little later, was the pizzeria bakery building
10 that sustained heavy damage, and in fact there
11 were six employees working in that facility
12 the night of the explosion, preparing for the
13 Thanksgiving holidays and all of the orders
14 that were placed of the breads and pies and
15 pastries.

16 You will notice Bates Street and
17 Riverside Street form the principle roads on
18 the peninsula itself, and both of those roads
19 are lined with single family and a few duplex
20 type homes. And the closest homes to the
21 facility actually are only about 150 feet.
22 They're on the south side of Bates Street.

1 And just for reference, Danvers is a little
2 more than a mile north, up Water Street and a
3 little bit of west of Water Street.

4 This is a shot, or a sketch of the
5 CAI and Arnel facility, it is about 12000
6 square feet, and in the southern portion of
7 this facility was the offices and labs,
8 they're at the bottom of the picture. The
9 utilities, including the boilers, the fuel oil
10 tanks, compressed air are in that area. And
11 in through the closed door up into the shaded
12 area of this sketch is the production area of
13 the two companies. And I will zoom in on
14 those two areas here in a minute.

15 The other important features in
16 this picture are the two trailers to the east
17 of the facility, up in the upper right corner
18 is the Arnel trailer and that trailer
19 contained about 15, 300 pound fiber drums of
20 industrial grade nitrocellulose. And the CAI
21 trailer, just south of that, contained about
22 a 150 drums, 300 pound drums of industrial

1 grade nitrocellulose.

2 And it is important to note that
3 this nitrocellulose is considered a flammable
4 solid, it is not an explosive, and it did not
5 play into this event, with the exception of it
6 burns violently, and that was really the
7 extent of its involvement, but it is important
8 to note that this was in this facility.

9 Not in the picture, but just above
10 the, more or less above the Arnel word, maybe
11 30 or 40 feet, were the three underground
12 storage tanks, containing, each containing up
13 to 3000 gallons of flammable liquid or
14 flammable solvent. I might slip and call it
15 a liquid sometimes and call it a solvent at
16 other times, but they're synonymous. They
17 were underground and they essentially were
18 full or near full, so we had 9,000 gallons of
19 flammable liquids in the underground storage
20 tanks.

21 On this next slide I am going to
22 zoom on the right area of this view, where it

1 says 1,100 square feet and 1,200 square feet,
2 and that's the Arnel production area,
3 primarily used for Arnel production is
4 probably the best way to describe it. You
5 will see on the left side is the Arnel mix
6 tank, that was their primary mixer that they
7 used to make their paints. They also had some
8 smaller portable tanks in their production
9 area. And they also stored in 55 gallon
10 drums, which are not shown in this view, but
11 just below the Arnel mix tank, was a number of
12 55 gallon drums of various solvents for their
13 process.

14 What's important to note in this
15 view also is that CAI stored, had eight
16 solvent storage tanks located along that wall
17 in the center of the picture, and those eight
18 tanks could hold up to 4,000 gallons of
19 flammable liquids. And that material was co-
20 mingled, if you will, with the production
21 equipment of CAI and Arnel as you see in the
22 lower left corner, CAI actually had a mix tank

1 in this area. So there was some sharing of
2 space as well as co-mingling of flammable
3 liquid storage and process equipment.

4 If we move west into the other
5 production area, or what is primarily CAI, its
6 production area, you'll see that again Arnel
7 had storage in the lower left area of this
8 production area, and that included dry
9 materials as well as flammable liquids. The
10 stacked totes there were portable, those were
11 portable containers in Arnel's work area. The
12 primary production for CAI was the large mix
13 tanks labeled numbers 1, 2, 3 and 4. And you
14 will notice in the lower right corner is the
15 fire door that entered, that provided access
16 into the office and lab area.

17 The next slide I am going to zoom
18 in on mix tank number three. Mix tank number
19 three turned out to be the focus of our
20 investigation as it related to the immediate
21 causes of this event. The CAI ink base which
22 is a liquid that they produce in large

1 quantities in the tank and then they draw that
2 material off and add color pigments to make
3 the various colors of inks and different
4 grades that they sell to their customers.
5 That tank was about 3,000 gallons, it was
6 insulated, it was eight feet in diameter, and
7 about ten feet tall. And at the base of that
8 tank was a steam heater. And CAI used steam
9 through this heater to heat the liquid mixture
10 in the tank such that they could dissolve the
11 resin that was part of their recipe.

12 Other important features of this
13 process equipment, the access point was on a
14 mezzanine deck about ten feet off the floor,
15 there was a stairway access to that. The tank
16 had an unsealed dome hatch, and the steam
17 control was simply a quarter turn on/off
18 valve, open, close valve. So that was the
19 extent of temperature control on this large
20 tank.

21 You'll notice that there's a
22 display console on the right hand side, its

1 simply identified what the temperature of the
2 contents that the tank was, and they also used
3 that display console to tell them what the
4 weight of the contents was in the tank, and
5 that's how they filled the tank based on the
6 weight. But the important features or lack of
7 features in this process system is there were
8 no process controls, no automatic control
9 devices to control temp, steam flow or any
10 other of the process attributes in this tank.

11 The best way to describe what
12 happened is to use the animation that has been
13 prepared for tonight's presentation. It
14 starts with a sequence of events leading up to
15 the incident of November 22, 2006. It will
16 present some emergency response and homeowner
17 experiences, and most importantly we will be
18 producing a final version that will feature
19 comments by residents, by the Town Manager, by
20 the Chairman of the Board of Selectmen in the
21 Town of Danvers, the fire chief and a police
22 official.

1 This expanded video will be
2 available online and on DVD, and we anticipate
3 that it will be available in about two weeks
4 or so. And it's available to anyone who wants
5 it, and they go worldwide. This video will be
6 used worldwide. It is our hope that others
7 can learn from what happened at CAI. So with
8 that we will move into the video.

9 (Whereupon, a video demonstration
10 was played.)

11 MR. VORDERBRUEGGEN: This is what
12 the immediate area looked like Friday morning,
13 the day after Thanksgiving. And I can
14 emphasize that had this event occurred a few
15 hours later as people were starting to prepare
16 for the morning, getting ready to get the kids
17 for school and go to work and things like
18 that, it could have, it would most likely have
19 been much more dire. So, that's very
20 important.

21 The other interesting thing that I
22 don't think that people realize is that the

1 only fire occurred in the CAI/Arnel facility,
2 there was no fire in any of the structures
3 adjacent to the property or in the, as it
4 moved farther away.

5 We can move now into the
6 investigation findings and I am going to look
7 at four specific areas. The incident
8 analysis, what allowed such an event to occur.
9 Massachusetts Hazardous Materials licencing
10 and permitting laws, we will talk about that.
11 I will then discuss briefly federal
12 regulations applicable to this event, and how
13 they may have prevented it and how they could
14 be improved if appropriate. And the same
15 thing with fire codes, the national fire
16 codes, we will look at a couple of fire codes
17 that are applicable to this activity.

18 First of all, our investigation
19 findings. The team found that heated
20 flammable mix tank, or the heated flammable
21 mix tank was not vented to a safe location
22 outside of the building. All of the vapor

1 generated inside mix tank three stayed in the
2 building. The steam valve on the tank heater
3 was inadvertently left open. It's important
4 to understand the human error factor involved
5 in this incident. It is not anybody's fault
6 that that operator left that valve open, it's
7 human nature, this activity went on hundreds
8 of times a year, and like many of us we
9 sometimes forget to do something that we do
10 hundreds of times in a given period of time.

11 There is plenty of published
12 literature, which we cite a couple in our
13 report, and I advise anybody whose interested
14 to look at the literature, on human error and
15 how common it is. And it also points to how
16 important it is for these routine activities
17 to be properly controlled through safeguards,
18 through procedures and other activities that
19 don't, that can compensate for human error.
20 This was a single failure, if you will, that
21 resulted in this. There was no ability to
22 correct for a human error. The tank was not

1 equipped with automatic controls to prevent
2 overheating, so in the unlikely event he did
3 it many hundreds of times, so it only happened
4 once, that's unlikely, but it did happen. If
5 there had been automatic controls it might not
6 have happened.

7 And then finally, we concluded
8 that uncontrolled heating from the steam
9 heater being left on did cause the flammable
10 liquid to boil inside this tank and it boiled
11 for many hours and generated the vapor. We
12 also learned from interviews with many of the
13 workers in the plant, that the building
14 ventilation system was turned off for the
15 night, and that was normal, they did that
16 every night for years and years.

17 We also concluded that the
18 flammable vapor accumulated in the unoccupied
19 building and an unidentified ignition source
20 set off a violent explosion. And in fact, the
21 little bit of irony in this event is that the
22 fact that the both companies were pretty

1 diligent in attempting to minimize ignition
2 sources. They followed various codes related
3 to flammable liquids, applicable to the
4 electrical devices, but that may have afforded
5 the opportunity for the vapor to accumulate to
6 its highest point that would have, that
7 ultimately resulted in this tremendous
8 explosion.

9 Now let's move into the underlying
10 causes, why did this event happen. We know
11 how it happened, we know, some people think
12 because a valve left that's why it happened,
13 but it goes much deeper than that. It's the
14 management systems and the need for proper
15 management systems to make sure that you have
16 safeguards and controls and procedures. And
17 the team concluded that CAI, in fact, did not
18 conduct what we call a process hazards
19 analysis.

20 They were working with a process
21 that used very large quantities of flammable
22 liquids, 1,000s of gallons, or in this case if

1 you converted it to, more than 10,000 pounds
2 of flammable liquid. They also heated those
3 flammable liquids in unventilated tanks,
4 inside the building.

5 Was it prohibited by any code or
6 standard? Absolutely not, and that's a
7 problem that we found with the standards, and
8 I'll talk about that later. They did not do
9 anything wrong in their activities the day of
10 this event. We also know that CAI did not
11 prepare or use any written procedures or
12 checklists for their daily activities on this
13 very hazardous material, as it related to the
14 description here. And again, that's critical
15 to minimizing human error. If they had had a
16 written procedure that said, go verify the
17 valve is closed before you end your activity,
18 that might have prevented this event from
19 occurring.

20 We then move into the state
21 regulations, and how state regulations apply
22 to this facility and we also look for

1 opportunities to improve the state or the
2 Commonwealth in this case, regulations
3 applicable to flammable materials. We focused
4 only on flammable materials because that's the
5 situation we had here. This is not a toxic
6 chemical issue, it's a flammable chemical
7 event.

8 So we will talk briefly about the
9 general laws of Massachusetts, and the Code of
10 Massachusetts Regulations, the Board of Fire
11 Preventions Regulations, specifically. Bear
12 with me on this chart, it took a little bit of
13 work to generate this chart to the point where
14 hopefully it will be understood by all parties
15 here.

16 Under the General Laws of
17 Massachusetts and down in Chapter 148, Section
18 9, and Section 13, is a land use licensing law
19 that has been around since pre-World War II,
20 and in fact it is a reasonable to a good basic
21 law for providing input from the community, if
22 a company wishes to use a flammable material

1 above certain quantities, the community has a
2 right to provide input and the company has
3 some certain elements of expectation to obtain
4 this license.

5 And specifically, the general law
6 directs two things to organizations, if you
7 will, to manage this activity of licensing for
8 flammable materials. First of all, it
9 assigned responsibility to the Board of Fire
10 Prevention Regulations to establish what is
11 the threshold and what are the flammable
12 materials that must be licensed. And those
13 thresholds and quantity and specifically
14 listed items, are listed in 527 Code of
15 Massachusetts Regulations, Table 1, which is
16 part of the Board of Fire Prevention
17 Regulations.

18 And it actually lists eight
19 categories of flammable materials. There are
20 five liquid categories that it cites the
21 quantities in gallons. There are two
22 compressed gas categories, these are all

1 flammable, compressed gas categories, they're
2 measured in cubic feet, which is typically how
3 we measure compressed gas. And finally, there
4 is one category of flammable solids, and in
5 fact as I mentioned earlier, the
6 nitrocellulose was a flammable solid in use at
7 this facility. And it is categorized for
8 threshold in pounds, and it is a very low
9 number, it's only a hundred pounds, and you
10 will see that later.

11 So the company that wishes to use
12 any one or more of these materials must seek
13 a license before they can bring the material
14 on site, if they exceed these quantities. So
15 they apply, they submit a license application
16 and it is up to the Town Board of Selectmen as
17 directed by the General Laws of Massachusetts
18 to evaluate that application for license. And
19 in fact, the application for this license
20 requires that the abutting land owners, in the
21 case of Danversport, number 3 Bates, and
22 number 5 Bates and those right abutting the

1 property would have had to been notified, in
2 writing, advanced notification, so they have
3 the opportunity to comment on the planned use
4 these flammable materials in this property.

5 And a public hearing is required
6 to be held by the Board of Selectmen in the
7 case of the Town of Danvers to evaluate the
8 suitability for using these hazardous
9 flammable materials at that location.

10 There's a couple more things the
11 law requires. Once the license has been
12 granted by the Town, or the licenses as you
13 see in the depiction here, and there may be
14 some discussions as to how many might be
15 required, but there clearly are three
16 different categories measured, one by gallons,
17 one by cubic feet and one by pounds. But once
18 the license or licenses are approved by the
19 Board of Selectmen, the company must also
20 issue or submit an annual registration
21 certificate back to the Town Clerk in the case
22 of the Town of Danvers, in some other towns

1 actually the fire department handles this
2 registration. And this registration form is
3 merely a document signed by an official of the
4 company that certifies that he is compliant
5 with the laws that we see here. It's that
6 simple, at least we hope.

7 One more thing is required by the
8 laws related to flammable materials at this
9 facility and other facilities like this, the
10 general laws require that the fire department
11 conduct a periodic inspection, but it doesn't
12 define the periodicity. It also requires the
13 company to obtain a permit, an annual permit
14 for each license that's held from the fire
15 department. So the fire department manages
16 the permits, and the periodic inspections.
17 The permit is annual, the inspection is not
18 defined. So that's how a company obtains its
19 first license to manage and to handle
20 flammable materials on their property.

21 This happens to be the standard
22 form that is used by most communities in the

1 Commonwealth of Massachusetts for a company to
2 apply for a license. And we found one
3 particular short coming on this form, it only
4 lists or it only asks the applicant to list
5 the capacity of tanks in gallons, and then it
6 happens to define above ground or underground,
7 and it asks for the kind of fluid to be
8 stored. Where's the solids, where are the
9 compressed gases, it's not on the application.
10 That leads to confusion of the process of
11 licensing for these materials. So we have a
12 good basic law but we have some weaknesses in
13 it.

14 Let's look at the Certificate of
15 Registration. This is a standard form
16 provided by the Commonwealth of Massachusetts
17 for towns to use, they can modify it a little
18 bit, but in effect this is consistent, and it
19 only, as I mentioned, it is a Certificate of
20 Compliance, the owner says I comply with the
21 law and I have obtained my license and that is
22 processed annually. And there is no mention

1 of what specific materials are licensed, it
2 just cites the Title of the Law, which happens
3 to be Keeping, Storing, Manufacture or Sale of
4 Flammables or Explosives.

5 So that's another weakness. The
6 registration form fails to remind the Town
7 Clerk or the fire department of what this, of
8 what the party is recertifying, and we think
9 that, we concluded that that is a weakness in
10 the program and that's an easy thing, we
11 think, to fix.

12 Let's look at the history, as we
13 understand it, from the documents provided by
14 the Town of Danvers in our investigation. Way
15 back in 1944 Essex Finishing Company appears
16 to have been the first company to seek a
17 license at this property, and they, the Board
18 of Selectmen meeting minutes documented that
19 250 gallons of lacquer were approved for use
20 as a licensed material.

21 In 1948, apparently the name
22 changed, but it's Harold Plastics, obtained a

1 license for 2,000 gallons of flammables, and
2 then ultimately the last record that the Town
3 of Danvers was able to produce. And remember,
4 in fairness to the companies, all of their
5 documents were burned up in the fire, so they
6 could not provide any. But the last record
7 available is in 1955 Harold Chemical Products,
8 obtained a change in the license, or a new
9 license that now brought the quantity up to
10 6,000 gallons of flammables were licensed to
11 be used at the Danversport property which we
12 know now as the CAI/Arnel property.

13 This is the most recent
14 registration, or it was the registration at
15 the time of the incident that was provided to
16 us, and in fact, this registration is, with
17 the exception of the dates, and the dollar
18 amounts, is the same for five or six years
19 prior to the May 1, 2006 annual registration
20 date. And it actually shows that, the company
21 is authorized to store 11,500 gallons of
22 miscellaneous. We were unable to determine

1 how it went from 6,000 to 11,500 but we will
2 presume, and we did presume for the sake of
3 our investigation that 11,500 was the licensed
4 amount of flammable, of gallons of
5 miscellaneous.

6 The other interesting point on
7 this particular registration is it cites the
8 original license which was only 250 gallons,
9 so again, it's probably a standard form that
10 has been reproduced and reproduced for this
11 particular site, and it was not recognized
12 that, it was not referring to the current
13 license, be it the 6,000 or the 11,500. So
14 there was a lot of confusion in this process,
15 but we think we got it figured out.

16 Now let's look at what was
17 physically at the site. Our conclusion was
18 the first category of flammable material on
19 site at the facility, based on the definitions
20 in the table, under 527 Code of Massachusetts
21 Regulations, was Class I Liquids in container
22 60 gallons or less in portable tanks. Those

1 are 55 gallon drums, those are five gallon
2 buckets, one gallon buckets and that type of
3 container. And a license is required if a
4 user exceeds 793 gallons. And in fact, the
5 investigation team estimated that there was
6 approximately 4-6000 gallons on site in those
7 categories of storage containers. And we know
8 based on, or we would assume that they had a
9 license for 11,500, so one would presume that
10 that would be reasonable.

11 However, we looked at the Class I
12 liquids in non process, so the four big mix
13 tanks don't count in this category, and notice
14 that they don't count in the first category
15 because they're too big, they were 2,000 to
16 3,000 gallon tanks. In the second category,
17 the threshold is 10,000 gallons, so a license
18 would be needed. However, based on the
19 material on site, or the capacity of the tanks
20 on site, because that's what counts, not
21 what's actually there, but the capacity, we
22 concluded that the underground storage tanks,

1 9,000 gallons and the eight stationary tanks
2 in Arnel production area was another 4,000.
3 So there was at least 13,000 gallons of
4 flammable material that we put into class,
5 into that category and again, even if you try
6 to apply the license to a portion of that now,
7 that one by itself or some combination, they
8 have exceeded their license quantity based on
9 our interpretation of the law.

10 And finally, flammable solids, I
11 think we all agree, and in fact the Fire
12 Marshal clearly pointed this out as well, that
13 flammable solids had a threshold quantity of
14 100 pounds, and there was about 50,000 pounds
15 of industrial grade nitrocellulose on site at
16 the time of this event. But again, that was
17 not causal to the event, it burned violently,
18 it was the brightest fire that the community
19 saw probably, and you let it burn, until it
20 burns out.

21 In summary, only one of the three
22 required flammable materials were licensed at

1 this facility. And furthermore, the current
2 registered quantity was much greater than the
3 licensed quantity. Again, there's this
4 disconnect apparently between the 6,000
5 gallons on what we know to be, apparently the
6 most recent license to what the registered
7 quantity of 11,500 was.

8 We also know that contrary to the
9 requirements of the fire code, that there were
10 no permits issued to this facility for any of
11 those licensed materials and we also know
12 through records from the fire department and
13 discussions with the fire department, is there
14 were no inspections of those licensed
15 materials. But again, the law only requires
16 a periodic inspection, no specific
17 periodicity, and the records on file confirmed
18 that there were no specific inspections to
19 address all those licensed materials.

20 Well we also, we decided it was
21 important to see what other communities are
22 doing, is this just Danvers' problem, we

1 didn't think so, it's not fair to blame it all
2 on Danvers, they're one of many, many
3 communities. So we did a phone sampling with
4 some documents presented to us that were faxed
5 to us and provided to us, to look at, we
6 looked at Boston, Worcester, we looked at
7 Springfield, we looked at Leominster, of
8 course Danvers and we also looked at
9 Georgetown, because CAI is located in
10 Georgetown and we were interested, did CAI
11 even have a license in Georgetown for
12 flammable materials.

13 You will notice the licensing,
14 we're only interested in the manufacturing
15 facilities in this review, we're not
16 interested in the box stores, the gas stations
17 or other properties, we were looking at
18 manufacturing handling hazardous chemical,
19 hazardous flammable materials. And you see
20 the summary there, it ranged from zero in
21 Georgetown to more than 200 in Springfield.
22 And the three in Danvers by the way, one of

1 those is the CAI/Arnel facility and they have
2 since surrendered their license, so that today
3 is only two. Unless there has been others
4 processed since then.

5 Fire permits were reported
6 current, but we did not look at the documents,
7 but they were reported current in all, but we
8 know through this review that Danvers did not
9 have current, this facility did not have
10 current permits. So again we knew the status
11 of Danvers and we can only rely for this
12 simple study of what was reported to us.

13 Category and quantity on the
14 registration, well three of those locations,
15 of those communities require liquids to be
16 listed on the registration, and three require
17 no information. This is the annual
18 registration form. And finally, the process
19 by which the town is required to implement the
20 law, is it or is it not in their bylaws, and
21 in fact, only one has it in the bylaws at
22 that's Leominster and that dates back to 1997.

1 So it's, I'm sorry 2007, that law was created
2 after the Danvers incident.

3 So, when a company goes into the
4 Town Clerk, or goes to the fire department,
5 there's no laws on the books for even the
6 Clerk to understand what do I do with all this
7 paperwork. What do I do, what's acceptable,
8 what's not. We think that's a weakness in the
9 process. And then probably most important,
10 not only does the law not address what a
11 company needs to do if they want to change
12 their license, but the towns reported that
13 they do certain things, they're listed there,
14 some, most of them say a new license is
15 required, but one did not. But again, there's
16 no documents, there's no laws on the books, so
17 it's kind of hard to expect the town, like I
18 say the Town Clerk or the administrator who is
19 handling the annual registration to know what
20 to do if a company comes in and doubles their
21 quantity. So those were a number of
22 weaknesses we saw in this very simple

1 sampling, but I think it points a more global
2 problem that needs to be reconciled or
3 resolved in the Commonwealth.

4 Specifically our findings were if
5 a quantity increases, the company wants to go
6 from 2,000 to 5,000 gallons or they want to
7 add flammable solids, or they want to add
8 compressed gas, there's no laws on the book to
9 require re-licensing that facility. Which
10 means there's no requirement to convene a
11 public hearing to give the community the
12 opportunity to comment on that proposed
13 change. And there's no notification of
14 affected landowners. That, we think that
15 that's a weakness in the law. And finally,
16 the local government bylaws do not address, at
17 least the small sampling we conducted, do not
18 address license and registration process, and
19 we think that that may be how, there might
20 have been creep, you wouldn't consider 6,000
21 to 11,000 creep, but over fifty years that
22 could have been creep, 1955 to 2006, fifty

1 years, and that appears to be the only record
2 of a license. Okay.

3 We also, I commented briefly that
4 the Fire Prevention Regulations don't specify
5 frequency for the local fire department to
6 conduct inspections, it just says an
7 inspection is required. And we think that
8 that should be tightened up, there should be
9 some time, guidance or instruction on that
10 periodicity. And this slips past the license
11 process, but we also observed in our review
12 the Fire Prevention Regulations that the
13 Commonwealth's regulations do not require
14 specific compliance to the two key national
15 fire codes that are listed here.

16 The first is, National Fire
17 Protection Association, NFPA 30, which is the
18 generic, if you want to call it that,
19 flammable and combustible liquids codes, code.
20 There are pieces of NFPA 30 incorporated in
21 the fire code but not the entire NFPA 30 and
22 it, that even makes it more complicated to try

1 to understand, it would be better if the
2 entire code were endorsed and incorporated
3 into law here in Massachusetts.

4 And as it relates to CAI and
5 Arnel, NFPA 35, which is titled, Manufacturer
6 of Organic Coatings, is the defacto standard
7 for flammable materials for paints and inks.
8 And the company, neither the Commonwealth
9 requires that for that type of operation and
10 the companies were not even aware that NFPA 35
11 existed. And the industry organizations that
12 are involved in manufacturing of those
13 products, agree that NFPA 35 is the defacto
14 standard for that.

15 Let me move forward into federal
16 regulations. Again we looked at the federal
17 regulations to see where there any regulations
18 that could have helped these two companies do
19 their job better, should they have done that,
20 and maybe there's opportunities for federal
21 regulations to improve as a result of the
22 learnings from this event. We looked at the

1 Occupational Safety and Health Administration,
2 two standards, 29 CFR 1910.106 which is the
3 Flammable and Combustible Liquids Code, and we
4 looked at 29 CFR 1910.119 which is the Process
5 Safety Management Standard, more commonly
6 called the PSM Standard.

7 First, let me look at flammable
8 liquids in 1910.106. I mentioned early in the
9 presentation and we looked at the view of the
10 CAI and Arnel operation, up there, kind of on
11 the north side of that property in that
12 building, were eight mix tanks, solvent
13 storage tanks, containing up to 4,000 gallons
14 of solvent. And the picture at the bottom you
15 can see what they look like after the event.
16 Well under 29 CFR 1910.106 the team concluded
17 that the storage tanks did not comply, they
18 were required to comply with the standard, but
19 they did not, specifically there was
20 inadequate area ventilation. If an owner or
21 an operator stores flammable materials inside
22 a building it must be adequately ventilated,

1 and this building, as we mentioned, they
2 turned the ventilation system off at night.

3 We also noted that these eight
4 tanks were not vented out of the building.
5 They vented directly in the building, just
6 like the large mix tanks. We also observed
7 there was no spill containment around these
8 tanks, so if one of those tanks were to leak,
9 if the piping associated with one of those
10 tanks were to leak, that flammable liquid
11 could then spread, throughout, literally
12 throughout the production area. Each one of
13 those tanks is 500 gallons.

14 Now this was also important to our
15 investigation because we considered the
16 possibility that one of these tanks could have
17 been the source of the flammable vapor that
18 caused this explosion. But we concluded that
19 if one of these tanks had sprung a leak, which
20 again, is highly unlikely because they were
21 steel tanks and the valves were closed, there
22 was nothing moving on them so it's unlikely

1 that any one of these tanks would have sprung
2 a leak. But even if it had, there just wasn't
3 enough thermal energy, it was too cool in the
4 building, the floor, we concluded, was too
5 cool to generate sufficient vapor to cause
6 such a violent explosion.

7 Now, had one of these tanks leaked
8 before this explosion, there could have been
9 a tremendous fire, it could've destroyed the
10 facility, it probably would not have done the
11 damage to the community that was done. So we
12 concluded in our investigation that a leak
13 from one of these improperly installed tanks
14 did not contribute to this explosion.

15 We also noted, if you look at the
16 white circle in the lower left hand corner,
17 that rubber hoses or where rubber hoses were
18 located prior to the fire, were not protected
19 from fire, that's a prohibition in the OSHA
20 Standard. And I also want to note, that most
21 of these elements are also prohibited by the
22 Massachusetts Fire Code.

1 And finally, as I mentioned early
2 in the presentation, these process tanks were
3 co-located, these storage tanks were co-
4 located with process equipment, that's a
5 prohibition. There should have been a rated
6 fire wall separating all storage from all
7 production, and there was not.

8 Next we looked at Process Safety
9 Management, the PSM Standard 1910.119, that
10 standard has been around since 1992 and it is
11 a very effective tool in helping companies
12 that handle flammable liquids and toxic
13 materials based on a certain list of toxic
14 materials, in a safe manner. There's actually
15 thirteen management practices that the PSM
16 Standard requires of the owner or the operator
17 in the event that they are going to operate a
18 process that contains more than the threshold
19 quantity of the material.

20 So we wanted to see, did this law,
21 did this rule, apply or does this standard
22 apply to either company. And in fact, it did.

1 PSM applied to the CAI processes because mix
2 tank three, at the time of the event,
3 contained more than 10,000 pounds of flammable
4 liquid, 10,000 pounds is the threshold
5 quantity for flammable liquids on PSM. It
6 contained just under 11,000 pounds the night
7 of the mix, of the incident. Remember there
8 is three other tanks there, they play in to
9 the determination as well, but the simple fact
10 of the matter is, they were, CAI should have
11 complied with the PSM Standard. However, CAI
12 was not even aware that this standard exists.
13 And they did not apply those good management
14 practices that are required by the standard.

15 Specifically, there's three that I
16 am going to highlight here, that we think
17 would've really helped CAI understand the
18 hazards and could very well have prevented
19 this event from occurring. There's, one of
20 the first elements is there is a requirement
21 to prepare design basis, and that would expect
22 the company to look at the OSHA Standards that

1 might apply, to look at the Fire Code
2 requirements that might apply, to look at the
3 national standards that could be out there
4 available to make sure that they're process
5 confirms to the regulations as well as uses
6 the best available practices for safe
7 operation.

8 The second element which we've
9 already cited as the underlying cause of this
10 event, is there should have been a systematic
11 process hazards review of their mixing
12 processes. And that process hazards review,
13 we believe, would have alerted the company to
14 the need for automatic temperature control and
15 or some kind of safety device. That review
16 asks, the simplest way is to simply ask
17 questions. What could go wrong? What might
18 happen? Could I spring a leak? Maybe I leave
19 the steam valve on, that type of thing.

20 So that review should have
21 identified the need for automatic controls or
22 some basic controls. It should have

1 identified the need for continuous building
2 ventilation. And the need to control vapor in
3 the unlikely event, or in this case in the
4 event, the vapor would escape.

5 And then the last important
6 element of the thirteen elements that we
7 considered key to this event, was the need and
8 the requirement by PSM to have written
9 operating procedures. PSM understands that
10 the standard developers and industry recognize
11 that the only way to minimize human error and
12 to, and also improve quality and everything
13 else, is to have written operating procedures.
14 And we know that CAI did not in this incident.

15 We then looked at the National
16 Fire Codes, and I've mentioned these two codes
17 specifically or standards until they are
18 endorsed into law then they become officially
19 codes, the first one, the flammable and
20 combustible liquids code, NFPA 30 and NFPA 35,
21 the standard for the manufacturing of organic
22 coatings.

1 We also looked at the
2 International Fire Code, which is similar to
3 NFPA, the two somewhat competing
4 organizations, but communities, some
5 communities endorse the IFC or the
6 International Fire Codes, some communities,
7 and when I say communities all the way up to
8 the state level, endorses NFPA. And these are
9 key standards that every state should be
10 broadly endorsing, these are, both of these
11 organizations develop these standards based on
12 consensus, primarily, based on best practices,
13 there is some prescriptive requirements, thou
14 shalt not do it this way, thou shall do it
15 this way, if it's bigger than this you gotta
16 go here, if it's bigger than that you gotta go
17 there. And there's also guidance documents.

18 And again, we believe that the
19 Commonwealth can improve in use of the
20 National Fire Codes and furthermore, and we
21 also, of course we looked at the content of
22 the codes, and we think there are a few things

1 that can be improved in the fire codes. Being
2 engineers, most of us on the investigation
3 team, and some of us unfortunately mechanical
4 engineers, we like to know what things mean
5 when we read about a requirement, when a
6 requirement is specified. Yet terms that are
7 used in both of these codes were not clearly
8 defined. For example, kettles and thin down
9 tanks, if I'm told that I have to have a thin
10 down tank that is made out of stainless steel,
11 I need to know what a thin down tank is, and
12 it was not clear in all of the standards we
13 viewed.

14 So we think that the code
15 developers could improve the use of these
16 standards by tweaking them, by improving some
17 of the definitions. And another example,
18 what's the difference between and open, a
19 closed, or a sealed and vented tank, or
20 pressure vessel or container. So you know, we
21 run into all of these kind of challenges. So
22 we think the National Codes developers can

1 improve on their standards and make them
2 better for end users.

3 Most importantly and the single
4 weakness that we cited, that we really urge
5 the code developers to change is to, they do
6 not prohibit heating flammable in open
7 containers indoors, it's a lot to say, but we
8 want then to prohibit this. It's too
9 dangerous to heat flammable liquids unless, if
10 you're inside a building unless you control
11 the vapor, either by a sealed pressure vessel
12 or you have proper venting of that vapor up
13 through, out of the building, and safely
14 outdoors. And that is a critical element that
15 we would like to see the fire codes improved
16 on.

17 Okay, I think I'm at the end. I
18 want to just close, this was Thanksgiving,
19 2006, and it's only through the commitment of
20 the local government, the fire service and
21 everybody involved in rebuilding Danversport,
22 and most importantly the residents and their

1 resilience to get back on their feet. And I
2 do recognize and we do need to understand that
3 they're not there yet, and it's still probably
4 years away before they're back to where they
5 can forget about this terrible day, but
6 Thanksgiving, 2007 they're well along the way,
7 and we, and again I want to congratulate
8 everybody involved in making that happen.

9 So with that, I will turn the
10 podium over to Chairman Bresland for
11 questions.

12 CHAIRMAN BRESLAND: Do we have any
13 questions from the Board Members?

14 Mr. Visscher.

15 MR. VISSCHER: First of all,
16 thanks John for that presentation. A couple
17 of questions about the investigation. Was
18 there, there we go, now we're on. I repeat my
19 commendation John for the presentation, it was
20 very comprehensive, and thank you.

21 With regard to the investigation,
22 the steam valve that we believe the operator

1 inadvertently left on, was that, or any parts
2 of that ever located?

3 MR. VORDERBRUEGGEN: Unfortunately
4 no. The extent of the damage, I mean it could
5 have been blown into the community for all we
6 know. But then with the tremendous fire that
7 burned for many hours because it couldn't be
8 put out, being fueled by so much flammable
9 material, there was no way to ever recover, we
10 never really found any valves of any
11 significance.

12 MR. VISSCHER: Okay. I suppose, I
13 mean we ruled out, or staff of the
14 investigative team has ruled out the
15 possibility that the valve had a defect in it?
16 It's more likely believed that the operator
17 failed to turn it off?

18 MR. VORDERBRUEGGEN: We looked at
19 that possibility, the valve, it was a common
20 valve for use in steam service, so it was okay
21 to use in the service they had, it probably
22 had been there many years, however, all

1 credible leak scenarios, even under the worst
2 of conditions, if the valve seal had
3 deteriorated, two factors, one is it would not
4 have gone have suddenly, it would have been
5 progressive type thing, so the operator would
6 have noticed it, hey I'm closing a valve, but
7 everything is still warm. And then
8 furthermore, even if it had suddenly failed to
9 the point where steam would leak past the
10 seals on the valve, there just wasn't enough
11 energy, there wasn't enough steam flow through
12 the seat on the valve to be able to generate
13 the vapor that we concluded needed to be
14 there.

15 MR. VISSCHER: Okay. I think the
16 written report mentions that the plant had a
17 fire control system that included foam fire
18 suppression. And also an automatic alarm with
19 the local fire department. Did that go off?

20 MR. VORDERBRUEGGEN: Unfortunately
21 when buildings explode, they take the fire
22 suppression system with them before they have

1 the opportunity to suppress. In fact, in
2 credit to both companies the fire suppression
3 system had been installed in 2002, and it was
4 put in because they were concerned about
5 worker safety, and they wanted their workers
6 to be protected, hopefully in the unlikely
7 event a fire would occur.

8 But the system can only, you know,
9 it relies on the need for detecting the fire
10 and having a chance to activate. In fact,
11 what the fire department reported was that the
12 alarm started to sound, because it was
13 connected back to the fire department, which
14 is typical for these kinds of businesses, and
15 the fire department worked with owners to make
16 that happen, and it had been tested and that
17 sort of thing.

18 But we concluded that the alarm
19 system was blown to pieces in the process of
20 sending the signal and they only received a
21 partial signal and within a few seconds is
22 when the fire department personnel reported

1 that they heard, felt the explosion and saw
2 the bright light. And they knew where to go
3 then, they didn't need the alarm to tell them
4 where the event was.

5 MR. VISSCHER: Thanks. You've
6 mentioned, I think that this plant had been
7 around, or at least the current owners or the
8 CAI/Arnel owners had been there since at least
9 1985, and you know we usually in our
10 investigations find, quite often I should say
11 at least, find some previous near misses, or
12 near accidents that kind of give warning
13 signs. In the investigation did you find any
14 record of any previous times when an operator
15 may have left the heat on, and it reached the
16 boiling point but for whatever reason it
17 didn't cause an explosion?

18 MR. VORDERBRUEGGEN: No, as you
19 mentioned, in all of our investigations, those
20 are very important facts, or factors in
21 determining how, why these things occur, and
22 are there lessons that could have been learned

1 that weren't. And we could only rely on the
2 information available from the employees. And
3 100 percent of the employees said that they
4 had never experienced any kind of problems,
5 they never had any small fires, or anything of
6 that nature. And I believe that the fire
7 department would second that conclusion.

8 I do not think, at least in the
9 records that they had available, there was any
10 record of a response for an incident, and
11 correct me if I am wrong when you have the
12 opportunity, but as I recall, I know that
13 there were, they went there for testing of the
14 new system and that sort of thing but I don't
15 believe there was any records. And Fire Chief
16 Tutko is nodding in agreement. So my memory
17 seems to be okay still.

18 MR. VISSCHER: The report again,
19 the written report, talk a little bit about
20 the major federal law that deals with
21 community's right to know about what hazardous
22 substances are in that community as ERTKA, the

1 Emergency Right to Know Act, which passed in
2 '86 I think. And the report mentions that
3 Danvers did not, that's the law that also
4 creates, or specifies the creation of the
5 LEPC's and the report mentions that Danvers
6 didn't have one, and that's now been
7 reestablished and we commend in the report and
8 personally commend the community for taking
9 that action.

10 I guess my question is what about
11 compliance by the companies with those
12 requirements. There's requirements that
13 companies that are covered have to send in
14 lists of chemicals and I think also the
15 amounts of chemicals to the local fire
16 department. Had these companies done that?
17 And what information had been provided?

18 MR. VORDERBRUEGGEN: In fact we
19 did obtain copies of the recent ERTKA, in this
20 case they were called Tier 2 Reports, Tier 2
21 meaning they give specific chemical names and
22 quantities as opposed to Tier 1 which is the

1 class of the chemical. And in fact, in
2 particular CAI's report was fairly complete.
3 I will note that Arnel's report was there but
4 it was not as complete, it did, I believe it
5 didn't list the nitrocellulose, but they had
6 15x300 pounds., they should have it listed, it
7 was their oversight, but certainly the large
8 quantity of nitrocellulose was noticed, if you
9 will, to the fire department. So the ERTKA
10 reports based on our review of the current
11 documents was current.

12 MR. VISSCHER: I think that's all
13 the questions for now, Mr. Chairman.

14 Thank you.

15 CHAIRMAN BRESLAND: Board Member
16 Wright.

17 MR. WRIGHT: Thank you, Mr.
18 Chairman.

19 Can you reemphasize the number of
20 houses were damaged beyond repair. I believe
21 you said the total is now 24 vs. 16, is that
22 correct?

1 MR. VORDERBRUEGGEN: Yes, it's
2 been a moving target.

3 MR. WRIGHT: I understand.

4 MR. VORDERBRUEGGEN: And at the
5 time that we drafted the report, it was at
6 least 16, and we were told as recently as
7 today that the number has, is much closer and
8 more accurate to the 24, which is what we will
9 be revising the final report to represent, the
10 accurate, the most accurate number at this
11 point in time.

12 MR. WRIGHT: Yeah, I'll probably
13 offer an amendment to that effect.

14 Thank you.

15 CHAIRMAN BRESLAND: I don't have
16 any questions.

17 At this point, we'll ask Mr. Hall
18 to present his recommendations.

19 MR. HALL: Chairman Bresland,
20 Members of the Board, from the findings and
21 the underlying causes of this investigation we
22 drafted a series of recommendations that we're

1 proposing to prevent recurrence of events like
2 this. These recommendations are in four
3 categories. National recommendations where
4 we're looking to prevent these events across
5 the country. Then specifically State
6 recommendations, local recommendations to the
7 Town of Danvers and lastly, recommendations to
8 the Company to prevent events like this.

9 If the Board remembers, last year
10 the Board issued a report on a similar
11 incident that occurred in Illinois, it was
12 called The Universal Form Clamp Company, in
13 that report we documented a case that had very
14 similar causes to this case. It was a company
15 that was making a material that was flammable
16 and heating it in an open unsealed tank. That
17 incident, unfortunately, resulted in the death
18 of a single individual. As a result of that
19 incident, which is described in the report,
20 and in combination with the findings of this
21 investigation, we're making some
22 recommendations for national consideration.

1 And these recommendations go
2 firstly to the National Fire Protection
3 Association. The two codes that Mr.
4 Vorderbrueggen discussed, the flammable and
5 combustible liquids codes and the standard for
6 the manufacturing of organic coatings, we're
7 asking that the NFPA revise these codes, one,
8 to prohibit the heating of flammable and
9 combustible liquids in tanks, inside
10 buildings, unless the tanks are sealed and
11 vented to the outdoors. And we're asking that
12 these two standards also be revised to require
13 that there be controls to prevent overheating
14 on tanks that are used for heating flammable
15 and combustible liquids.

16 Similarly, because there are two
17 major sets of codes that are used across the
18 country, we're asking some changes to be made
19 to the International Fire Code. Specifically,
20 in Chapter 20 of the International Fire Code,
21 we want printing inks included in the
22 definition of an organic coating. We want to

1 define the equipments discussed in the
2 standard. Mr. Vorderbrueggen talked about
3 some of the ambiguity with the definitions in
4 the standard. And we want this standard to
5 require controls to prevent overheating of
6 tanks used for heating flammable and
7 combustible liquids.

8 Additionally, in the International
9 Fire Code, for Chapters 20, 27 and 34, we want
10 the terms opened closed sealed and vented
11 process tanks and non listed process tanks
12 defined. And we want these three chapters
13 again, to prohibit heating of flammable and
14 combustible liquids in tanks inside buildings
15 unless those tanks are sealed and vented to
16 the outdoors.

17 On the state level, our
18 recommendations, first recommendations are to
19 the General Court of the Commonwealth of
20 Massachusetts. We're asking the General Court
21 to revise the General Laws of Massachusetts
22 for flammable materials, licensing and

1 registration. Specifically to require that
2 companies annually certify that the facility
3 complies with the applicable fire codes, and
4 hazardous chemical regulations. And to
5 clearly require that relicensing occur when
6 those quantities of flammable materials are
7 increased above their existing license limit,
8 or when new categories of those flammable
9 materials are added.

10 We also want the General Court of
11 the Commonwealth of Massachusetts to revise
12 these laws to require the Office of the State
13 Fire Marshal to conduct audits of the towns
14 and the fire departments that are implementing
15 these flammable and combustible materials
16 licenses and permits to audit these entities
17 for their compliance with the law.

18 And lastly, or excuse me, to the
19 Office of Public Safety, The Department of
20 Fire Services, we're asking that they
21 incorporate NFPA 30, the flammable and
22 combustible liquids codes, and NFPA 35, the

1 standard for the manufacturing of organic
2 coating into the Massachusetts Board of Fire
3 Prevention Regulations. And to specify what
4 a maximum interval, such as annually, for a
5 local fire department inspections of these
6 licensed and permitted manufacturing
7 facilities that are handling the flammable
8 materials.

9 We also want the Office of Public
10 Safety, Department of Fire Services, to
11 develop mandatory written inspection criteria
12 for the local fire departments to use in
13 inspecting these manufacturing facilities that
14 have licensed quantities of flammable and
15 combustible materials. We want them to
16 develop specific training materials and
17 provide training to these local fire
18 departments.

19 Lastly, to the Department of Fire
20 Services we would like them to revise the
21 license and registration forms to require the
22 listing of the each category of those

1 hazardous materials, and to clarify that each
2 category of the flammable materials requires
3 a separate license and permit.

4 In addition to the state
5 recommendations, we recognize that it takes
6 time for a government such as the Commonwealth
7 of Massachusetts to revise laws, to issue new
8 regulations, the town has the opportunity to
9 go through a much quicker process in this.

10 And so to ensure protection of the Town of
11 Danvers, we making a similar set of
12 recommendations until such times that the laws
13 and regulations of the Commonwealth of
14 Massachusetts are changed.

15 We're asking the Town of Danvers
16 to revise the town bylaws applicable to the
17 facility licensing and annual registration, to
18 require written certification of compliance
19 with the fire codes, require relicensing when
20 increasing or adding additional flammable
21 materials. To revise the license and
22 registration forms used by the town to require

1 the listing of each hazardous material and to
2 require a separate license and permit for each
3 flammable material category.

4 And lastly, we're asking the Town
5 of Danvers to require annual fire department
6 inspections of those manufacturing facilities
7 that handle the licensed and permitted
8 flammable and combustible materials. And
9 finally to the companies, CAI Inc., we're
10 asking CAI Inc., to develop a written safety
11 program to manage hazardous process
12 operations. This program should address all
13 of the applicable fire code requires, all of
14 the applicable safety regulations, and the
15 incident findings and causes discussed in our
16 report. You will see in our report the
17 complete text of this recommendation with the
18 details of what we're looking for in their
19 written safety program.

20 Members of the Board, those are
21 the recommendations that the team is making
22 for your consideration.

1 Thank you.

2 CHAIRMAN BRESLAND: Thank you, Mr.
3 Hall.

4 And we will give the Board Members
5 an opportunity to ask questions. Let me start
6 at the other end this time.

7 Board Member Wright?

8 MR. WRIGHT: No questions.

9 CHAIRMAN BRESLAND: Board Member
10 Wark.

11 MR. WARK: No questions.

12 CHAIRMAN BRESLAND: Board Member
13 Visscher.

14 MR. VISSCHER: That didn't work,
15 John. Just kidding.

16 Just a couple of questions, one
17 is, the information that we, in the
18 recommendations the information that would be
19 required both with regard to the State and
20 Danvers, the Town of Danvers. How is that
21 different than what's currently submitted
22 under the ERKTA forms?

1 MR. VORDERBRUEGGEN: Well the
2 ERKTA forms only require listing of the
3 hazardous chemicals on site based on the ERKTA
4 list of hazardous materials, it does not
5 address requirements for licensing flammable
6 materials or other Commonwealth Regulations.
7 And the Commonwealth regulations for the fire
8 code for flammable materials very specifically
9 lists these eight categories of material. And
10 that's really a process independent of
11 reporting quantities to the community.

12 And again, I need to stress, from
13 our understanding of the licensing law, it
14 affords the opportunity of the residents, the
15 abutting residents to give their input into
16 how this company should be, if the company
17 should be allowed, and certainly we need to
18 allow companies to do their business. And
19 nobody would be suggesting we're trying to
20 push companies out, but companies have to be
21 able to demonstrate that they are doing it
22 properly. And the licensing process since

1 it's already in place, it is a good, it's a
2 good starting point if you will, bring it up
3 to current standards. There's a lot of
4 language that is out of date in their
5 licensing law, just because it has been around
6 so long, and so it is an opportunity and does
7 afford the community the input that they need
8 to put in for use of land.

9 MR. VISSCHER: Yeah, I guess I
10 recognize that this is, that we're talking
11 about the licensing process, compared, but in
12 terms fo the information that LEPC or the fire
13 department or the town would be getting it's
14 relatively the same as the LEPC is now getting
15 under ERKTA, I take it. The names of the
16 chemicals and the amounts and any other
17 information, I believe they also have to
18 submit their MSDS to the LEPC, so there is a
19 fair amount of chemical information being
20 given to the LEPC.

21 MR. VORDERBRUEGGEN: Yes, there's
22 certainly some overlap in the type of

1 information. The licensing law does not get
2 into what the company must do to demonstrate
3 that they will safely handled it, that's
4 really, I guess that's up to the Board of
5 Selectmen to make a decision, what do we want
6 them to demonstrate to the community as to how
7 they have prepared, do they have engineering
8 plans and drawings and that sort of thing,
9 especially for new operations.

10 Operations that have been there
11 for a long time, that's a little bit different
12 animal, and bringing them up to a current
13 standard is probably a little bit more
14 challenge. But again, the ERTKA, which is a
15 federal law, requires only notification of
16 quantities of certain listed chemicals and it
17 doesn't require permission if you will, it's
18 just a notification process, and it is
19 critical to the success of and LEPC. If the
20 LEPC doesn't know what's on site, then they're
21 not going to be very successful.

22 Also recognize that the fire code

1 that we're talking in the General Laws of
2 Massachusetts that we're talking about, only
3 address flammable materials, the toxic
4 materials, we're not aware of a, there is no
5 specific licensing law similar to the
6 flammable materials law and that may be
7 something that, in fact I think the Bill in
8 review now looks at toxic chemicals as well.
9 But again, our focus in this investigation was
10 on the flammable side.

11 MR. VISSCHER: Just one more
12 question. There's, currently there's the
13 licensing process, and the registration
14 process, and the permitting process, and I
15 think the recommendations in the report all go
16 to the licensing and the registration process,
17 maybe there's some also on permitting. What
18 is the, I guess trying to understand this, the
19 difference between those and both in
20 difference and purpose as well as process,
21 because I understand that the thresholds are
22 the same I think under all three, right? They

1 have the same thresholds, so what, what's kind
2 of the difference and the purpose of those
3 three.

4 MR. VORDERBRUEGGEN: Okay. Well,
5 of course we don't know exactly what the 1930s
6 and `40s decision makers what they had in
7 mind, but again, I think if you look at the
8 licensing law it says that once you reach a
9 threshold you shall have a license, and to
10 obtain that license you need input from the
11 community, so that gives them their right to
12 comment. Once the license is granted by the
13 local government then the law also says that
14 you now shall inform the fire department of
15 your use, and that's done through the
16 permitting process.

17 And I think that's probably really
18 a trigger to give the fire department, if they
19 haven't been directly involved in the licensed
20 process, which I would be surprised in today's
21 world that the fire department wouldn't be a
22 participant in that, but ultimately the

1 permitting process, that's an annual process,
2 and that would be, could be conveniently a
3 trigger point for the fire department to say
4 okay, we want to see what's gone on for the
5 past year, we want to look at what you've
6 done, we're going to check our records, and
7 that would be, that gives the fire department
8 a trigger, if you will, for them to look at
9 how is this company performing over the period
10 that they have been licensed.

11 Because the general laws provide
12 for remedies if in fact the companies are not
13 performing up to what is determined to be
14 considered to be safe. The fire marshal has
15 the right to stop that process, and I think he
16 gives the authority to the fire department to
17 do that, again, they could elaborate on this
18 if they so desire, but yes there is, you get
19 the license, the license sits in perpetuity
20 really to the land, it's actually a, it's a
21 grant to the land, it's not even a grant to
22 the property. So a property owner can sell

1 the property and a new owner can come in and
2 they have the right, if the license exists,
3 they have the right to the materials based on
4 that license. And if then the annual permit
5 is required and a periodic inspection is
6 required.

7 And the certification is simply a
8 letter or a statement by a officer of the
9 company that says I certify I comply with the
10 licensing law, and I put my name on it.
11 That's all the certification is, and it does
12 collect a fee for processing, so there's fees
13 associated with it, but that's all the
14 certification is, a certificate saying I
15 comply with law, General Laws of Massachusetts
16 148, Section 13.

17 MR. VISSCHER: Thank you.

18 Thanks, John.

19 CHAIRMAN BRESLAND: Okay, I have
20 one question, it relates to the recommendation
21 to the National Fire Protection Association,
22 the very first one. I'm just curious if you

1 can explain the history, the recommendation
2 says prohibit heating flammable and
3 combustible liquids above their flash points
4 in tanks inside buildings, to me that would
5 seem like such an obvious thing to prohibit,
6 it's like taking my can of gasoline and put it
7 your kitchen and heating it up. What, is
8 there a history about that, that would explain
9 why that wasn't in the current rule.

10 MR. VORDERBRUEGGEN: We may need
11 to ask somebody in the audience who is a
12 member of NFPA. If it's five gallons and it
13 is attended it might be safe, if it's 50
14 gallons it might be safe, but then you start
15 getting to the large quantities. And again,
16 as Mr. Hall mentioned Universal Form plant
17 they had large tanks and in fact they had some
18 controls on those tanks, they had temperature
19 controls on the tanks. But guess what they
20 didn't do, they didn't maintain them, so they
21 didn't work, and they over heated the tank and
22 tragically somebody died. And it was not an

1 employee of the company, it was truck driver
2 who happened to be in the wrong place, at the
3 wrong time, so it was a terrible tragedy.

4 And the tragedy here in Danvers
5 is, yes, thank God there were no fatalities,
6 but this was a tragedy here. It may be that
7 they decide that the code associations might
8 want to set limits, such as, you know if it's
9 five gallons or less, and you attend, or set
10 some parameters on it, but we really don't
11 want large quantities heated inside the
12 building, unless you have positive means to
13 remove or control the vapor. Do it in a
14 pressure vessel, make sure your vessel is
15 rated for the pressure it's going to see, that
16 may be a suitable alternative, but we don't
17 want open topped containers heated with large
18 quantities of flammable material.

19 CHAIRMAN BRESLAND: Okay, well
20 maybe we'll get an answer to that question
21 during the public comment period.

22 Mr. Visscher.

1 MR. VISSCHER: I'll just make one
2 point though, in both the UFC situation that
3 you described and this one, the ventilation
4 was turned off. Right? I mean, or it was
5 inadequate ventilation that in terms of
6 Chairman Bresland's question, it's more, the
7 issue is more the ventilation that wasn't
8 provided in both cases.

9 MR. VORDERBRUEGGEN: Yeah, they
10 just weren't designed for the conditions that
11 they were operating. I think UFC it was a
12 much larger area and it wasn't, if you will,
13 a deliberate shut off of the ventilation
14 system at UFC, it just, the ventilation was
15 not adequate for the load.

16 CHAIRMAN BRESLAND: Okay, that
17 brings to the end of our discussion on the
18 recommendations and on the report.

19 The next part of the program is a
20 presentation by the panel members, but I think
21 we can give people an opportunity to stretch
22 their legs and perhaps get a drink or some, I

1 don't mean an alcoholic drink, a drink of
2 water at the back there. And we will
3 reconvene in five minutes.

4 (Whereupon, at 8:15 p.m., there
5 was a short recess.)

6 (8:22 p.m.)

7 CHAIRMAN BRESLAND: We will go
8 ahead and get restarted again.

9 Let me thank again, all of the
10 panel participants for agreeing to be here
11 this evening. All of you have worked very
12 diligently to promote the safety the Town of
13 Danvers and the Commonwealth of Massachusetts
14 and we certainly appreciate that.

15 I'm going to introduce you, and I
16 will go through all of the introductions in
17 the order in which you are going to be
18 speaking.

19 Representative Ted Speliotis is in
20 his sixth term representing the 13th Essex
21 District in the Massachusetts House of
22 Representatives. He is currently a member of

1 the House Ways and Means Committee and the
2 Vice Chairman of the Joint Committee on Higher
3 Education. By the way, I've abbreviated your
4 introductions quite a lot, I know you've a lot
5 more talents than those two sentences I've
6 just given you.

7 Stephen Coan has served as
8 Massachusetts State Fire Marshal since 19,
9 since the 1996 creation of the Department of
10 Fire Services, an agency within the Executive
11 Office of Public Safety and Security. Fire
12 Marshal Coan oversees services such as fire
13 training, application of the fire codes,
14 hazardous materials response and fire and
15 explosion investigation.

16 Fire Chief James Tutko is a
17 lifelong resident of the Town of Danvers. He
18 was appointed to the Danvers Fire Department
19 in May of 1971. And has served as Fire Chief
20 since 1991. Chief Tutko was an integral part
21 of the emergency response to the Danversport
22 explosion.

1 Chief Kenneth Willette is a 30, I
2 was going to say a 34 year old, but, he would
3 probably appreciate that. His is a 34 year
4 veteran of the fire service, and since 2003
5 has served as Fire Chief for the Town of
6 Concord, Massachusetts. He is just
7 concluding, and I think that conclusion is
8 next week, he is just concluding his term as
9 the President of the Fire Chiefs Association
10 of Massachusetts. He responded to the
11 Danversport incident as an Operations Chief
12 with the Incidents Support Unit of the
13 Department of Fire Services.

14 Susan Tropeano has lived in
15 Danversport for fifteen years. Following the
16 incident, Ms. Tropeano has become an active
17 member of the Danvers LEPC, or Local Emergency
18 Planning Committee, and a spokeswoman for the
19 Volunteer Nonprofit Organization of the
20 incident.

21 Let's start with Representative
22 Speliotis.

1 REPRESENTATIVE SPELIOTIS: Thank
2 you, Mr. Chairman and through you to the
3 Board.

4 First let me thank you for
5 allowing me to testify before you in regards
6 to legislation I filed on behalf of the
7 Massachusetts Fire Chiefs Association. As
8 your report so well reveals this evening,
9 Massachusetts may be in relations to
10 regulating the safety of chemical facilities,
11 but our laws and regulations were in large
12 part adopted prior to World War II, and
13 desperately need to be updated. Shortcomings
14 exist in the ability for local fire
15 departments to gain the expertise and
16 knowledge for the proper usage and safe
17 storage of chemicals.

18 Naturally, state agencies such as
19 the Department of Environmental Protection
20 focus much of their attention on the disposal
21 of chemicals and the protection of our natural
22 resources in the air, water and land, leaving

1 the daily handling and storage of chemicals in
2 plants such as CAI/Arnel largely unsupervised.
3 Prior to the explosion here in Danversport,
4 once a chemical plant in Massachusetts
5 received their initial permits and were
6 inspected, companies were able to easily
7 increase their capacities with little or no
8 oversight or knowledge by the community. Due
9 to a lack of resources to establish a uniform
10 statewide procedure, cities and towns were
11 unable to conduct ongoing inspections and
12 maintain records through a standard
13 application process.

14 House Bill 4521 attempts to
15 address these concerns by empowering the State
16 Fire Marshal's Office to establish the
17 appropriate regulations and provide him with
18 the financial and technical support to provide
19 local fire departments with the expertise and
20 guidance to ensure that every community is
21 protected to the best of our ability from the
22 dangers of experiencing an explosion such as

1 ours in Danvers. This legislation has
2 received a favorable recommendation by the
3 Committee on Public Safety, and is currently
4 before the House Ways and Means Committee.
5 About ten days ago, the Massachusetts House of
6 Representatives concluded our formal
7 deliberations on next year's fiscal budget,
8 and we are beginning to turn our attentions on
9 legislative matters such as this bill.

10 Mr. Chairman, your willingness,
11 with your staff, and Fire Marshal Steve Coan
12 and the Fire Chiefs Association participation
13 at a meeting last week at the State House,
14 with the Chief of Staff of the Chairman of the
15 House Ways and Means Committee has greatly
16 elevated the importance of this initiative.
17 Please trust that your final recommendations
18 and suggestions of state and local officials
19 testifying this evening serves as a powerful
20 message to the leadership of both branches of
21 the Legislature and the Governor's Office that
22 we need to strengthen our oversight powers.

1 The passage of House Bill 4521
2 will ensure that the lessons we all learned in
3 the last year and a half, will be codified
4 into a law that will hopefully prevent such an
5 explosion from ever occurring again in the
6 Commonwealth of Massachusetts.

7 Thank you, and I look forward to
8 continuing to work with you, your Board, and
9 my fellow panelists in the coming months.

10 CHAIRMAN BRESLAND: Thank you very
11 much.

12 Fire Marshal Coan.

13 MR. COAN: Thank you, Mr.
14 Chairman. Thank you again, Mr. Chairman and
15 thank you for your time and the time of your
16 very truly professional investigative panel.

17 I'd like to go through for a
18 moment with you the response of the Department
19 of Fire Services and then make some very quick
20 and preliminary comments on the
21 recommendations that are found in the report.

22 First, the Department of Fire

1 Services response to this incident was a
2 multileveled support and coordination role to
3 both the Incident Commander, Chief Tutko and
4 to the Community of Danvers. We responded
5 with our Incident Support Unit as has been
6 referenced, responded with numerous hazardous
7 material response teams, fire and explosion
8 investigation unit and a technical services
9 engineering and code enforcement unit.

10 Post the incident, our engineering
11 and code enforcement conducted a very
12 extensive survey and review of technical data,
13 licensing and permitting, to look at the
14 compliance of existing General Laws, Chapter
15 145, and 527 CMR both the law and the
16 regulation that had been extensively talked
17 about tonight.

18 We created a report and issued
19 findings, and in our findings we indicated
20 that licensing and permitting procedures and
21 oversight do in fact need to be strengthened.
22 Additional training for municipal officials

1 and inspectors are needed. Statutory change
2 and improve regulations in the area of
3 chemical process safety and process safety
4 management is needed, and additional resources
5 for technical support to local public safety
6 officials must be provided. Again, I think we
7 would say that they parallel very closely your
8 recommendations.

9 Our actions since the 2006 event
10 have been to draft along with the Fire Chiefs
11 Association the comprehensive chemical process
12 safety legislation that the Representative has
13 indicated is pending before the House of
14 Representatives at this time. To amend our
15 state fire code to increase and improve
16 training and seek additional resources.

17 The chemical process safety
18 legislation would allow the Board of Fire
19 Prevention Regulations, which I must indicate
20 is an independent Gubernatorial appointed
21 board made up of many different disciplines,
22 both credentialed engineers and members of the

1 fire service, and others. It creates a
2 chemical users certificate for facilities
3 using or storing highly hazardous chemicals.
4 It empowers the State Fire Marshal to suspend
5 or revoke certificate for non compliance,
6 establish user fees, so that the cost of the
7 oversight of this program will be borne by the
8 great majority, by the industry in the
9 Commonwealth and provides staff to implement,
10 administer and support the local authorities.

11 Let's talk for a moment about
12 training. I believe as in other areas that
13 our office has responded to major incidents
14 throughout our state, and beyond, that the
15 training of municipal officials is clearly a
16 major component to success. And in that
17 regard, since the Danvers incident, we
18 developed and we conducted training, joint
19 training seminars to municipal licensing fire
20 and building officials to review the licensing
21 and permit requirements for flammable and
22 combustibles in the state.

1 Our intent here by bringing each
2 of those disciplines together was to improve
3 coordination and cooperation between the land
4 licensing authority and fire and building
5 permitting authorities within a municipality.
6 Frankly, what we found is there are silos and
7 the silos need to be broken so that the
8 community is operating harmoniously between
9 the licensing side which could be a city or
10 town clerk, the building department and the
11 fire chiefs, and the fire departments
12 responsible for the issuance of the permit and
13 then inspections. I'm pleased to say that to
14 date, we've been able to train over 300 local
15 officials across the Commonwealth in this
16 particular program.

17 I'm also very pleased to say that
18 CSB and the Department of Fire Services agree
19 on pretty much everything. We agreed on the
20 cause of the fire and explosion, we agreed to
21 the need for further regulation in chemical
22 process safety, and we agree on the importance

1 of increased inspection and enforcement to
2 protect the public and the regulated
3 community.

4 As you know, I prepared these
5 slides before I had the opportunity to review
6 the report in the last day or so. So I would
7 like to take a quick moment and add to my
8 comments, just very quickly, that in regard to
9 the particular recommendations that have been
10 made tonight, first of all, under the section
11 of the General Court recommendations, you make
12 reference to a written with the annual
13 registration renewal, that is a very valid
14 recommendation, and we believe it can be
15 accomplished by regulation and enhanced
16 training, may not need legislation, it can be
17 implemented quicker and it's a very valid and
18 good recommendation.

19 You make recommendation to modify
20 licenses required for increase storage
21 amounts, we believe the law already requires
22 this, but we agree with your investigative

1 team that is not as clear as it should be and
2 that some modification to the law may be
3 necessary but clearly additional training is
4 needed and can be implemented immediately in
5 this area to provide better guidance to the
6 local officials.

7 You make a recommendation in
8 regard to the Department of Fire Services
9 State Fire Marshal auditing local governments.
10 In licensing has always been handled at a
11 local level in Massachusetts, we cannot say at
12 a state level how many licenses currently
13 exist, or what a resources are needed to
14 implement this recommendation. However we
15 agree again it is a valid point, and will be
16 taken under consideration by our department,
17 and we believe the successful passage of our
18 chemical process legislation will go a long
19 way to implementing this particular
20 recommendation.

21 Secondly, you make recommendations
22 to the Department of Fire Services, you asked

1 for the adoption NFPA 30, you make note that
2 we have already adopted a portion of this, we
3 agree in concept that the Commonwealth should
4 adopt NFPA 30. You make reference to the
5 adoption of NFPA 35, we again agree in concept
6 to this, but we recognize the need for
7 additional technical expertise at the
8 Department of Fire Services to fully implement
9 this particular NFPA standard in the
10 Commonwealth.

11 You make a recommendation that
12 annual inspections of facilities holding one
13 or more licenses, we agree wholeheartedly to
14 this, but we recognize and I believe you'll
15 hear from local officials in a moment, that
16 there are resources needed at the local level
17 to make this recommendation effective across
18 the Commonwealth.

19 You make recommendations for
20 mandatory written inspection criteria, and we
21 wholeheartedly agree with this. We expect
22 that this will again come from the passage of

1 the chemical process safety legislation, it is
2 one of the silver linings in any tragedy that
3 enables us to drill down and take a very
4 comprehensive look at a particular subject
5 matter, and in this case we agree that this is
6 an area that should be looked at, and looked
7 at very closely.

8 And finally, you make a
9 recommendation that we revise our fire
10 prevention forms, FP2 and FP5 so that it would
11 list each hazardous material type, quantity
12 and a separate license and permit for each
13 class of material. We agree to that, and we
14 will internally and administratively change
15 that along with further review, along with, if
16 it meets further review, I should say, by our
17 legal department.

18 So to conclude my part of the
19 presentation, Mr. Chairman and Members of the
20 Board, I would like publicly acknowledge the
21 expertise, assistance, and professionalism of
22 the members of the CSB investigative team, and

1 the ongoing support that the members of the
2 CSB has shown in working with Massachusetts to
3 prevent a similar event from occurring in the
4 future.

5 Thank you very much, Mr. Chairman
6 and members of the Board.

7 CHAIRMAN BRESLAND: Thank you very
8 much.

9 Fire Chief Tutko.

10 CHIEF TUTKO: Good evening,
11 Chairman/President.

12 On the morning of November 22nd,
13 2006 I was the Unified Commander in Charge of
14 the mitigation of the explosion that occurred
15 in the CAI/Arnel facility in Danversport. My
16 department and all other department and
17 agencies that responded performed their duties
18 above and beyond what would be expected of
19 emergency responders dealing with an incident
20 of this magnitude. Despite the tremendous
21 property damage and loss, we were lucky that
22 morning. All of us who responded witnessed

1 the surreal scene of fire and devastation.
2 With destruction presented before us, we
3 expected to suffer loss of life. In all my
4 years in the fire service, I have never
5 witnessed the magnitude of destruction we
6 encountered that morning. It is hard to
7 imagine that a company the size of CAI/Arnel
8 would cause such destruction and devastation.
9 It is truly a miracle no lives were lost.

10 Those of us in the fire service
11 and emergency management cannot rely on
12 miracles. Our response must be strategic,
13 comprehensive and we can not wait until the
14 bell rings to take action. We must be
15 proactive. We have the tools to mitigate fire
16 and other emergencies both natural and
17 manmade, but we need the tools to prevent this
18 type of accident from happening again. The
19 fire service understand the value of good fire
20 prevention and accident programs, but in the
21 case of chemical processes, we fall short in
22 understanding the whole picture.

1 In Massachusetts our current fire
2 prevention laws and regulations deal with
3 storage, housekeeping, fire suppression and
4 alarm systems, areas that we are familiar to
5 inspectors in the fire service. By conducting
6 our inspections in these areas, we can prevent
7 incidents from happening, however in the area
8 of chemical processing, processing, our
9 expertise falls short. We are not chemical
10 engineers or process engineers, the fire
11 service needs to have access to professionals
12 who understand the chemical processes that
13 occur in our jurisdiction to ensure that these
14 facilities sometimes located in our residents'
15 back yards, are safe from the type of accident
16 that occurred in the CAI/Arnel facility.

17 Currently the Massachusetts
18 Association of Fire Chiefs has written and
19 sponsored legislation that would assist the
20 State Fire Marshal and local fire departments
21 to be more proactive in the prevention of
22 chemical process accidents.

1 It is our hope, through the
2 process of your organization's reviews and
3 recommendations, along with the subsequent
4 code review, will assist us in making changes
5 in chemical industry regulations at the local,
6 state and federal levels. We believe this is
7 the only way to make the business of storing
8 and mixing chemicals safer for the employees
9 of the facilities, the general public and for
10 emergency personnel who must respond to such
11 incidents.

12 After the explosion the Danvers
13 Fire Department began taking steps to improve
14 the inspection of chemical facilities. And
15 we're encouraged to see this is a key
16 recommendation of your report. We have
17 implemented a new inspection program this
18 year, performing inspections on all our
19 license holders to make sure they comply with
20 state fire codes and regulations. These
21 inspections will be performed every year. The
22 town has also reinstated the Local Emergency

1 Planning Committee, which it's charged with
2 creating an emergency plan for the Town of
3 Danvers, and to ensure that all hazardous
4 materials are stored correctly and used
5 properly.

6 Another recommendation from your
7 report is covered under our local registration
8 process. Any new applicant for a license or
9 any currently licensed facility looking to
10 increase the quantity of chemicals being used,
11 or seeks to amend its license in any way, must
12 first pass a fire department review and attend
13 a public hearing before the Board of Selectmen
14 before a license or amendment is voted on for
15 approval.

16 I would like to thank the Chemical
17 Safety Board for all the hard work it has put
18 into this report. The findings and
19 recommendations contained within the report
20 will help make Danvers and the Commonwealth of
21 Massachusetts a safer place to live. Your
22 organization provides crucial resources and

1 expertise in the area of chemical safety and
2 I truly believe a cooperative effort among CSB
3 and local and state agencies will benefit
4 public safety for years and decades to come.
5 If we all work together, we can take actions
6 to prevent a recurrence of what happened in
7 Danversport, November 22nd, 2006.

8 Thank you, to the Board, for your
9 time.

10 CHAIRMAN BRESLAND: Thank you very
11 much, Chief Tutko.

12 Chief Willette.

13 CHIEF WILLETTE: Chairman Bresland
14 and Members of the Chemical Safety Board,
15 thank you for inviting the Fire Chiefs
16 Association of Massachusetts to participate in
17 this discussion tonight. Our association
18 represents over two hundred and fifty active
19 and four hundred retired fire chiefs. And it
20 is the fire chiefs of Massachusetts who will
21 play a key role in implementing the
22 recommendations made in your report of the

1 November 22, 2006 explosion in Danversport.

2 The fire chiefs of Massachusetts
3 are proud of the many life saving initiatives
4 we have been involved in. Are advocacy and
5 partnership with State Fire Marshal Stephen
6 Coan, the National Fire Protection
7 Association, our friends in the General Court
8 on both sides of the isle in the Patrick
9 Administration have resulted in the passage of
10 life saving legislation covering the
11 installation of carbon monoxide alarms in
12 homes, fire suppression sprinklers in
13 nightclubs and requiring cigarettes that are
14 sold to be of a fire safe type that will not
15 continue to burn if not constantly puffed on.

16 While it pains me to say so, each
17 of these initiatives was motivated by major
18 incidents that resulted in the loss of life or
19 serious injury, forcing the Commonwealth to
20 consider how can we prevent such a recurrence.
21 Your report under consideration tonight,
22 provides solid suggestions how we can work to

1 avoid another Danversport type incident from
2 happening. The recommendations are clear and
3 achievable. The Fire Chiefs of Massachusetts
4 stand willing to embrace these findings, but
5 are concerned about the impact upon local fire
6 department operations and the resources
7 available to fund them.

8 As Chief Tutko has stated, the
9 Fire Service is well aware of the value of
10 preventive efforts, including increased
11 inspection of local high hazard occupancies.
12 Clearly tonight we understand the CAI/Arnel
13 facility meets the criteria for a high hazard
14 occupancy, but prior to November of 2006 the
15 risk posed by this facility was not so clear.

16 The goal of having uniformed fire
17 personnel inspect such facilities on an annual
18 basis should be a central focus moving
19 forward. However, local fire departments are
20 finding themselves strapped for resources to
21 meet emergency response needs and lacking
22 chemical processing expertise. To achieve

1 this goal, there must be consideration for
2 making such financial, technical and human
3 resources available.

4 To that end, the Fire Chiefs of
5 Massachusetts in partnership with
6 Representative Speliotis and the Office of the
7 State Fire Marshal supported by the Patrick
8 Administration and many members of the
9 Massachusetts General Court, has drafted
10 legislation which addresses many of your
11 recommendations but also provides a framework
12 of technical resources and identifies a
13 funding regiment to implement these
14 recommendations at a statewide level. House
15 Bill 4521 would establish a technical staff
16 within the State Fire Marshals' Office to
17 review applications for a users permit from
18 facilities such as CAI/Arnel, share the permit
19 application with local fire officials, and
20 stand ready to assist them as needed. As this
21 piece of legislation is being considered by
22 the House Ways and Means Committee, a

1 subcommittee of the Board of Fire Prevention
2 Regulations is drafting specific guidelines to
3 address chemical process safety within these
4 facilities.

5 As your report points out, even
6 the most enhanced inspection system would not
7 have guaranteed that an internal process
8 hazards analysis would have been conducted by
9 CAI, no inspection or permitting system alone,
10 no matter how extensive, would have prevented
11 the Danversport explosion. A strong
12 inspection system must work hand in hand with
13 enhanced oversight of the safety process being
14 conducted within facilities which handle and
15 process hazardous materials. Passage of House
16 Bill 4521 would create this critical oversight
17 making it possible to implement the
18 recommendations in your report.

19 Your report correctly finds that
20 the Massachusetts Fire Service and the Office
21 of the State Fire Marshal are truly the front
22 line of defense for ensuring the highest

1 degree of life safety, protection of property
2 and preservation of the environment through
3 good code enforcement and increased knowledge
4 of chemical process safety. The fire chiefs
5 of Massachusetts accept this duty, but lack
6 the technical knowledge to work in partnership
7 with the chemical industry and need technical
8 staff to advise us regarding the public
9 safety. House 4521 addresses those needs and
10 I respectfully request your consideration and
11 support of this legislation.

12 In closing, I would like to thank
13 Chairman Bresland and the Chemical Safety
14 Board for the many months of hard work on the
15 investigation, and for providing
16 recommendations that will help to prevent
17 similar instances in the future. Thank you
18 also for coming to Danvers to release this
19 report, for developing first hand an
20 understanding of the impact on the community
21 and the Massachusetts Fire Service, and for
22 the spirit of cooperation you have exhibited

1 to local and state officials. I know that
2 your dedication and expertise will help us
3 make Massachusetts a safer place to live.

4 CHAIRMAN BRESLAND: Thank you,
5 Chief Willette.

6 Ms. Tropeano.

7 MS. TROPEANO: Thank you, Chairman
8 Bresland.

9 A couple of months after the
10 explosion, in November 2006, I spoke with a
11 woman named Claire Freda, a councilwoman from
12 Leominster. I did a Google search that pulled
13 up an article about a city ordinance she was
14 working on to improve oversight of chemical
15 companies in her city. She told me that an
16 explosion blew the roof off a chemical company
17 Leominster in 1997, it occurred in a
18 residential area in which a daycare was
19 operating. Fortunately, there was very little
20 damage outside of the company.

21 However the event failed to rally
22 the people of the city to call for change.

1 Eight years later, the same company blew up
2 again. I had another conversation with a
3 women from Wilmington who called me some
4 months ago, she was worried about a company in
5 her neighborhood that stored nitrocellulose in
6 drums outside. Some of them had already
7 combusted but there were many more just like
8 them on the property. She was having trouble
9 getting anyone to take the situation
10 seriously. She had heard about SAFE, and
11 wanted to know how we got so many people to
12 work together on the problem. I'm not
13 surprised that either of these situations
14 occurred, prior to November 2006 I don't think
15 I could have understood how some heptane
16 exploding on the back of Bates Street could
17 impact the lives of so many, so dramatically.
18 It's hard to explain sometimes, without
19 feeling like I'm dramatizing the event and its
20 affects.

21 But the reality is that so many
22 people lost their homes, some people lost

1 their jobs, almost everyone lost a lot of
2 money and everyone lost time and a sense of
3 security in their homes. Some families were
4 split up, many families were displaced, some
5 still are today. Sometimes it feels like our
6 lives are on hold until the last family moves
7 back home. It has been seventeen months, we
8 hope it doesn't go past twenty-four. I'm
9 uncomfortable talking about it, but I do,
10 whenever I can, because we won't make the
11 changes necessary to keep us safe if the
12 public doesn't call for it.

13 Public Awareness is important.
14 Luckily for us, we have had some help. With
15 the guidance of Jan Schlichtmann, the
16 neighborhood established new lines of
17 communications since we weren't all living
18 side by side anymore. We told Jan that
19 rebuilding the neighborhood and making sure
20 that we were safe in it, are the most
21 important things to us. Jan told us, that we
22 could accomplish these goals only if we worked

1 together. So we did.

2 And we went right to work, trying
3 to figure out what happened and how to keep it
4 from happening again, and to rebuild our
5 lives, and our neighborhood. We helped each
6 other find apartments, clothes and furniture.
7 We helped each other navigate such issues as
8 insurance claims, private adjustors,
9 contractors, and finances.

10 Jan also helped us recognize that
11 we needed to be part of making changes, to
12 prevent similar events from happening again
13 here and elsewhere. That began with
14 understanding what happened. We listened to
15 each others fears of what might have caused
16 the destruction and we investigated to the
17 best of our abilities. We enlisted the help
18 of many people along the way, it's a long
19 list. Representative Ted Speliotis, Senator
20 Fred Barry, Congressman John Tierney, and
21 Representative Joyce Speliotis, Town Manager
22 Wayne Marquis, the Board of Selectmen, The

1 Danvers Fire Department, Public Works, the
2 Building Department, the Planning Department,
3 the Health Department and the U.S. Chemical
4 Safety Board. All these people and agencies
5 helped us understand what happened, and what
6 to do to work towards ensuring that it doesn't
7 happen again.

8 In Danvers we've learned that
9 planning and implementing these types of
10 changes takes time. It also takes the efforts
11 of many people working together. We are
12 concerned with the licensing and granted of
13 permits as well as the registration of
14 hazardous materials. It is necessary also to
15 consider our town zoning and town planning.
16 The newly resurrected Danvers LEPC has
17 expanded it's largely emergency based charter
18 to include looking into what we can do to
19 prevent a recurrence of this type of tragedy.
20 It will take these local efforts, combined
21 with state and federal efforts to ensure
22 public safety.

1 In closing, I want to take a
2 moment to thank the CSB for having us all here
3 today, this step in the process of recovering
4 from the event is very important to us. Thank
5 you for keeping in mind that this was not just
6 about an industrial accident, this was about
7 people, families and businesses.

8 As I mentioned, there were many
9 people who helped our neighborhood, but I want
10 to thank a few who have been particularly
11 helpful in our quest to restore our peace of
12 mind. John Vorderbrueggen of the CSB who
13 answered countless phone calls and questions
14 from me even from his latest tragic site down
15 in Georgia. Thank you, John. Deputy Fire
16 Chief Kevin Farrell who also answered many
17 calls and many questions, and who helped me
18 navigate the 527 CMR. Representative Ted
19 Speliotis who has been an enormous help in so
20 many ways, and continues to be. And Jan
21 Schlictman, who has inspired me and others to
22 take an active role in affecting change and

1 who has given countless hours of his time and
2 advise to our community.

3 Thank you all.

4 CHAIRMAN BRESLAND: Thank you very
5 much for those heartfelt comments.

6 I think I will give the Board
7 Members an opportunity to have a questions or
8 dialogue with the panel members. And we will
9 start off with Board Member Visscher.

10 MR. VISSCHER: Thank you, John.

11 A couple of questions. One is, a
12 couple of you spoke about the need for better
13 trained, more expert, and more expertise in
14 terms of looking at chemical processing plants
15 by inspectors, and how are you going about
16 that, and how difficult, or what's the sort of
17 plan on doing that and how far are you, I
18 guess is the question, it seems like a
19 difficult challenge for you, I would think.

20 MR. COAN: If I can take a crack
21 at that first. The issue is clearly
22 widespread across the Commonwealth.

1 Massachusetts has three hundred and sixty plus
2 fire departments. As we know, many of these
3 plants that we talk about CAI/Arnel are
4 imbedded in many of our communities, many of
5 them very small rural communities across
6 Massachusetts. And many of these fire
7 departments there is no career fire
8 department, they're volunteers, they're on
9 call. They have a very hard time just
10 mustering men and women to answer the bell to
11 suppress fire. Fire prevention isn't always
12 high on the agenda, not because they don't
13 want to, not because they don't care, their
14 compassionate people, but when it comes to
15 resources they're not there.

16 I think it would be very
17 difficult, no it would be impossible, to embed
18 in all these fire departments sufficient
19 expertise, credentialed resources to the job
20 that you're suggesting we do. Hence the
21 chemical process safety legislation, which is
22 again a joint effort of the Fire Chiefs, my

1 office and with the great support of
2 Representative Speliotis, it's designed to
3 provide the resources to the Department of
4 Fire Services, so frankly we can have that
5 right there. It's no better than that.

6 MR. VISSCHER: I don't think so.

7 MR. COAN: We'll post the jobs on
8 the web.

9 CHAIRMAN BRESLAND: Meeting
10 closed.

11 MR. COAN: That's what the
12 Commonwealth needs, there's no doubt about it.
13 We need men and women that are credentialed in
14 chemical process, as chemical engineers, as
15 mechanical engineers who can be our experts,
16 who can provide the training, who can provide
17 the partnership to the chiefs across the
18 Commonwealth to do the job. So it is, as I
19 said embedded in that legislation, but we all
20 know that in this day and age, getting those
21 resources is difficult. We're looking for a
22 first year, start up staff, small in nature,

1 who can be embedded into the Department of
2 Fire Services, who can write the regulations,
3 can initiate some training, that we can truly
4 get a handle on the number of these facilities
5 that are across the Commonwealth. And then
6 the intent of the legislation is to access a
7 fee, a user fee upon the industry and make it
8 as self sufficient as we can so that the cost
9 of this oversight program to be borne, will be
10 borne by the industry and administered by the
11 State Fire Marshal in cooperation with the
12 local chiefs.

13 Mr. VISSCHER: Thank you for that.
14 So the idea would be that you'd have some
15 expertise at kind of a state level that would
16 consult with locals, you wouldn't try to, as
17 you indicated, some fire departments are in
18 rural areas and so on and would be very
19 difficult to have an expertise.

20 MR. COAN: That's correct. And we
21 would also require by legislation that the
22 industry who is now regulated under this law,

1 would be required to conduct fire and life
2 safety analysis studies within the plants.
3 Again, as I believe it was referenced earlier,
4 so that that would be a baseline of
5 information to be shared with the local
6 communities, both with the fire department for
7 a permitting process and to the higher levels
8 of government as they review licensure. That
9 information would also be shared with the Fire
10 Marshal's office and this new technical staff
11 so that they would provide the audit and
12 oversight of these reports and of these
13 companies.

14 MR. VISSCHER: Thank you.

15 One more question, I guess if I
16 could ask this panel the same question I asked
17 our staff actually, with regard to the current
18 situation with licenses and registration and
19 permits, which appears to be, I saw one at
20 least news article I think Chief Tutko where
21 you reported, or maybe it was a newspaper
22 story, but that about half the small

1 businesses that have licenses didn't know they
2 also needed permits. That there seems to be
3 kind of an opportunity for confusion of what
4 all is required, and I guess trying to
5 understand this, and since we're delving into
6 the, as deeply as we are, the regulatory
7 regime in Massachusetts, why have all three,
8 and so what's the difference and the purpose
9 of the three? And I throw that out to any of
10 you so I can understand it.

11 Thank you.

12 CHIEF TUTKO: My understanding is
13 that the license goes with the land, and is
14 basically irrevocable. A permit can be
15 revoked under the discretion of the fire
16 chief. So in having the license, the permit
17 allows you oversight, so you have the ability
18 to go in, similar to a building permit, it
19 allows the issuer of the permit to go on your
20 property and inspect it, so that those are the
21 two, the distinctions between the two. When
22 it comes to permitting, it's very clear in the

1 laws and the regulations that it is up to the
2 business owner to apply for a permit. It's
3 not up to the regulator, the fire department,
4 to go after the business owner to tell him
5 that we have to come in.

6 But I think what happens is that
7 people are interested in running their
8 business and a lot of businesses and
9 especially the chemical industry is heavily
10 regulated. And sometimes this falls through
11 the cracks. And so they don't realize they
12 needed a permit. What we're doing in Danvers
13 is we're going out, we're making those annual
14 inspections, we're trying to educate the
15 businesses that it's up to you to come to us,
16 and we're trying to be vigilant on that, and
17 we will be in the future.

18 But I think that that's something
19 that again, alerting to the Marshal and to
20 Ken, we're dealing with a finite number of
21 personnel that we have, and looking towards my
22 charge, we haven't even delved into the permit

1 process yet of those people who have less than
2 the required licensing amounts. Now when we
3 went out, we went out to our 35 licensed
4 landholders and it was a month and a half to
5 a two month process to make sure that everyone
6 was in compliance with their permits and
7 licenses. We've identified over 108 potential
8 areas of people that need a permit. So we've
9 got to go out to that, so it's time consuming,
10 but again, it's something we're, it's an
11 educational process, and we're going to go out
12 and do what we have to do to get everybody in
13 compliance.

14 REPRESENTATIVE SPELIOTIS: Mr.
15 Chairman, may I take a shot at that?

16 CHAIRMAN BRESLAND: Please.

17 REPRESENTATIVE SPELIOTIS: Thank
18 you.

19 I'd like to go back a little bit
20 and combine your question with the comments
21 that the Fire Marshal made in his
22 presentation, and also, my friend Chief Tutko,

1 and meld it all together into one, and show
2 what really went wrong here. I think you hit
3 the nail on the head here, we have lived in
4 these silos, whether it is alone in
5 Massachusetts or throughout the country, I'm
6 not sure, but I'm familiar with my
7 neighborhood. We tend to have building
8 inspectors talk about nails and buildings and
9 you know whether the structure is sound, we
10 have DEP in this Commonwealth in which comes
11 out and regulates heavily, heavily, what
12 happens to chemicals and how they're stored,
13 where they're kept, how they're disposed of,
14 and then we have public safety officials and
15 they look at things. But nowhere has there
16 been one concerted effort saying what are
17 actually doing, how are you conducting your
18 daily business. No one seemed to have a broad
19 oversight, until this accident occurred in
20 Danvers.

21 And the Fire Marshal and the
22 pressures of all of us, including the

1 neighbors and the public and the industry
2 said, hey, how are we going to make this work,
3 so that we regulate the activity to protect
4 the neighborhood. And whether that's, I'd
5 hate to say, because I don't think it's
6 another permit, it's on our part, it's not
7 another application, it's the consolidation of
8 all of those efforts into one activity under
9 the Fire Marshal's operation that turns around
10 and says, yes you are operating a safe
11 facility. Because clearly, clearly, the level
12 of sophistication from one plant to the other
13 is extreme, extreme, as you know.

14 But the definition of what are
15 problems, and one thing we've been able to do
16 in the last year and a half, beyond, beginning
17 to remove these silos, is to also identify the
18 problem in a manageable fashion. You don't
19 know, you can't understand how valuable it was
20 that you put up the number three in the Town
21 of Danvers. And now we know it's two, that's
22 a heck of a lot more manageable than 40, 100,

1 the number of gas stations, multiple, we have
2 the use and the production of chemical plants
3 of two facilities in a town of 25,000 people,
4 we go to larger communities it may go to 100,
5 of a town, of a city of 100,000 or 200,000
6 that's a manageable problem, that's a
7 manageable solution.

8 In the past when we dealt in
9 silos, we just dumped everything in to piles
10 and never really thought about anything else.
11 So the poor local official, the poor clerk who
12 reviews on a Spring basis, a permit, has a
13 pile of permits and he's signing off on them,
14 whether it's a major chemical plant or if it's
15 a small little gas station with a few gallons
16 of gas, they're all treated the same.

17 Clearly, that's not common sense, that's not
18 the right approach. So we, at least in this
19 state, have gone miles to just identify the,
20 to identify the problem and begin to address
21 a solution.

22 MR. VISSCHER: I rather appreciate

1 that, I'm glad to hear, sometimes we tend to
2 think the answer is always more regulation and
3 a lot of times it's better regulations, and so
4 I appreciate that, your efforts in that
5 regard.

6 CHAIRMAN BRESLAND: Mr. Wark.

7 MR. WARK: I really don't have any
8 questions for the panel, but I do want to
9 commend you for handling an extremely
10 difficult situation, one that was
11 unanticipated. And being, in one of my
12 previous lives, an emergency management
13 practitioner, I can tell you that one of the
14 most difficult things to handle is, unlike a
15 hurricane, or something else that you know is
16 on its way, this was more like an earthquake,
17 where it just happens and you have to do the
18 best you can.

19 So I would like to commend all of
20 you for handling this in such a professional
21 manner. And also I'm delighted to see that
22 the LEPC is up and running again. We're

1 finding all over the country that it's all
2 over the board as far as LEPC's are concerned,
3 and one of the things that we want to do in
4 the next few years, or couple of years that
5 I'm going to be on the Board anyway, is push
6 to emphasize and raise the awareness of
7 emergency preparedness and response throughout
8 the country and the importance of LEPC's and
9 how they fit into the overall response
10 picture.

11 We can't always say that, you know
12 we're never going to have an accident, because
13 no matter what we do, we are going to have
14 accidents. And to that extent and how to the
15 extent that we can handle them and save lives,
16 is a lot, it has a lot to do with the planning
17 preparedness and response activities, and not
18 just off-site or on-site but joint planning.
19 And we're finding in some cases around the
20 country, like southeast Texas, they've got it
21 down pat, but they have the clear and present
22 danger there that they can refer to and get

1 the job done. We need more of it on the local
2 level and other areas where you would not
3 think this to be the case but it does happen,
4 and this is a good example of it.

5 So congratulations and thank you
6 very much.

7 CHAIRMAN BRESLAND: Mr. Wright.

8 MR. WRIGHT: Thank you, Mr.
9 Chairman.

10 I would like to echo the comments
11 made by my colleague Mr. Wark. I'd also like
12 to applaud the individual and collective
13 efforts of everybody on the panel in trying to
14 address the deficiencies noted in both our
15 report and your report with respect to this
16 particular area of concern. And I am very
17 pleased to hear that you've been so proactive
18 in trying to address the recommendations in
19 our draft report before we've even voted into
20 effect. So you're well ahead of the power
21 curve, and we appreciate that.

22 And I have my full respect and

1 admiration for everybody on the panel and the
2 work you've done to help solidify the
3 collective efforts of the community here.
4 Thank you very much.

5 CHAIRMAN BRESLAND: I would like
6 to reiterate what my colleagues have said, as
7 we go around the country we deal with fire
8 departments who are dealing with tragic
9 accidents and I'm always incredibly impressed
10 by the skill and the bravery of the fire
11 department personnel and there are three of
12 them here tonight, Fire Marshal Coan, Chief
13 Tutko and Chief Willette. And I think, they
14 were all involved to the response to this
15 accident, and I do think they deserve the
16 thanks of the Town of Danvers for the
17 wonderful work they did on the days following
18 that incident.

19 Well, that ends our discussion
20 with the panelists, and we're now going to
21 open it for public comment, and so far we
22 have, you'll be happy to hear, two commentors,

1 two commentors.

2 I'm sorry, Susan?

3 MS. TROPEANO: If I may, I just
4 wanted to bring up a couple of points that
5 weren't mentioned in either of the reports
6 that the neighborhood in particular has been
7 concerned with having change in the future.
8 And most of it luckily was mentioned, so I'll
9 only go to what was not.

10 We believe that annual inspections
11 of chemical process should be required, not
12 just fire safety inspections. We really
13 believe that those need to be chemical process
14 inspections. And the proposed uses of
15 industrial zoned property that abuts
16 residential neighbors, neighborhoods, needs to
17 be particularly scrutinized. We'd like to see
18 the feasibility of a 1,000 foot buffer zone
19 between residential neighborhoods and chemical
20 processes, needs to be considered. And
21 companies using hazardous materials should
22 consult organizations like the Toxic Use

1 Reduction Institute in U-Mass Lowell, to find
2 safer alternatives to hazardous chemicals.

3 And based on risk assessments,
4 companies processing hazardous chemicals
5 should be required to have enough insurance to
6 cover potential damage. CAI and Arnel had \$7
7 million in insurance, which doesn't even cover
8 the out of pocket expenses of the residents,
9 businesses and boat owners who were effected
10 by the incident. That doesn't include what
11 the insurance companies spent, of course, and
12 they want their money back too. I don't know
13 how we can get some sort of regulation in
14 terms in what they can, what they have to have
15 for insurance, but this incident has strapped
16 our neighborhood financially and that is above
17 and beyond what has been covered by our
18 insurance companies. The average family lost
19 about \$40,000 because of this incident.

20 Thank you.

21 CHAIRMAN BRESLAND: Thank you very
22 much, and thank you for your comments this

1 evening.

2 Okay. At this time we would like
3 to open the floor for public comment. Please
4 remember to limit your comments to three
5 minutes. And we will begin with the list of
6 people who signed up to speak earlier, however
7 when we have completed that list, everyone is
8 welcome to speak, even if you have not already
9 signed up.

10 So, let me go to the list, and
11 when you come up we would appreciate it if you
12 would say your name and spell it for the
13 person who is recording the minutes of this
14 meeting. And the first one is a Mr. A. Beal,
15 B-E-A-L.

16 MR. BEAL: I've been waiting for
17 this for a long time. 23 Bates Street.

18 Since the day of the explosion it
19 has been hell. With insurance like Susan
20 said, and the bank, it's just been hell. I
21 just got out of the hospital with cancer, two
22 weeks before the explosion, and I had to

1 retire under doctor's care and this didn't
2 help at all, and you know, it's just one thing
3 after the other. And I had my grandson living
4 upstairs, he has to go to counseling twice a
5 week, and where he's living now, he says
6 Grandpy is this house going to blow up too,
7 six years old.

8 And the people that owned these
9 companies hasn't considered to say, I'm sorry.
10 They can't get on the TV or the media and say,
11 I'm sorry. What is wrong with them. I've had
12 it.

13 Thank you.

14 CHAIRMAN BRESLAND: The next
15 person on our list is Mr. Ed Sanborn.

16 MR. SANBORN: It's Ed Sanborn, S-
17 A-N-B-O-R-N.

18 CHAIRMAN BRESLAND: Thank you.

19 MR. SANBORN: A couple of quick
20 questions.

21 Regarding the recommendations, I
22 didn't hear any talk about the fines for the

1 OSHA violations and also the, I think it was
2 like a \$400 fine for having, you know, lack of
3 the proper permitting. It doesn't exactly
4 seem like a very large deterrent. I think the
5 OSHA fines were something the range of
6 \$14,000, \$14,000, \$30,000 something around
7 those figures. Again, you know it doesn't
8 really present an obstacle for a company to
9 bother with the permitting, right. Well,
10 we'll take care of that after the fact.

11 And so, we're talking about
12 increasing the evaluations, and inspections to
13 make sure the permitting is done correctly,
14 but as I think it was Chief Tutko said, you
15 know there's nothing that's going to force the
16 fire department to go in and make sure they
17 have the permits in hand, it's really on the
18 company, from what I understand, to go and ask
19 for the permits. So then when they don't ask
20 for them, and then there is something that
21 happens, well the slap on the wrist is a \$400,
22 or \$14,000 fine, it seems insane to me that

1 there isn't a higher deterrent in place.

2 Any recommendations, any thoughts,
3 and comments on anyone on that?

4 CHAIRMAN BRESLAND: Let me ask
5 Mr. Vorderbrueggen if he knows the answer to
6 the question about the size of the fine from
7 OSHA.

8 MR. VORDERBRUEGGEN: As far as
9 fines, and I'm relying on primarily what was
10 in the press, those came late, but I think
11 they're in the range of \$400 times three or
12 four, it's less than a couple thousand
13 dollars. And you're pretty accurate from our
14 understanding with the OSHA citations, they and
15 again, OSHA decision process for citations for
16 violations against their standard is all
17 within their process, and ultimately companies
18 even negotiate those numbers. I do know that
19 Arnel has resolved any differences in the
20 citations, I don't know the number, the final
21 number but it's, I believe less than \$10,000.
22 And the last information that the team had

1 from CAI, is they were still negotiating with
2 OSHA, however you're pretty accurate, I
3 believe even the raw number is under, it's
4 certainly under about \$15,000 or \$16,000.

5 MR. SANBORN: Any thoughts about
6 though, and opinions from anyone in terms of,
7 does it seem to make any sense in terms of the
8 amounts of the fines. I mean, obviously OSHA
9 is negotiated and thought about the fines and
10 they think it's appropriate, but I'm sitting
11 at home and I'm like the other gentleman
12 saying this is insane, and they got a slap on
13 the wrist.

14 Clearly their business is
15 affected, clearly this has affected their
16 lives just as much in some respects, so we're
17 all losers in this, and it's not just affected
18 the residents or the businesses in the area,
19 but you know money talks sometimes. And that
20 is one way I would think to send a very clear
21 message to the rest of the companies in the
22 Commonwealth and in the nation that not only

1 could you, you know, blow up your company, and
2 affect so many people's lives in this way, but
3 not only that but you're going to have a very
4 hefty fine if something has turned up, even
5 previous to the explosion that puts you at
6 risk or puts the neighborhood at risk.

7 The other question I had was in
8 regards to permitting itself. And this is
9 again for anybody up for grabs in terms of the
10 answer, is there any, is there going to be
11 clear criteria in terms of which permits will
12 be pulled back or a company will be fined in
13 violation of their permit. Are we going to
14 have, after the bill is passed, or whatever,
15 are we going to have clear criteria, that it's
16 going to make it that company X is going to
17 lose their permit?

18 CHAIRMAN BRESLAND: Let me just
19 make a comment here. The purpose of the
20 public comment period is to hear your
21 thoughts, but not necessarily to get involved
22 in the dialogue and answers questions. But

1 Marshal Coan has indicated that he would like
2 to say something.

3 MR. COAN: I can, but out of
4 respect for the Board, you're correct, that
5 the issues that the gentleman raised are
6 directed at the state regulatory oversight,
7 and not the findings of the CSB.

8 But in deference to the gentleman,
9 let me try to answer in two areas. First of
10 all the fire code of the Commonwealths fines
11 are not designed to be punitive in nature.
12 The upper limits which are very low as you
13 know, are set by the Legislature and they're
14 designed to require, based upon normal
15 inspections, not necessarily designed as fines
16 to be levied after a catastrophic event like
17 you had here today.

18 Now with that being said, the real
19 leverage that the community has is to revoke
20 the license or the permit. Which is the
21 ultimate action that can be taken to put the
22 business out of business. Prospectively,

1 looking into our legislation if we're
2 successful in getting it passed, the key
3 element is that user certificate, and once
4 more that the compliance with the provisions
5 of the law to hold that user certificate is
6 the key to the business. And that user
7 certificate we have used in other industries
8 in the state, blasting, fireworks industry,
9 and on a regular basis our staff is holding
10 hearings, suspending and revoking user
11 certificates. When you revoke a user
12 certificate of an industry, basically they're
13 locking the door.

14 So I think it is a very strong
15 signal to the industry that if we are able to
16 get this legislation, you will comply or you
17 will not operate in the Commonwealth of
18 Massachusetts.

19 CHAIRMAN BRESLAND: Thank you,
20 Fire Marshal Coan.

21 MR. SANBORN: Thank you.

22 CHAIRMAN BRESLAND: Thank you,

1 Mr. Sanborn.

2 That ends the list of the people
3 who had signed up. Is there anyone else in
4 the audience who would like to make a comment?
5 I see somebody coming up. If there is a
6 second person who wants to make a comment, it
7 would be good if you'd, okay, you're close by,
8 that's fine.

9 MR. TURCOTTE: Hi, I'm Jim
10 Turcotte, Danversport.

11 CHAIRMAN BRESLAND: Can you spell
12 your name please.

13 MR. TURCOTTE: T-U-R-C-O-T-T-E.

14 I just wanted to talk, touch on
15 the operator error that you mentioned, and the
16 inadvertently left open steam valve. You know
17 everything that you've covered is fail safe,
18 some permitting and all this thing, but we all
19 get back to human error again. In all the
20 things that have been brought up, there is
21 nothing mentioned about what we can do to
22 prevent human error. You know, whether

1 training of the individuals who are going to
2 be operating the systems, licensing of the
3 people.

4 Prior to 1997 the Commonwealth of
5 Massachusetts General Law, Chapter 146 had a
6 statutes on the book that process steam would
7 be a licensed individual, regardless of
8 horsepower, pressure, through an intense
9 lobbying effort for Maine it was removed from
10 the books. It is my feeling that if the
11 individual that was operating this boiler or
12 steam valve had the training and the knowledge
13 of what he was doing, we probably wouldn't
14 have this situation we have right now. Could
15 have maybe averted this whole disaster. Maybe
16 we could think about adding that to
17 suggestions to the Commonwealth of
18 Massachusetts, that we tighten the laws up
19 again concerning processed steam.

20 Thank you.

21 CHAIRMAN BRESLAND: Thank you for
22 your comments. Sir.

1 MR. FARRELL: My name is Alan
2 Farrell, F-A-R-R-E-L-L.

3 One of the Board recommendations
4 that Mr. Hall made was for chemical plants
5 that have these manufacturing processes to
6 have vented these explosive gases outside,
7 outside the building, ok one of the
8 recommendations. My question is, when you do
9 that, there are, you know in the context of
10 the area where the explosion took place, we
11 don't have the 50 or 100 foot buffer, or what
12 not, it was a very close proximity of the
13 houses to the building that exploded, so if
14 you vent that stuff outside, does that put the
15 neighborhood at risk?

16 Okay, there are other, there
17 certainly other neighborhoods that have
18 chemical manufacturing plants similar to CAI
19 and Arnel, okay, that exist presently, that
20 are operating presently, okay, and if those
21 kinds of recommendations are implemented,
22 okay, does that explosive gas, or explosive

1 vapors being vented outside put those
2 neighborhoods at risk. Now in Danversport,
3 the wind blows this way, the wind blows that
4 way, you know there could be somebody out
5 there with a barbeque grill and he could be
6 blown to smithereens.

7 So I just ask that, that be
8 considered.

9 Thank you.

10 CHAIRMAN BRESLAND: Okay, thank
11 you very much.

12 Do we have any more people who
13 wish to make comment?

14 John, do you want to comment on
15 that question, or Rob do you want to comment.

16 MR. HALL: With respect to the
17 venting outside, one of the things that made
18 this incident such a tragic incident was with
19 the accumulation of the vapors inside that you
20 have confinement that allows it to become an
21 explosive atmosphere. If these vapors are
22 vented outside, you'd get a much greater

1 dispersion, you would also see that you would
2 not get the confinement that would allow you
3 to create the kind of explosive atmosphere
4 that you get by confining these in a small
5 area.

6 It is common practice in a number
7 of the codes to permit the venting of
8 flammable atmospheres directly to the outdoors
9 because it is a much safer way of handling the
10 vapors, than to confine them in a contained
11 area like what occurred at CAI Danvers. But
12 we're also asking for more with those fire
13 codes, and the more we're asking for is also
14 to have automatic features to prevent actual
15 overheating so the generation of the vapors
16 would be much less in the situation where you
17 had it vented outdoors and you had in addition
18 those automatic features to prevent
19 overheating.

20 CHAIRMAN BRESLAND: I should also
21 point out that if you are venting outdoors,
22 and venting an organic or a flammable

1 outdoors, the environmental regulations would
2 come into effect and you would probably have
3 to install environ, pollution control
4 equipment to reduce the amount of material,
5 that's something that's very common in
6 industry.

7 Okay, I believe we've come to the
8 end of our public comment period, and it's now
9 the Board's opportunity to consider the report
10 and the proposed recommendations for our vote.
11 And before we do that, I'd like to ask if any
12 of the Board members have any further
13 comments, or questions about the report.

14 Mr. Wright.

15 MR. WRIGHT: Mr. Chairman, I have
16 no further questions or comments.

17 CHAIRMAN BRESLAND: Mr. Wark.

18 MR. WARK: I have none.

19 CHAIRMAN BRESLAND: Mr. Visscher.

20 MR. VISSCHER: None.

21 CHAIRMAN BRESLAND: None. Do we
22 have any motions from the Board Members on the

1 report?

2 MR. VISSCHER: I guess everybody
3 is looking at me. No I was going to offer a
4 motion, I'd be happy to offer the motion on
5 the approval of the report. My colleagues on
6 the Board know that I have concerns with the
7 recommendations, we've heard a lot about the
8 discussion, I'm not able to support all the
9 recommendations. I do support the rest of the
10 report. I'd be happy to make the motion for
11 approval of the whole thing, but probably you
12 want somebody to move the approval of who is
13 going to support the entire report. So I'll
14 defer to one of my colleagues, if they want.

15 CHAIRMAN BRESLAND: I'd be more
16 than happy to hear you.

17 MR. VISSCHER: I think there's
18 some Roberts Rules of Order about this, but
19 anyway.

20 Mr. Chairman, I move that the
21 Board approve this CSB Investigative Report,
22 regarding the Agency's investigation into the

1 explosion and fire that occurred on November
2 22, 2006 at the CAI/Arnel Manufacturing
3 facility in Danvers, Massachusetts.

4 CHAIRMAN BRESLAND: Do we have a
5 second?

6 MR. WARK: Second.

7 CHAIRMAN BRESLAND: We'll now take
8 a vote on the vote on the report, can you pass
9 down the actual wording. The motion is to
10 approve the CSB Investigation Report, Number
11 2007-03, I MA, which stands for Massachusetts,
12 regarding the Agencies investigation into the
13 explosion and fire that occurred on November
14 22, 2006 at the CAI/Arnel Manufacturing
15 Facility in Danvers, Massachusetts.

16 We'll start with Board Member
17 Visscher.

18 MR. VISSCHER: Nay.

19 CHAIRMAN BRESLAND: Board Member
20 Wark.

21 MR. WARK: Yes, I approve.

22 CHAIRMAN BRESLAND: Board Member

1 Wright.

2 MR. WRIGHT: Yes, I approve, Mr.
3 Chairman.

4 CHAIRMAN BRESLAND: And Board
5 Member, Chairman Bresland approves. So the
6 motion passes by a vote of three to one.

7 (Whereupon, the motion was passed
8 with a vote of three in favor, one against.)

9 CHAIRMAN BRESLAND: Some
10 concluding remarks. I would like to thank
11 each of the Board Members for their
12 participation and all of us here have a strong
13 interest in preventing these tragic explosions
14 in the future. And I would especially like to
15 thank John Vorderbrueggen for their excellent
16 work on this investigation. The Board will be
17 working together with our staff to see that
18 the important recommendations adopted today
19 are implemented. We closely monitor progress
20 on our recommendations and we'll be sure to
21 periodically report back to the public on
22 their status. I applaud the people of Danvers

1 on their resilience throughout this tragic
2 event and I thank you for your interest in the
3 CSB's work.

4 I urge all of you to continue to
5 make Danvers and the Commonwealth of
6 Massachusetts a safer place by working with
7 your local and state to ensure that the CSB's
8 investigations are enacted. I would again
9 like to thank all of today's participants,
10 including the panel, and the audience for your
11 attention.

12 With that, the meeting is
13 adjourned. Thank you.

14 (Whereupon, at 9:33 p.m., the
15 meeting was adjourned.)

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