

UNITED STATES OF AMERICA

+ + + + +

CHEMICAL SAFETY AND
HAZARD INVESTIGATION BOARD

+ + + + +

PUBLIC MEETING

+ + + + +

BAYER CROPSCIENCE EXPLOSION AND
FIRE PUBLIC MEETING

+ + + + +

APRIL 23, 2009

+ + + + +

The hearing came to order at 6:30 p.m. in the multipurpose room of the Wilson Building of West Virginia State University, 103 University Union, West Virginia. John Bresland, Chairman and CEO of the CSB, presiding.

PRESENT:

JOHN BRESLAND, CHAIRMAN AND CEO
CHRIS WARNER, ESQ., GENERAL COUNSEL
WILLIAM B. WARK, BOARD MEMBER
WILLIAM E. WRIGHT, BOARD MEMBER
JOHN VORDERBRUEGGEN PE, INVESTIGATIONS
SUPERVISOR
JOHNNIE BANKS, CFEI, INVESTIGATOR
CATHERINE CORLISS, PE, INVESTIGATOR
LUCY SCIALLO, GSP, INVESTIGATOR

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

TABLE OF CONTENTS

Opening Statements..... 5

Presentation of the CSB's
Preliminary Findings 17

Board Questions..... 103

Panel Testimony and Board Discussion
with Panelists 107

Public Comments..... 172

Closing Statement..... 223

Adjourn

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

P-R-O-C-E-E-D-I-N-G-S

(6:30 p.m.)

CHAIRMAN BRESLAND: Good evening and welcome to this public meeting of the United States Chemical Safety Board, or as we refer to it, as the CSB. I'm John Bresland, Chairman of the Board, and with me today are Board Members William Wark and William Wright.

And also joining us today, sitting beside me, is our general counsel, Chris Warner, and various CSB staff members whose efforts have facilitated this meeting, and whom you'll be hearing from later this evening.

The CBS is an independent, non regulatory federal agency that investigates major accidents at fixed chemical facilities.

The investigations examine all aspects of chemical accidents, including physical causes related to equipment design as well as inadequacies in regulations, industry standards, and safety management systems.

Ultimately, we issue safety

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 recommendations which are designed to prevent
2 similar accidents in the future. The purpose
3 of this evening's meeting is for the CBS
4 investigative team to present their
5 preliminary findings into the investigation of
6 the August 28th, 2008 chemical processing tank
7 explosion at Bayer CropScience, which fatally
8 injured two workers.

9 At this time, please allow me to go
10 over this evening's agenda which is on slide
11 number two.

12 First, we'll hear from the
13 investigation team, and then following the
14 team's presentation, the board will be given
15 an opportunity to ask questions of the
16 investigation team.

17 The board will then hear from a
18 panel of outside witnesses. This evening's
19 panelists are listed on slide three, and we
20 will be welcoming those and giving you more
21 details on who they are, but they are all
22 here. They are all sitting up front and we

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 appreciate you taking the time to get here.
2 Thank you very much.

3 After the panel portion of the
4 meeting, we'll open the floor to public
5 comment, and I'll say a little bit more about
6 public comments later on, in terms of how much
7 time we're going to have for each person to
8 comment.

9 But before we get into the "meat"
10 of the meeting, I'd like to thank West
11 Virginia State University for hosting the
12 CSB's public meeting, and I would now like to
13 invite Dr. Hazo W. Carter, Jr., president of
14 the university, to the front of the room to
15 make an opening statement.

16 Dr. Carter.

17 DR. CARTER: Thank you very much.
18 Good evening. Welcome to the beautiful campus
19 of West Virginia State University. I extend
20 greetings to the board members and
21 investigators of the United States Chemical
22 Safety Board, the panelists and guests. This

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 is a historic 118-year-old campus. To walk on
2 these hallowed grounds is to step in the path
3 of thousands of students, faculty and staff,
4 who helped to shape West Virginia, our
5 society, and our nation.

6 Those of you who are familiar with
7 our campus community realize that West
8 Virginia State University is truly a special
9 place. West Virginia State University prides
10 itself on being a living laboratory of human
11 relations. We have one of the most diverse
12 faculty, staff, and student bodies of any
13 higher education institution, public or
14 private, in West Virginia.

15 Those who work and learn here do so
16 in an environment that accurately reflects the
17 diversity of America. The very aspects of
18 thought, backgrounds and opinions found at
19 this living laboratory of human relations
20 prepares students for the life experience of
21 living successfully in a multicultural,
22 multigenerational global society.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 It is in this atmosphere of
2 understanding and acceptance that West
3 Virginia State University is pleased to host
4 this meeting that is conducted by the United
5 States Chemical Safety Board.

6 As an important part of the Kanawha
7 Valley, and being in close proximity to a
8 chemical plant complex, the university is
9 concerned with all safety issues that could
10 potentially impact our students, faculty and
11 staff, and the day to day operations of our
12 campus. My family and I live for this campus.

13 It is my hope that this meeting will be a
14 learning experience and a foundation on which
15 to build the best possible safety procedures
16 for all of us who live, study and work in the
17 Kanawha Valley. Again, thank you for
18 attending this important meeting.

19 CHAIRMAN BRESLAND: Thank you, Dr.
20 Carter. Congressman Shelley Moore Capito was
21 unable to attend this evening, but her
22 district director, Mary Elizabeth Ekerson is

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 here, and she would like to read a statement
2 from Congresswoman Capito.

3 MS. EKERSON: Thank you, Mr.
4 Bresland, and thank you, Dr. Carter, for
5 opening up your campus this evening.

6 "Dear Mr. Bresland, the U.S.
7 Chemical Safety Board, and members of the
8 community. While I'm unable to attend this
9 evening's meeting due to my congressional
10 responsibilities that require me to be in
11 Washington, D.C., I would like to thank the
12 U.S. Chemical Safety Board for hosting
13 tonight's public hearing and the extensive
14 work and effort they have put into their
15 preliminary report. I would also like to
16 thank the members of the community who are in
17 attendance tonight.

18 "The seriousness of this incident
19 has been well-documented, and there is little
20 question that those of us who live in the
21 Kanawha Valley deserve a full account of the
22 events surrounding the August 28, 2008

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 explosion at the Bayer CropScience facility in
2 Institute.

3 "As many of you may be aware, we
4 heard testimony on this incident at a House of
5 Representatives subcommittee hearing on
6 Capitol Hill earlier this week. The facts and
7 actions referenced in that hearing, and
8 documented by investigators and other
9 officials, paint a troubling picture of the
10 day in question.

11 "We know, without dispute, that
12 there was a serious breakdown of
13 communications between Bayer and first local
14 responders. The brave men and women who put
15 themselves in harm's way can only keep us safe
16 when they have the necessary information to do
17 so. The information which finally did reach
18 first responders and local residents was often
19 delayed and incomplete. These are troubling
20 scenarios that demand a full and transparent
21 inquiry.

22 "I believe Bayer and the community

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 are working together to significantly improve
2 this process. Today, we will see the
3 preliminary findings of the U.S. Chemical
4 Safety Board, and I look forward to the
5 board's conclusions and recommendations.
6 Sincerely, Shelley Moore Capito."

7 Thank you.

8 CHAIRMAN BRESLAND: Thank you.

9 Before we begin this evening's
10 proceedings, I would like to point out some
11 safety information. There are exits that are
12 marked, so if there is a need to be--for us to
13 leave in an emergency, please exit through the
14 ones that are marked Exit.

15 If, however, anticipating the next
16 comment--if, however, we have to shelter in
17 place, this is the shelter-in-place room in
18 the university. So the doors will close and I
19 will leave and everybody else will stay here.

20 [Laughter]

21 CHAIRMAN BRESLAND: This is the
22 shelter-in-place room, and over on the left-

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 hand side, there actually is an emergency box
2 which has all of the appropriate emergency
3 communications equipment. So hopefully we
4 will not have to spend the evening here.

5 I also would ask that you would
6 mute your cell phones before we begin, so that
7 we don't interrupt the speakers.

8 Thank you.

9 On August 28, 2008, a powerful
10 explosion occurred within the methomyl larvin
11 unit at the Bayer plant. The explosion
12 occurred during the re-start of the methomyl
13 section of the unit. The blast fatally injured
14 two employees, Barry Withrow and Bill Oxley.

15 To those of you in the audience,
16 who lost friends or family members, please
17 allow me to extend my deepest sympathies.

18 I believe that the main reason we
19 investigate this action was the tragic loss of
20 life, as well as the impact which this
21 facility has on the surrounding community.

22 The facility stands in a populated

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 area along the Kanawha River, about ten miles
2 west of Charleston. Chemical safety has been a
3 major issue in Kanawha Valley for decades,
4 fueled in part by concerns about the number of
5 major chemical plants, the density of
6 settlement, the local geography, and the
7 potential difficulty of evacuating the area.

8 Many of you here this evening live
9 in the Valley and have a personal interest in
10 the safety of this facility. I should just say
11 as a side, in spite of my accent, I have lived
12 in West Virginia off and on for about 12
13 years. I currently live in Jefferson County.

14 The public meeting is our chance to
15 discuss our opinions about the team's
16 preliminary findings. If anyone in the
17 audience wishes to comment publicly after the
18 investigator's presentation, please sign up at
19 the tables in the check-in area. I will call
20 your name at the appropriately time and I'll
21 first call those people who have signed in and
22 then I will ask for anyone who wishes to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 speak.

2 Please note, and I know we've got a
3 large crowd here this evening with standing
4 room only, but please note that we do have to
5 limit public comments to three minutes each.
6 We have a little timer up here that we hope
7 that you will abide by.

8 Also note that we aren't able to
9 take questions for those investigators
10 directly from the audience. And so I'll ask
11 that all comments be directed to me as the
12 presiding official at this meeting.

13 Now, if there is a point that is
14 raised in your comment where I believe that
15 the investigation staff can provide some
16 immediate clarification, I'll ask them to do
17 so.

18 I would like to thank the team for
19 their diligent work on this investigation. Our
20 investigation continues. This is what we call
21 a mid-term meeting. We're about halfway
22 through the investigation, but we are here to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 give you an update on what we have found so
2 far, and also to also hear from the community
3 about what concerns or questions that you may
4 have.

5 Finally, let me say a word about
6 the secrecy claims that have been made by
7 Bayer concerning the information collected
8 during our investigation.

9 As many of you know, Bayer has
10 sought to designate several thousand pages of
11 information as sensitive security information,
12 or SSI, under the Maritime Transportation
13 Security Act. You may have read about this in
14 the local newspapers.

15 While the status of these documents
16 has not yet been resolved, I do want to assure
17 you that the presentation tonight will include
18 the fullest possible discussion of all of the
19 issues, including the issue of methyl
20 isocyanate or MIC. We at the Chemical Safety
21 Board remain firmly committed to the public's
22 right to know.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 As was mentioned, there was a
2 congressional hearing in Washington, DC this
3 past Tuesday that I participated in. The
4 president of Bayer Cropscience, at that
5 meeting, stated that Bayer's reason for
6 raising the SSI issue to the Chemical Safety
7 Board in February was, and I quote, a desire
8 to limit negative publicity generally about
9 the company or the Institute facility, to
10 avoid public pressure to reduce the volume of
11 MIC that is produced and stored at Institute
12 by changing to alternative technologies, or
13 even called by some in our community to
14 eliminate MIC production entirely. End quote.

15 I was deeply disappointed with
16 Bayer's conduct in this matter. I can assure
17 the public that the CSB will continue to
18 conduct a thorough investigation of all the
19 issues and recommend whatever changes will
20 best protect the work place and the public.

21 I will now recognize the other
22 Board members for an opening statement. Mr.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Wark, Mr. Wright. So at this time, I would
2 like to introduce the investigation team.

3 It's headed up by John
4 Vorderbrueggen. He's the supervisor of the
5 investigation, sitting over on the far right.
6 Sitting next to him is Mr. Johnnie Banks.
7 Sitting on this end is Catherine Corliss. I
8 should tell you that she's also a resident of
9 West Virginia. Sitting right beside Catherine
10 is Lucy Sciallo. They will all be talking to
11 you at some point this evening.

12 So at this point, let me turn it
13 over to Mr. Vorderbrueggen and he will start
14 his presentation, which I should point out,
15 will be quite lengthy, so we'd like to move
16 through it as quickly as possible without any
17 interruption. You will have an opportunity
18 later on to ask questions and make comments.
19 But if we can get through it without
20 interruption, it will certainly make for a
21 more efficient evening. Mr. Vorderbrueggen?

22 PRESENTATION OF THE CSB'S PRELIMINARY FINDINGS

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MR. VORDERBRUEGGEN: Thank you,
2 Chairman Bresland. Members of the Board,
3 general counsel, ladies and gentlemen, to
4 start this presentation, I want to summarize
5 some of thee activities and what we have done
6 since the incident occurred back on August
7 28,2008.

8 The team spent in excess of a month
9 on-site collecting data, interviewing eye
10 witnesses. We interviewed other parties. We
11 interviewed the management staff all the way
12 up to the top at the site. We have interviewed
13 some of you in the community. We have
14 interviewed emergency responders, part of the
15 Metro 911 Call Center. We've collected this
16 data. We've taken, maybe, thousands of
17 photographs of the incident scene.
18 We've preserved evidence that is important to
19 our investigation.

20 Over the last seven months, we have
21 been analyzing this data. We are still
22 collecting more data. There are outstanding

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 document requests to Bayer Cropsience and
2 they are processing these requests and we will
3 have more.

4 We also intend to interview a few
5 more folks. As the team assesses and evaluates
6 the data that we have, we come up with new
7 questions, new concerns, new issues, and all
8 of that will be addressed by our team over the
9 upcoming months.

10 Our goal is to complete this
11 investigation before the end of the calendar
12 year, but that is certainly predicated on the
13 data that we do need, some of the modeling
14 activities that we need to conduct -- chemical
15 testing that we have even yet to determine
16 what some of that will be, so bear with us. It
17 will take time, but our goal is to have a
18 comprehensive report of what happened, why it
19 happened, and most importantly, what will we
20 be presenting to the Board for consideration
21 for recommendation such that this type of
22 event will not happen in the future.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Furthermore, in the hopefully
2 unlikely event it happens, the goal is to make
3 sure that the community is promptly and
4 appropriately and correctly informed so that
5 the proper steps can be taken. So with that, I
6 will move forward.

7 I'm going to summarize the facility
8 and the unit overview. I'll provide an
9 incident summary or the team will. We will be
10 doing some hopping and skipping here, so bear
11 with us as we switch back and forth. We will
12 present a time line of the emergency response.
13 We will summarize the fatalities and injuries.

14 Again, this is a tragic event and
15 the team's condolences to families, friends,
16 and co-workers to Mr. Withrow and Mr. Oxley.

17 We will then summarize the facility
18 and the off-site damage. We will talk about
19 the properties of the chemicals involved in
20 this incident and the possible chemicals that
21 might have resulted from decomposition and
22 fire. We will then present our preliminary

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 findings that we are pursuing. Then we will
2 briefly discuss the path forward for the team.

3 Some of you recognize some of these
4 dates and understand this. Some of you don't.
5 But this facility started out in 1943 and
6 operated until 1947 in support of World War II
7 effort in the manufacturing of rubber
8 products.

9 Union Carbide purchased the
10 facility in 1947 and operated it until 1986.
11 Rhone-Poulenc purchased the facility in 1986
12 and operated it until 2000. Aventis, which is
13 a merger of Rhone-Poulenc and Herck, took over
14 the facility in 2000 to 2002. Finally, Bayer
15 CropScience purchased the facility and has
16 operated it since 2002.

17 This is a photo of the sign at the
18 entrance to the facility, which I believe is
19 Carbide Road, and is still called Carbide
20 Road. It is a multi-tenant facility. This sign
21 shows the seven tenants at this property.

22 Some of these tenants share feed

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 stock with other tenants and even some of
2 those tenants actually provide feed stock for
3 other tenants.

4 In particular, FMC and Adisseo are actually
5 operated by Bayer employees through
6 contractual equipment. The equipment is owned
7 by FMC or Adisseo. Bayer employees operate.

8 Furthermore, I will talk a little
9 bit about FMC's link with the methomyl larvin
10 unit a little bit later in the discussion.

11 As it relates to Bayer CropScience,
12 the
13 corporation is located in Germany. There are
14 some 17,800 employees in more than 120
15 countries world-wide. Their US headquarters is
16 in Research Triangle, Park, North Carolina,
17 which is in the Raleigh-Durham area on the
18 eastern side of the state.

19 The Institute plant has
20 approximately 520 Bayer employees. There are
21 three manufacturing centers at this facility.
22 The first is East Carbamoylation, which is on

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the east side closest to the University where
2 we are tonight.

3 The West Carbamoylation is
4 essentially everything west of, I believe,
5 Carbide Road.

6 And then Rhodimet is its own unit,
7 which sits very close to Carbide Road.

8 This is an ariel view of the
9 facility. I hope you can see the pointer here.
10 We don't have a laser pointer with us tonight,
11 so we improvised. Oops and bear with us as we
12 deal with it.

13 The view is to the north of the
14 facility. The north is to the top of the
15 picture and the I-64 is out of the picture to
16 the north. As you can see, Main Street, which
17 is Route 25, runs right across -- east to west
18 -- across the top of the facility.

19 The Kanawha River is to the south
20 of the facility. As you can see, on the right
21 hand side if the picture, is the edge of the
22 University that abuts the eastern end of the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 property.

2 The methomyl larvin unit where the
3 incident occurred on August 28 is shown and
4 circled in the lower left portion of the
5 picture. It is approximately 800 feet north of
6 the river, about 800 or so feet off the west
7 property line and a little over 1000 feet off
8 of Route 25.

9 This is a close-up view, a zoom-in
10 view, of the methomyl larvin unit. What is
11 shown is -- in the center of the picture,
12 that's the methomyl larvin unit proper -- I
13 apologize. I think I may just deal without the
14 arrow. I apologize.

15 Almost in the exact center of the
16 picture is where the explosion occurred in
17 this unit. To the extreme left of the picture,
18 you'll see a large rectangle, black
19 rectangular structure. That's the two story
20 control room that housed the control room
21 operators and other activities for this unit.

22 The north-south dark line in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 roughly the center of the picture -- the
2 control room is, as I said, to the lower left.
3 The pipe rack is roughly to the center. It
4 runs north to south, top to bottom in the
5 picture.

6 The explosion epicenter, again, as
7 is said, is roughly along that road is
8 immediately south of the methomyl larvin unit.

9 I'll now move into the process
10 description. The methomyl larvin unit was
11 actually designed and fabricated and put in
12 service in 1983. In the summer of 2007, the
13 larvin end of this unit or the larvin portion
14 -- the control system was upgraded to a new --
15 it was called a Siemens System -- and we'll
16 talk about the difference between Siemens and
17 Honeywell a little bit later.

18 In the summer of 2008, the methomyl
19 unit was upgraded. There was an extended
20 outage. The control system was upgraded to
21 match the larvin portion of the unit and a new
22 residue treater was installed. The reason for

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the new residue treater is the old residue
2 treater had -- it was at its end of useful
3 life.

4 This is a picture of the old
5 residue treater after it was removed from the
6 unit this past summer. It's approximately 8
7 feet in diameter, about 14 feet tall. It
8 happens to be lying on its side. The new
9 residue treater looks just like this treater
10 except it was pretty stainless steel and it
11 sat vertically. It was installed in the unit
12 in the summer of 2008.

13 I will now move into the process
14 description and please bear with me as I go
15 through this diagram. If you look on the left
16 side of the diagram, in the box, it says MIC
17 Production Unit. That's the Methylisocyanate
18 Production Unit.

19 It is located on the eastern side
20 of the facility. In that unit, they mix
21 phosgene and methylamine and ultimately
22 produce the methylisocyanate. It is stored

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 underground in that facility. Many of you have
2 some familiarity and maybe extensive
3 familiarity with that unit, at least in
4 understanding its basic process.

5 From that unit, they distribute the
6 methylisocyanate to the four process units in
7 the facility that uses it as a feed stock.
8 That is typically handled in overhead pipe
9 racks. The dash lines show the transfer lines
10 from the center production unit of
11 methylisocyanate to the process units that use
12 it.

13 In particular, the MIC day tank,
14 which is at the lower bottom, receives the
15 methylisocyanate, and it supplies the daily
16 production needs for methlyisocyanate to both
17 the FMC carbofuran unit, which again, is
18 operated by Bayer; owned by FMC. It feeds the
19 methomyl larvin unit.

20 Looking at the top of the picture,
21 we'll go back to the beginning of the methomyl
22 process. We are not going to get into the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 larvin end of the unit. That's the next item
2 downstream. We are only focusing tonight on
3 methomyl.

4 In the methomyl unit, the first
5 basic step is the acetaldoxime and chlorine
6 are combined and they end up -- and I'm not
7 going to pronounce that. I'm just going to use
8 the abbreviation CAO. They combine sodium
9 methylmercaptide with the CAO and the
10 resulting material is -- I'll use the short
11 name -- oxime.

12 From the oxime product or
13 intermediate product it's called, they combine
14 the methylisocyanate in what is shown in that
15 vertical hash line. It's essentially a pipe
16 system and the methylisocyanate reacts with
17 the oxime and ultimately methomyl is produced.
18 It is sent to the crystalizers where they
19 crystalize it. Methomyl is a solid material
20 in its final stage.

21 From the crystalizers, it moves to
22 the centrifuges to remove the solvent that is

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 used throughout the first run -- first portion
2 of the process.

3 So on this next slide, we're coming
4 into the crystalizers at the top center of the
5 picture -- I'm sorry -- from the crystalizers
6 to the centrifuges. The centrifuges are like
7 large washing machines. They spin. They
8 actually do some washing, if you will. They
9 run some solvents. They spin. They dry it. The
10 dry methomyl is now packaged in 55 gallon
11 drums or something of that approximate size,
12 stored in a warehouse.

13 Some of that methomyl is sold as
14 direct sales to other chemical companies for
15 their production purposes. Some of that
16 material is stored and used, ultimately moved
17 into the larvin end of the production unit.

18 Coming out of the bottom of the
19 centrifuge is the liquid. The liquid is a
20 concentrated -- it has some amount of methomyl
21 in it and it has other products because
22 there's other chemistry involved in this

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 process. They recover the solvent to re-use
2 it.

3 There are many thousands of gallons
4 of liquid solvent used in this process and so
5 it is recovered in what is called a flasher,
6 which simply, if you can call chemistry
7 simple, is simply a method of boiling the
8 solvent, sending the vapor into the vapor
9 recovery system. You can dense it back to a
10 liquid. Now you have a clean, relatively pure
11 solvent that is returned into the process
12 unit.

13 The flasher bottoms is the waste
14 material, the last bit of material that cannot
15 be recovered from the centrifuge flow. That is
16 what the residue treater was intended to
17 process, before the final liquid was sent to
18 the boiler house for burning.

19 So the flasher bottoms fed into the
20 residue treater. The purpose of the residue
21 treater was simply to decompose the remaining
22 amount of methomyl that survived the process

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 down through the solvent recovery flasher
2 because they could not out the methomyl into
3 the auxiliary fuel tank and burn it for
4 various purposes.

5 One of the important features of
6 the residue treater that I'm just going to
7 point out here is where it says the solvent
8 pre-fill. In the unit start-up, the first time
9 you re-start the residue treater, it is
10 critical that the treater be
11 pre-filled up to a certain level with clean
12 solvent, such that the flasher bottoms is then
13 introduced into the solvent, and so it's
14 immediately diluted.

15 So that's what the purpose of the solvent pre-
16 fill in the residue treater is.

17 So we now have a hopefully somewhat
18 clearer understanding of how this process
19 worked up through the residue treater, which
20 was a waste treating device.

21 This next slide shows a more
22 detailed view of the residue treater. This is

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the device that failed the night of August 28.
2 Again, bear with me as I try to go through
3 this.

4 Down in the lower left side is the
5 solvent feed line. The operators would
6 manually open that valve at the lower part and
7 they would start filling the residue treater
8 to some 20 or 30 percent. The re-circulation
9 pump would then be started.

10 The first step, which is a critical
11 step to starting the second step, since the
12 first is filling it. The second step is to
13 heat the solution, the solvent. So the system
14 was designed to run the liquid through a steam
15 heater, which you see on the right center of
16 the page with kind of a pink and red color and
17 it says steam -- is there. So steam heated the
18 material.

19 Once the residue treater contents
20 was up to the required operating temperature,
21 the computer system was intended to control
22 and allow what is called the feed control

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 valve, which is over on the extreme left side
2 of the photo, to open.

3 That valve would then allow the
4 methomyl solvent, from the liquid from the
5 flasher bottoms, to now enter the residue
6 treater that's been pre-filled and pre-heated.
7 There's quick dilution and because the
8 temperature is at their operating temperature,
9 the methomyl will self-decompose into a
10 material that they can then transfer into the
11 auxiliary fuel tank.

12 So there was a temperature
13 transmitter control or a temperature
14 transmitter that was connected to the feed
15 control valve and there was -- bear with me.
16 It was the flow transmitter where two
17 important transmitters that helped control the
18 feed control valve.

19 Once the unit was up and running,
20 the methomyl decomposition creates heat, so
21 the computer system was intended to
22 automatically switch from the heating cycle to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 a cooling cycle and from then on, for weeks on
2 end -- however long they were making methomyl
3 -- they would actually take a little bit if
4 heat out of the system to ultimately control
5 the pressure in the residue treater.

6 I'll now move into the summary, the
7 incident summary, of what happened the night
8 of August 28.

9 The methomyl unit re-starts
10 activities
11 actually began a week earlier on August 21.
12 There's many things -- it's a complex
13 activity. There's many people in a control
14 room and working in the unit, especially when
15 there's been changes to the equipment. It's
16 not a simple activity. It's not a normal
17 activity.

18 It had been an extended outage. It
19 was the first time use of a brand new control
20 system on the methomyl unit. Although the
21 operators had some experience or had
22 experience with the same control system on

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 larvin, but you're talking about a different
2 process unit. It has different critical
3 parameters. It has different adjustments. So
4 it was the first time use of their control
5 system.

6 It was the planned beginning of an
7 extended production run to meet a new
8 international demand. In fact, Bayer was in
9 the process of hiring new employees and there
10 was a good opportunity for Bayer, and the
11 larvin product is the end product coming out
12 of this unit.

13 The actual methomyl production
14 started on August 27, so they spent about a
15 week preparing equipment and adjusting
16 equipment. They were continuing to adjust to
17 the new control system, displays in computer
18 input method.

19 What I mean by that is the
20 operators and the personnel in the control
21 room were continuing to familiarize
22 themselves. So that was an ongoing activity,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 both on the control console displays, as well
2 as how they entered data to tell the computer
3 what to control in the system.

4 The operators and the other unit
5 personnel were also focusing on the upstream
6 equipment. There were some performance start-
7 up issues. That is somewhat typical. Again,
8 there are adjustments to be made, things to be
9 clarified, checked, and because of the new
10 control system, that even compounded that
11 challenge.

12 So they were continuing with
13 control tuning and process trouble shooting
14 throughout the week prior to the incident,
15 including the day of the incident.

16 We're now at Thursday, 5:00 in the
17 morning. The status of the residue treater as
18 the level indication read was 0 percent full.
19 It effectively was empty. Its temperature was
20 40 degrees Centigrade, which is 104 degrees
21 Fahrenheit. The devices to control temperature
22 and flow were bypassed.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 When I showed in that earlier
2 picture, there was a temperature control on
3 the feed valve and a flow limit on the feed
4 valve. They were in a bypass mode, which means
5 that they were ineffective.

6 At that point in time, empty
7 residue treater and cold residue treater, the
8 flasher bottoms feed valve was manually
9 opened. The computer did not make that
10 control. The control was switched to manual
11 and it was manually opened.

12 Thirteen and a half hours later,
13 the liquid level is now 49 percent, which is
14 plenty of liquid in this. In fact, it
15 typically operated around that range.
16 Temperature is at 145 degrees Fahrenheit,
17 which is actually above its intended operating
18 temperature. So the temperature actually
19 climbed.

20 The reason the temperature is
21 climbing is because the feed that's going into
22 the unit is pre-heated. It doesn't come in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 cold. It comes in at some higher temperature
2 and there is some amount of decomposition
3 occurring from the methomyl which creates
4 heat.

5 So this small amount of
6 decomposition was bringing temperature up. But
7 for all intents and purposes, up until now,
8 the control room operations personnel are
9 seeing this temperature climb -- and I'll show
10 you a chart in a minute -- and it appeared
11 normal. At that time, 6:25, was the first time
12 the re-start pump was started.

13 About four hours later -- it's now
14 10:20 pm, 15, or 20 minutes before the
15 incident, the residue treater is at 58
16 percent. That's still within operating range.
17 The temperature is climbing. It's
18 significantly climbing, and the pressure is
19 now unexpectedly increasing.

20 The control board operator saw that
21 on his console. That was the first time that
22 there was recognition that something didn't

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 appear to be correct.

2 This graph is an actual graph of
3 the pressure and the temperature during the
4 time. It starts a little after 4 pm on the
5 afternoon of August 28. The bottom line, the
6 red line, is the pressure curve, and it was
7 normal. They pre-pressurized the reactor to a
8 small amount so it was sitting there running
9 fairly normally.

10 The temperature is the black line,
11 and up until about 6:43 pm, which is about the
12 time they started the re-circ pump,
13 temperature was flat. Start the re-circ pump,
14 start mixing things, and now e get a little
15 bit of methomyl decomposition occurring, and
16 the temperature starts climbing.

17 What the operator -- what typically
18 was seen was a curve like this and the
19 assumption would be that the heater was doing
20 its job. So there was nothing to be concerned
21 about from 6:00 until just before 10:19 pm and
22 again, it's a very small blip in this curve

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 that it starts to go towards a vertical, which
2 is telling the operator that the pressure has
3 gone up over a short period of time.

4 It was at this point that he
5 started to take corrective action. Within a
6 few minutes, he asked one of the outside
7 operators to check the residue treater vent
8 system. The residue treater has a vent system
9 to remove gases and they had historically had
10 problems with that vent system over the
11 operating time because there are some solvent
12 material, so the vent system would tend to
13 plug up, which is not necessarily a safety
14 issue, but it meant that the operator had to
15 go out and make sure the vent line wasn't
16 plugging because that would result in a
17 pressure climb.

18 Within a few minutes, the second
19 outside operator was asked to assist. Again,
20 these are the two gentlemen that did not
21 survive.

22 As they were approaching the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 residue treater -- they were walking down the
2 roadway, the residue treater relief valves
3 opened. Those are the emergency vent valves to
4 start relieving pressure. They could hear
5 that. Other people in the unit could hear
6 that. Now the unit alarms are starting to
7 sound. That actually lasted for about four
8 minutes before the actual rupture occurred.

9 But right about 10:35 pm, the
10 residue treater violently ruptured.
11 Approximately 2500 gallons of methomyl solvent
12 liquid was suddenly released into the roadway
13 and a fire almost immediately erupted.

14 This methomyl solvent liquid is
15 highly flammable. It's a solvent and as soon
16 as that residue treater ruptured and was blown
17 into the unit -- we'll show you some pictures
18 -- sparks were created from steel hitting
19 concrete, steel hitting steel. Wires were
20 being ripped, electric wires -- high voltage,
21 low voltage instruments, piping. There was a
22 spark ignition source there virtually as quick

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 as it ruptured. Solvent piping, then headers,
2 and other process equipment were damaged,
3 destroyed as the residue treater came apart.

4 This is a shot of the unit after
5 the explosion had occurred. The picture -- the
6 white section in this picture is what was the
7 approximate location of the residue treater
8 and the approximate size. It actually sits
9 behind that debris pile and that's where it
10 physically was.

11 We are looking basically northwest
12 in this view. The roadway, the street, is to
13 the left of the picture, and it's pretty
14 obvious the amount of energy that was released
15 when the treater came apart and all the steel
16 was thrown -- steel and piping.

17 The treater was driven into the unit and in
18 the next picture we'll show where it came to
19 rest.

20 That large, somewhat shiny chunk of
21 steel was a brand new pressure vessel. It
22 traveled approximately 50 feet into the unit

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 and the piping was of course ripped out. A lot
2 of electrical conduit and other things were
3 ripped out as a result of this explosion.

4 Our preliminary findings -- why did
5 the residue treater blow up? That's the easy
6 part of our investigation, actually. The hard
7 part is figuring out the management system
8 deficiencies that resulted in these specific
9 actions or conditions to occur on August 28,
10 so that's what we are looking for. That is our
11 goal.

12 But we do know that the minimum
13 temperature safety interlock was bypassed, so
14 therefore, methomyl could be introduced into
15 the residue treater well below the required
16 safe minimum operating temperature.

17 Also, the minimum re-circulation
18 flow interlock was bypassed, so in fact, this
19 valve could have opened even when re-circ was
20 not occurring, although in this case, it was.
21 Re-circ was occurring.

22 And then finally, the feed valve

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 was put in the manual mode and opened so that
2 methomyl was introduced when the residue
3 treater was essentially empty and it was cold.
4 So there was no dilution and no rapid
5 decomposition as it was intended to occur.

6 So looking back at this picture,
7 the problem, the immediate physical problem,
8 is the two devices that have the X's had been
9 over-ridden, de-activated, such that the feed
10 control valve on the extreme left could be
11 manually opened. This was done way before the
12 residue treater was properly prepared and the
13 residue treater violently ruptured.

14 This is a curve. This is the rest
15 of the curve from the previous one with the
16 remaining time shown from about 10:19 pm when
17 the operator in the control room observed that
18 there was an issue, a problem. To the point,
19 the black line is when the residue treater
20 ruptured and the signal was lost.

21 In the red curve, the pressure is
22 now uncontrollably increasing. You see a small

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 blip in that curve, if you will. It kind of
2 drops off. That was the relief valve opening
3 and the pressure dropped off for a little bit
4 and then went back to climbing because the
5 runaway chemical reaction was overwhelming the
6 relief.

7 At 10:35, based on the various time
8 stamps, the vessel ruptured. The top curve,
9 again, clearly the temperature is running
10 away, unable to control it at this point in
11 time.

12 Other preliminary findings, as I've
13 mentioned a couple times, the residue treater
14 was not pre-filled with the solvent as
15 required by the procedure. The solvent was not
16 pre-heated to the minimum operating
17 temperature as required by the operating
18 procedure. The flow of methomyl mixed solvent
19 mixture to the residue treater had actually
20 begin at 5 am the previous morning or that
21 morning, and had continued all day at a very
22 low rate, but that's where the liquid was

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 added to the residue treater.

2 The residue treater re-circ began
3 around 6 pm. Ultimately, there was a sudden
4 uncontrolled exothermic -- meaning heat-
5 releasing, heat-generating -- decomposition of
6 methomyl.

7 In fact, some preliminary numbers -
8 - and these are subject to further refinement
9 -- but it does point to a significant
10 deviation from the permitted conditions. But
11 the concentration of methomyl, in the residue
12 treater, was probably significantly in excess
13 of 20 percent.

14 Yet, the relief system was sized
15 for not to exceed about a half a percent
16 concentration, and it was clearly documented
17 in the safety analysis and the operating
18 procedure. Obviously, the residue treater
19 violently ruptured, solvent methomyl lines
20 were severed, and the contents were ignited.

21 We'll move into a new segment. I
22 will ask Mr. Johnnie Banks to come up and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 discuss the emergency response consequences
2 and community impact.

3 MR. BANKS: Thank you, Mr.
4 Vorderbrueggen.

5 Chairman Bresland, Board members, general
6 counsel, ladies and gentlemen, good evening.

7 For the next portion of our
8 presentation, I'll be presenting an overview
9 of the emergency response and time-line, the
10 consequences of this incident, and the
11 community impact.

12 Based on the team's review of
13 control room records and charts, we estimated
14 that this incident occurred at about 10:35 on
15 the night of August 228, 2008. At about one
16 minute into the incident, a local citizen
17 reported an explosion to Metro 911.

18 At about that same time, the Tyler
19 Mountain Fire Department alarm sounded,
20 alerting members to report for deployment to
21 the incident at Bayer. Also at about this
22 time, the Bayer gate guard attempted to call

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Metro 911.

2 It's important to add here, through
3 an interview within the executive director of
4 Metro 911 and the supervisor at Verizon that
5 the Metro 911 call center fielded over 2700
6 calls on the night of this incident.

7 There's a finite amount of calls
8 that can be effectively handled at any one
9 time. If the caller calls during that time, he
10 gets a fast bust signal. He has to hang up and
11 re-call.

12 At about four minutes into the
13 incident, Metro 911 called the Bayer main gate
14 in an attempt to gather information on the
15 nature of the incident. At about seven minutes
16 into the incident, the Kanawha County sheriff
17 ordered Route 25 closed. This route runs just
18 north of the main entrance into the plant.

19 Metro 911 called the main gate
20 again. Concurrent with this call, the gate
21 guard was attempting to call Metro 911,
22 realized that he was connected, and at that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 point, requested an ambulance for a burn
2 victim.

3 At ten minutes into the incident,
4 the Bayer emergency operations center was
5 activated and crews A and B were notified
6 through a ring-down system. This was an effort
7 to bring personnel to the plant to assist with
8 the emergency.

9 Also at about this time, the
10 Institute Volunteer Fire Department chief
11 arrived at the main gate, notified the Bayer
12 incident commander of his presence, and
13 offered any assistance that he might offer. At
14 that point, he was told to stand by and await
15 instructions.

16 At 14 minutes into the incident,
17 the Nitro and Dunbar Police Departments closed
18 I-64, which is a bit more north of the plant.
19 At 15 minutes into the incident, the Institute
20 fire chief tells Metro 911 that the Bayer
21 incident commander reported that no dangerous
22 chemicals were being released.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 This was based on the incident
2 commander's observation of the intensity of
3 the fire and the notion that any chemicals
4 would be consumed in that fire. However, this
5 was not based on feedback from any monitoring
6 -- electronic or otherwise -- to give them the
7 feedback on the nature of the chemicals being
8 released, if any.

9 At 24 minutes into the incident,
10 consistent with procedures, Bayer notified
11 Metro 911, West Virginia State University,
12 West Virginia Rehabilitation Center, and
13 Reagent Chemicals.

14 At 25 minutes into the incident,
15 the Saint Albans fire chief notified Metro 911
16 that he would be advising a shelter in place
17 if additional information wasn't forthcoming.
18 Based on his observation of a vapor cloud that
19 appeared to be heading toward Saint Albans, he
20 made the announcement to Metro 911 to that
21 effect.

22 At 44 minutes into the incident,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Metro 911 announced a shelter in place in the
2 area around Bayer. They also, at that time,
3 started a reverse 911 ring-down notification
4 to citizens in the affected areas.

5 At 49 minutes into the incident,
6 the Bayer incident commander recommended to
7 Bayer emergency operations center to contact
8 Metro 911 to shelter in place in Saint Albans
9 and Nitro.

10 Based on an interview with the
11 Metro 911 personnel, unfortunately this
12 transfer of information did not occur.

13 At 59 minutes into the incident,
14 the Kanawha Putnam County Emergency Management
15 Director activated the county emergency alert
16 system. This alert activated a shelter in
17 place for the areas west of Charleston to
18 Putnam county.

19 A little over two hours into the
20 incident, Bayer reported the incident to the
21 National Response Center.

22 In this scene, the area that was

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 affected by the shelter in place zone, is
2 shown in the gray area. It's important to note
3 that there was a slight wind direction to the
4 southwest towards Saint Albans. The areas that
5 were affected by the shelter in place are
6 Dunbar, Institute, Jefferson, Nitro, Saint
7 Albans, and South Charleston. This shelter in
8 place affected approximately 40,000 citizens.

9 A little over three hours into the
10 incident, a Bayer spokesman held a news
11 conference. At that time, advised that the
12 fire was continuing, but contained.

13 At three hours and 30 minutes into
14 the incident, Metro 911 cancelled the shelter
15 in place. At three hours and forty minutes,
16 Bayer reported that the fire was out. At six
17 hours and 15 minutes after the incident, Bayer
18 reported an all clear with the exception of a
19 small fire that was allowed to burn in the
20 larvin unit on ruptured relief line piping.

21 Next, we'll take a look at the
22 consequences of this incident. On the night if

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 this incident, in response to rapidly changing
2 conditions in the plant, an operator went
3 outside to make operational changes and to
4 check the plant to see if he could make the
5 corrections that were necessary to correct the
6 conditions that Mr. Vorderbrueggen just showed
7 you.

8 Shortly after he went out, a few
9 minutes later, a co-worker went out to assist
10 him. Both these operators were in the plant at
11 the time of the incident and fell victim to
12 the result of the rupture of the residual
13 treater tank.

14 One victim died from his injuries
15 almost immediately. The other one, the second
16 outside operator succumbed to his injuries
17 about 41 days later at the Burn Center in
18 Pittsburgh, Pennsylvania.

19 There were also reported suspected
20 chemical exposure symptoms reported that
21 night.

22 They would affect five Tyler Mountain

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 volunteer firefighters, two Norfolk Southern
2 employees, and one Institute volunteer
3 firefighter.

4 Symptoms included headache,
5 abdominal pains, and diarrhea. The symptoms
6 developed the next morning after they returned
7 to quarters for the five Tyler Mountain
8 firefighters.

9 The next day, Friday, the Institute
10 volunteer firefighter went to the emergency
11 room for additional treatment. He was seen,
12 treated, and released.

13 Next, we'll take a look at the over
14 pressure damage from this incident. On site,
15 the new residual residue treater vessel was
16 completely and totally destroyed in this
17 incident. Associated process piping and
18 equipment was also destroyed. There was
19 moderate overpressure damage to control room
20 and nearby structures.

21 In this scene, we have a photo of
22 the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 residue treater tank post-incident that was
2 taken to a laydown area.

3 This next photo shows some of the
4 damage that was typical of offices that were
5 in the control room center. Typical of the
6 damage was ceiling tiles that were dislodged
7 from their molding and ceiling lights that
8 were torn from their anchors. Some bookcases
9 were also noted to be moved.

10 In the photo on the right, which is
11 of a building that was near the control
12 center, you'll note that the door was knocked
13 off its hinges by the overpressure.

14 In conducting our assessment, we
15 also became aware of damage to businesses and
16 homes in the area. This damage consisted
17 primarily of window breakage and minor
18 structural damage.

19 To date, there have been
20 approximately 57 submittals for claims for
21 damage. The damage ranges from mobile homes,
22 residences, and vehicles, and totaled about

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 \$37,000.

2 One of the businesses that was
3 damaged in this incident was across the
4 Kanawha River, about one half mile away. There
5 were several windows that were broken on this
6 business establishment.

7 The photo below is in a private
8 residence. It's typical of the damage that we
9 observed, with cracks in the ceiling and
10 walls.

11 This next scene is a report of
12 property damage where we attempted to capture
13 the distance and direction of the damage as
14 reported. While most of the damage is
15 clustered in a one half to one and one half
16 mile direction from the epicenter of the
17 event, damage was noted as far away as a
18 little over seven miles near Charleston and as
19 far north as Poca, which is a little over six
20 miles. Each of the lines depicted in this
21 diagram is meant to capture the direction and
22 distance from the epicenter.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 This next diagram is an attempt to
2 capture how the communication was conducted on
3 the night of the incident.

4 All of the parties in the boxes on
5 the right are of municipal fire and police
6 services that are familiar with, conversant,
7 and compliant with the National Institute
8 Management Systems, or NIMS, process and
9 protocols. Most, if not all, of their
10 communications that night went through Metro
11 911 and followed the unified command
12 structure.

13 Communication within the Bayer EOC,
14 as directed by the Bayer incident commander,
15 showed a number of hand-off of information
16 from one source to another and did not follow
17 unified command structure.

18 It's important to note that in
19 spite of the concerns that were raised about
20 the communication between the various entities
21 and responders that we have seen no evidence
22 to indicate that there was any delayed

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 treatment for the injured in this incident.

2 Our emergency response findings, in
3 the area of personal protection equipment or
4 PPE for hot zone responders, the use of self-
5 contained breathing apparatus or SCBA or
6 respirators was not clearly conveyed to
7 outside responders.

8 At the conclusion of this incident,
9 outside responders did not de-contaminate on-
10 site before returning to quarters and remained
11 in their clothing and returned with their
12 equipment.

13 With regards to incident command
14 coordination, the Bayer incident command
15 structure did not use a unified command
16 structure. There were multiple EOC's
17 established when this incident occurred, both
18 inside the plant and outside.

19 The shelter in place decision
20 process was complicated by a lack of clear
21 information and the decision-makers made their
22 choices based on the best information that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 they had at the time they made the calls.

2 Communication between BCS, Metro
3 911, County EOC -- the gate guard followed
4 Bayer emergency communications procedures.
5 Metro 911 experienced an extremely high call
6 volume on the night of this incident. To their
7 credit, their staff self-reported,
8 volunteered, came out, pitched in, and did a
9 commendable job in handling the rigors of this
10 incident.

11 In talking to the staff at Metro
12 911, this is the largest event that they've
13 ever handled and they can stand proud.

14 The emergency responders that
15 fought the fire in the plant performed
16 commendably. In spite of challenging odds,
17 they stood their posts.

18 That concludes my portion of the
19 presentation. Ms. Sciallo will take you to the
20 next portion of our presentation. That you for
21 your attention.

22 MS. SCIALLO: Thank you, Mr. Banks.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Good evening.

2 We understand that there is a great
3 community concern for a possible chemical
4 release on the night of the incident. For the
5 next portion of the presentation, I'm going to
6 describe the characteristics of methomyl and
7 I'm going to list some of the human toxicity
8 elements.

9 After that, I'm going to list some
10 of the hazardous chemicals that may be formed
11 when methomyl breaks down or decomposes.

12 Then I will cover the toxic effects
13 of methyl isocyanate and I will describe what
14 conditions present on August 28 might have
15 resulted in a release of methyl isocyanate.

16 First, I'll talk about methomyl.
17 Methomyl is a carbonate pesticide and it is a
18 cholinesterase inhibitor. Cholinesterase
19 inhibitors disrupt the function of the
20 peripheral and central nervous system.
21 Methomyl can have irreversible and reversible
22 effects on the nervous system, depending on

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the duration and the concentration of the
2 exposure.

3 Methomyl is a white crystalline
4 solid. It can be harmful to humans when it is
5 absorbed through the skin, inhaled, or
6 ingested,

7 Acute symptoms include ocular
8 effects, such as blurred vision, pin point
9 pupils, tremors, muscle twitching,
10 gastrointestinal effects such as nausea and
11 abdominal pain. At higher concentrations,
12 respiratory arrest, coma, and even death can
13 occur.

14 Chronic symptoms include liver
15 damage, anemia, and nervous system damage due
16 to prolonged cholinesterase inhibition.

17 Was methomyl released on the night
18 of the incident? When the residue treater
19 ruptured, methomyl concentrated solvent was
20 released from the treater and associated pipes
21 and equipment.

22 Now, the residue treater's

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 function, as Mr. Vorderbrueggen explained, is
2 to break down methomyl so the intended
3 chemistry or the intended decomposition of the
4 methomyl was taking place in the treater prior
5 to and during the residue treater's rupture,
6 as there was a rapid temperature increase.

7 Besides decomposition, some burned,
8 as there was an intense fire on the unit
9 almost immediately after the residue treater's
10 rupture. Some remained on the ground and
11 nearby equipment and some of the methomyl
12 might have been carried in the air. There's a
13 tremendous heat current that might have locked
14 the methomyl into the air.

15 Here is a photo of methomyl unit
16 equipment taken a couple of days following the
17 incident. The yellow arrows point to methomyl
18 residues observed by CSB investigators.

19 Now, when I discuss what could have
20 happened to the contents of the residue
21 treater, I mention some of the methomyl might
22 have burned in the fire. When methomyl burns,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 it breaks down and might form hazardous
2 chemicals, some of them in trace amounts. The
3 list includes acetonitrile, dimethyl
4 disulfide, hydrogen cyanide, oxides of
5 nitrogen and sulfur, methyl thiocyanate, and
6 methyl isocyanate.

7 Bayer provided the CSP with a
8 thermal decomposition analysis that listed
9 some of the chemicals of methomyl
10 decomposition. The CSB also referenced
11 methomyl material safety data sheets and
12 pesticide literature for the formation of this
13 list.

14 Methyl isocyanate is an extremely
15 toxic material and is used in the methomyl
16 process. It was stored near the residue
17 treater. It's highly reactive with water and
18 it's highly flammable. It has a relative vapor
19 density of 1.4. This means that it is heavier
20 than ambient air and it lays low to the
21 ground.

22 It has an immediately dangerous to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 life and health or IDLH concentration of three
2 parts per million. The IDLH is defined by the
3 National Institute of Occupational Safety and
4 Health. Methyl isocyanate has a boiling point
5 of 39 degrees Celsius or 102 degrees
6 Fahrenheit, and it readily evaporates,
7 especially in summertime temperatures.

8 Possible sources of a methyl
9 isocyanate release. There are a few conditions
10 that could have resulted in a release of
11 methyl isocyanate on August 28. One would be
12 if MIC supply piping and equipment was broken.
13 Bayer reported that the equipment was not
14 broken and the MIC day tank was not damaged.

15 There are vent systems or scrubbers
16 on the unit that are designed to remove
17 hazardous chemicals before they're released to
18 the atmosphere. These vent systems were
19 damaged, which could have resulted in an MIC
20 release, as MIC is a raw material in the
21 process and might have been present in the
22 system.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Also, as I mentioned previously, MIC might be
2 a product of methomyl decomposition in trace
3 amounts.

4 There are 16 monitors on the
5 methomyl larvin unit capable of detecting
6 methyl isocyanate. The CSB has recently
7 learned that these alarms or monitors were not
8 operational on the night of the incident.
9 There are also stationary perimeter or fence
10 line monitors around the facility that are
11 designed to detect multiple chemicals.

12 The investigation team intends to
13 further examine the operational status and
14 sensitivity of these monitors in the ongoing
15 investigation.

16 Now, I'm going to list some of the
17 acute and chronic symptoms of methyl
18 isocyanate exposure. Acute symptoms include
19 eye irritation, ocular damage, respiratory
20 distress, pulmonary edema, skin irritation,
21 chemical burns, nausea, abdominal pain, coma,
22 and death. Chronic symptoms include lung

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 damage and blindness.

2 Now, I talked about methomyl and
3 MIC. Now, I'm going to summarize the chemical
4 properties of other chemicals, some used on
5 site and some used in the methomyl process to
6 exhibit the relative toxicity of these
7 chemicals. I'll describe how they can be
8 identified.

9 I'll list the chemicals in the left
10 hand column because I know the font is small.
11 We have methyl isocyanate, methomyl, phosgene,
12 chlorine, ammonia, and methyl isobutyl ketone,
13 MIBK.

14 The column to the right lists the
15 IDLH or the immediately dangerous to life or
16 health defined concentration. The column to
17 the right of that is the odor threshold.
18 Notice for methyl isocyanate, the IDLH is
19 three parts per million and the odor threshold
20 is two parts per million.

21 If one were exposed to methyl
22 isocyanate, they may experience some of the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 irritating effects such as eye irritation or
2 burning or throat or burning at levels at
3 around .4 parts per million.

4 So this means that odor is not a
5 good warning sign for methyl isocyanate
6 exposure because you may be experiencing the
7 effects of the exposure, the damaging effects
8 to your eyes or your respiratory before you
9 actually smell it.

10 Also notice phosgene's IDLH is two
11 parts per million and the odor threshold is
12 much lower in comparison to methyl isocyanate.
13 It's 0.4 parts per million.

14 Then the column to the right of
15 that, I list some of the odor characteristics
16 for each chemical. The last column on the
17 right indicates whether or not these chemicals
18 are covered by the Environmental Protection
19 Agency's Risk Management Program.

20 An aspect of the EPA's Risk
21 Management Program, or RMP, quantitatively
22 estimates the impact of a chemical release in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the community. If facilities have an RMP
2 listed chemical in a specified quality, they
3 are subject to the Risk Management Program.
4 MIC, phosgene, chlorine, and ammonia are RMP-
5 covered chemicals.

6 Now, for the next portion of the
7 presentation, MR. Vorderbrueggen will now
8 explain the Risk management Program in depth.

9 MR. VORDERBRUEGGEN: Thank you, Ms.
10 Sciallo.

11 As the previous slide showed, in
12 the chart, the RPM regulation under the EPA
13 standards identify a number of toxic chemicals
14 -- Ms. Sciallo showed the slide, the precious
15 slide, that had the RPM -- a series of
16 chemicals that fall under the EPA's Risk
17 Management Program requirements. In fact, in
18 these chemicals that were listed, they are all
19 toxic chemicals.

20 There is also a class of flammable
21 chemicals that fall into RMP, but our interest
22 tonight is the toxic list.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Within the United States, the EPA
2 Risk Management Program requirement comes into
3 play when
4 methyl isocyanate -- we'll talk only MIC
5 tonight -- is handled in quantities exceeding
6 10,000 pounds.

7 It turns out that Bayer Cropscience
8 in Institute, West Virginia is the only
9 facility in the United States that we have
10 identified that falls -- that handles more
11 than 10,000 pounds of methyl isocyanate and
12 therefore, of course, they must have an EPA
13 Risk Management Program, which is a
14 comprehensive program to manage all aspects of
15 handling methyl isocyanate.

16 It's similar to the OSHA process
17 safety Management standard, and we'll talk
18 briefly about that later. There is significant
19 overlap in the various program elements.

20 The Bayer Risk Management plan -- a
21 risk management plan is a document that the
22 company is required to submit to the EPA that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 lists certain parameters and elements of the
2 process that handles the covered chemical, in
3 this case, methyl isocyanate.

4 The Risk Management Plan summarizes
5 some of the protective systems. It summarizes
6 quantities and that type of information. There
7 are two what are called accident scenarios
8 that must be reported -- must be evaluated and
9 reported as part of the Risk Management plan
10 and I will now talk about those.

11 The first one is called the worst
12 case scenario, and it is, in fact, what one
13 would consider to be a worst case. The
14 regulation requires that the company identify
15 the largest quantity of the covered chemical
16 in the single largest container.

17 In the case of Bayer Cropscience,
18 it's reported to be 200,000 pounds of methyl
19 isocyanate. That does not necessarily mean
20 that that is the largest quantity on site. The
21 contents of the day tank would be additional,
22 possibly. The contents of the piping systems

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 and other components might increase this, but
2 the single largest container at the Bayer
3 Cropsience facility is 200,000 pounds.

4 The worst case scenario requires a
5 computer model analysis to determine how large
6 of a plume would occur and the extent that
7 that plume would travel in the community
8 should that entire 200,000 pounds of content
9 be essentially instantaneously released. Now,
10 there's some variations, but it's within a few
11 minutes. Might as well assume it's
12 instantaneous.

13 In the end, it requires that you
14 assume that it releases and it goes out in all
15 directions. It ignores the typical wind
16 direction of the facility and other wind
17 conditions. It does specify specific wind
18 conditions, but it assumes it's going outward
19 in all directions at some specific wind
20 conditions and terrain conditions.

21 In the case of the Bayer
22 Cropsience facility, more than 300,000 people

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 would be affected within 25 miles of this
2 release. 25 miles, by the way, is the limits
3 of the computer models. It cannot predict
4 beyond 25, so that is the de facto end point
5 for this particular scenario.

6 Now, a more logical scenario that
7 is required by the Risk Management plan or the
8 program that is written into the plan is what
9 is called the alternative scenario.

10 That is a scenario that the company
11 determines to be -- and I'll use the term
12 credible, the most credible scenario -- and
13 they evaluate their piping systems. They get
14 credit for their management systems and their
15 controls and other devices. The company then
16 identifies what could be a credible scenario.

17 In the case of the Bayer
18 Croscience facility, it's effectively a leak
19 in a flange on a pipe in the methyl isocyanate
20 system somewhere in the facility. It's
21 predicted to release 125 pounds of gaseous
22 methyl isocyanate over -- and in this

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 scenario, there is credit taken for the wind
2 direction, so the end point is based on the
3 average wind direction or the prevailing wind
4 direction within a year in this facility.
5 They don't report what direction that is, but
6 it is the prevailing wind direction.

7 In the case of methyl isocyanate,
8 it's 58 people would be affected by the
9 chemical within just under a half a mile in
10 the prevailing downwind direction.

11 So those are two important elements
12 that are put into the EPA Risk Management Plan
13 document as part of the EPA Risk Management
14 Program, which is 40 CFR 68, for anybody that
15 wants to read up on it.

16 With that, we'll talk about methyl
17 isocyanate issues. I think most of you are
18 here for this reason.

19 The investigation team is working
20 on and we will be looking at the on site
21 inventory, this 200,000 pounds or more is a
22 large inventory. It is the only inventory of

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 this quantity in the United States.

2 We will be asking Bayer Cropscience
3 to provide us some of the bases for why they
4 consider that inventory to be safe and
5 manageable and controllable. That is something
6 we will be looking at and we will be reporting
7 to the Board in our final report our findings
8 on that issue.

9 We also will be looking at the
10 methyl isocyanate day tank at the methomyl
11 larvin unit and its proximity to the explosion
12 epicenter. It was about 80 feet away.

13 We will be looking at the adequacy
14 of the safeguards that would prevent or
15 mitigate a toxic release of methyl isocyanate.

16 Again, preventing it -- that's the
17 first goal. Don't let it get out of the pipe.
18 If it does get out of the pipe, the next
19 critical element is to mitigate it. What can
20 be done? What is done?

21 Water is a good mitigator for
22 methyl isocyanate when it's being released

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 because it does break down. Fire is a good
2 mitigator for methyl isocyanate releases
3 because it burns. There are other ways to
4 mitigate. You contain it. You control it.

5 Ultimately, of course, ideally, is
6 there an alternative to storing such large
7 quantities of methyl isocyanate? There are
8 industries -- there is at least one company in
9 the United States that actually produces
10 methyl isocyanate and uses it as quick as it's
11 produced so that at any given time, there are
12 only a few pounds of MIC in their production
13 unit at any given time.

14 There are alternatives. They're
15 complex, though. We can't just stand here and
16 say they need to do that. There are economic
17 issues and other issues that have to be
18 addressed and we will be looking into that as
19 part of our investigation.

20 At the facility, just a quick
21 summary, the large quantity is stored
22 underground in the methomyl production unit on

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the east side of the plant. As I said, the
2 single largest container is 200,000 pounds in
3 presumably, an underground tank.

4 How do they handle methomyl? I'm
5 sorry -- MIC, Methyl isocyanate. How is
6 handled? How is it controlled? How it is
7 safely handled? They have operated a plant a
8 long time. Bayer is not the only operator of
9 this plant. It was Union Carbide, then Rhone
10 Poulenc, etcetera.

11 They do pump it to the production
12 units on a daily basis. They use jacketed
13 piping, which is a pipe in a pipe. That way,
14 if the internal pipe that contains the MIC
15 were to spring a leak, it's captured in an
16 outer pipe. This jacket space between the two
17 pipes has leak detection devices to monitor,
18 do we have a leak in the pipe?

19 The transfer piping is drained and
20 nitrogen purged after it's used, so the
21 transfer piping, the long runs of transfer
22 piping, typically do not contain methyl

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 isocyanate, except for the time that it is
2 transferred from the production unit to the
3 end, to the receiving unit.

4 Finally, on the long runs of pipe,
5 to limit the quantities that could be
6 released, there are multiple valves in the
7 pipes, such that they can isolate shorter
8 sections of pipe, to again, reduce
9 quantities should a segment of this long run -
10 - in some cases, they may be 2000 feet long
11 because they're going from the east end of the
12 unit to the west end -- so minimizing the
13 individual quantities and having isolation
14 valves is a way to help control that risk.

15 There are other features with the
16 methyl isocyanate day tank in the methomyl
17 larvin unit that are important to its safe
18 operation. First of all, it's a stainless
19 steel pressure vessel that contains this
20 liquid. The vessel is eight feet in diameter
21 and 19 feet tall. It is rated for up to 75
22 pounds per square inch gauge for its maximum

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 pressure.

2 This day tank holds up to 37,000 pounds in any
3 full filling for the daily use.

4 Two units use this, the FMC unit
5 and the methomyl larvin unit.

6 At the time of the incident, there
7 was 13,800 pounds in the MIC day tank. I'll
8 come back to the picture and give you a little
9 bit more detail on that previous slide.

10 On this slide, this shows the
11 location of the MIC day tank with relation to
12 the residue treater explosion epicenter. That
13 is about 80 feet t the southwest of the
14 epicenter. Primarily, the liquid came out of
15 the residue treater in the direction of the
16 MIC day tank and the residue treater went to
17 the northeast into the unit, as you saw in
18 those earlier pictures.

19 It was a violent destruction that
20 occurred. Then, of course, an immediate fire
21 that occurred in the unit. There was some fire
22 in the roadway due to pooling of flammable

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 solvents, but there is no indication that
2 there was direct fire over at the MIC day tank
3 area, as show in this picture. Although, there
4 was some heat exposure, but not direct fire.

5 This is another shot of the MIC day
6 tank. This view is looking to the southwest,
7 so in the hills -- way in the background is
8 Saint Albans, for those of you who are
9 familiar with the area.

10 The MIC day tank is underneath that
11 structure, that steel structure. The residue
12 treater would have been in the lower right
13 hand corner of this picture, some 80 feet
14 away. In this picture, you can see there's
15 some additional interferences between the day
16 tank and the residue treater that would have
17 had to have been compromised if the residue
18 treater had traveled the opposite direction
19 toward the MIC day tank.

20 One more view, to give you the
21 perspective. The MIC tank is on the left hand
22 side. The residue treater, its location is on

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the right hand side. The methomyl unit is on
2 the extreme right. We are looking,
3 essentially, due west. The control room would
4 have been past the elevated pipe rack there.
5 MIC piping is in some of that elevated pipe
6 rack that is sued to transfer the MIC, both
7 from the day tank into the unit, as well as
8 re-filling the MIC day tank from the
9 production unit.

10 A few other features. It is a
11 refrigerated and insulated pressure vessel. It
12 has redundant pressure temperature and level
13 instruments. If a pressure instrument were to
14 mal-function, there's a second one as a back-
15 up.

16 There are area air monitors and
17 alarms within the methomyl larvin unit and
18 around the day tank.

19 There is an emergency dump tank on
20 the MIC day tank system that is sized such
21 that it can hold the entire contents of the
22 day tank and all of its associated transfer

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 piping should one or more of those devices
2 become compromised, spring a leak. The unit
3 operators have the ability to rapidly transfer
4 the contents into a back up tank to prevent
5 any further release or to prevent a release
6 if, in fact, there's something that is near
7 releasing.

8 Finally, there's a concrete liquid
9 containment wall or a concrete liquid
10 containment wall, around the base of this tank
11 that is the capacity of -- that containment
12 area is enough to hold the entire contents of
13 the day tank should it leak and the leak
14 cannot be stopped.

15 By controlling it, you don't want
16 it to spread. You control it and there's some
17 control on the boil off that is helpful to
18 mitigating the release.

19 Finally, the blast blanket debris
20 shield that surrounds the day tank. That blast
21 blanket debris shield was installed in 1982.
22 In 1994, the then-owner, which I believe was

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Union Carbide, installed the top section above
2 the vessel. The squirrel is showing that in
3 the picture.

4 So that's above the vessel and that
5 protects the piping, the relief system above
6 the vessel. That top section happens to be
7 larger wire rope diameter than the original
8 sections.

9 In 2008, after the explosion of
10 August 28 -- sometime in the early fall of
11 2008, Bayer Cropscience removed the existing
12 wire rope blast blanket as part of the
13 refurbishment of that vessel and they day tank
14 system and replaced the sections with, as we
15 understand, a larger wire rope diameter. We
16 understand it's on all sections. All of this
17 is some of the areas that we are continuing to
18 look at.

19 That tank is in service.

20 AUDIO TECHNICIAN: Something is
21 wrong. Pick up that other mike.

22 MR. VORDERBRUEGGEN: This one is

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 taped to the floor.

2 AUDIO TECHNICIAN: Let me switch
3 this. Want to use that one?

4 MR. VORDERBRUEGGEN: Is this mike
5 coming in okay? Can everybody hear me now?
6 Okay, I'm seeing some hand waving. That's a
7 good sign.

8 Okay, thank you.

9 Let's look at a close-up of the
10 blast blanket itself. The picture on the left
11 is actually what it looks like. It's heavy
12 wire rope, as I said. It's a very heavy steel
13 blanket.

14 The picture on the right is
15 actually the framework that this blanket hangs
16 on. What you see in that picture is the actual
17 MIC day tank that was behind it. This was
18 removed so that Bayer could refurbish and
19 clean up.

20 The insulation is removed in this
21 picture. They re-insulated and they put it
22 back in service because the FMC unit still

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 needs the methyl isocyanate. So it operates
2 today.

3 These three pictures are
4 representative of the kind of debris that we
5 observed in the area near the MIC day tank.
6 The picture on the left -- there's electrical
7 wire. There's conduit. It's light weight,
8 small stuff, that type of thing, but a mess.

9 The top right hand picture was a
10 control valve in the methomyl larvin unit that
11 was thrown 60, 70 feet possibly. It probably
12 weighed 100 pounds.

13 In the lower picture on the lower
14 right is another small valve that probably
15 weighed two or three pounds. It was 60, 70, 80
16 feet away from the methomyl larvin unit.

17 So the MIC storage issues. The
18 question remains, is it appropriate to have
19 centralized production as they currently
20 operate? They make MIC and distribute it. Or
21 could it be locally made at the unit and
22 consumed?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Whether it's locally made or
2 consumed immediately or locally made and
3 stored in much smaller quantities, that's a
4 question that the investigation team is
5 looking into and will be reporting on to the
6 Board as part of our ongoing investigation.

7 There are some advantages and there
8 are some disadvantages, and there are some
9 questions. It could or would reduce storage
10 inventory. It might require more locations to
11 handle phosgene.

12 Phosgene is one way to make methyl
13 isocyanate. So now, you might have multiple
14 locations of a phosgene production. It may be
15 small quantities, but the more you have to
16 handle, the more equipment you have to have,
17 and the greater the chance of an issue.

18 Chemistry is available that might
19 eliminate phosgene, so there's many questions
20 to be addressed as part of our investigation.

21 We do know that there is continuous
22 produce in use. In fact, there is a history

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 related to the Kanawha Valley. DuPont
2 ultimately moved their operation and they
3 implemented in LaPort, Texas in their facility
4 back in 1985 -- they eliminated the need to
5 transport MIC via rail car.

6 Prior to 1985, they transported
7 rail cars full from the northeast, not from
8 this community but from the northeast part of
9 the country, all the way to LaPort, Texas to
10 make the final products. They now make and
11 consume MIC in a very small section of the
12 piping system. There's only a few pounds
13 available at any given time.

14 In fact, DuPont patented this
15 process and received an award in 1987. So we
16 will be looking at this technology and we will
17 be considering that as it applies or could be
18 applied at the Bayer Cropscience facility.

19 With that, we'll move one more time
20 into the unit operations as it relates to PSM
21 and RMP, and Ms. Catherine Corliss will come
22 up and present this section. Thank you.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MS. CORLISS: Thank you, John, and
2 good evening, ladies and gentlemen.

3 I will be talking about unit start-
4 up issues with respect to equipment, the man-
5 machine interface used, fatigue, and
6 procedures, and then evaluate all of this with
7 a perspective from the OSHA process safety
8 management standard and EPA's Risk Management
9 Program, which you've already heard about.

10 There were many unit issues to deal
11 with the week of the explosion related to a
12 start-up after an extended shutdown and a new
13 computer control system on a complex sensor
14 process was installed.

15 I will talk about some of the more
16 important issues relative to the residue
17 treater. To begin with, the instrument drip
18 system was redone during the shutdown, but a
19 valve wasn't installed on one of the pressure
20 taps. Instead of a drip, there was a steady
21 stream of a solvent, MIBK, going into the
22 column.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 This put excess MIBK in the column
2 and dropped the level of MIBK in the supply
3 tank, which was something that was noticed in
4 the process of troubleshooting this issue.

5 Because the instrument drip system
6 wasn't working properly, there was dilution
7 going on that made the column operate poorly.
8 MIBK Hexane column temperature and base liquid
9 level controls were still in need of
10 adjustment on Thursday because of what had
11 happened prior to that day.

12 Unit personnel were working on
13 these controls both Wednesday and Thursday. In
14 fact, the controls were in manual, not
15 automatic control, on Thursday evening because
16 all the adjustments had not been made.

17 That is not unusual in a start-up
18 situation, but I am sharing those details with
19 you so that you will understand what unit
20 personnel were dealing with as they were
21 working that week.

22 Because of these control problems

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 and the extra MIBK that the column had, the
2 column itself was not in its normal steady
3 state operation on Thursday. The solvents were
4 mixed to a certain degree, which affected
5 other process steps in the crystallizer, the
6 centrifuge, the flasher, and ultimately, the
7 residue treater.

8 Process controls were also an
9 issue. Valves, flow meters, and ratio
10 controllers are different with the new Siemens
11 operating system, and they all had to be
12 adjusted.

13 Solvent flow was lower than desired
14 during the solvent run, which preceded the
15 start-up. This is a normal way to go about
16 commissioning a process after it's been done
17 and empty.

18 But there was a problem, as will
19 occur in any start-up -- several problems, to
20 put it mildly. There was a blockage in a valve
21 that took awhile to trouble shoot and correct.
22 Because of that blockage, the flow wasn't

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 adequate during the solvent run in some areas
2 of the process. Because of that, final
3 adjustments to the controls had not been made
4 prior to start-up. These adjustments were
5 ongoing on Thursday.

6 And then, finally, two centrifuges
7 are typically run in the unit and two
8 centrifuges are needed to increase the level
9 in the crystallizer to its normal operating
10 range. With one centrifuge down, which was the
11 case for the majority of the start-up, it was
12 necessary to run the system at a lower than
13 normal rate.

14 This affects the methomyl content
15 in process flow streams leading to the flasher
16 and hence, the residue treater.

17 The new control system had totally
18 different screen images. The Honeywell system
19 showed bars for process variables, while the
20 Siemen system showed real equipment images
21 with process measurements on those.

22 There were six screens available to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 this particular unit's operation. One of them
2 was dedicated to alarms, which left five
3 screens to monitor unit operations.

4 Some equipment, however, would need
5 as many as three screens to effectively
6 monitor the process during certain situations.
7 That makes it problematic having just five.

8 Three overview screens were created
9 just the week prior to the explosion because
10 operators identified a need for them.

11 Processing speed is much improved
12 with the Siemens control system, however the
13 user interface is slower. The user interface
14 was changed. With the Honeywell system, an
15 operator would type on a keyboard certain
16 control sequences and they would occur.

17 With the new system, a mouse would
18 be used to click on a device on the screen and
19 then a value would be typed in and then the
20 system would respond.

21 There were other issues with the
22 ratio controls during start-up. The process

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 measures were different. The Honeywell had
2 used percent volume or percent range, while
3 the new Siemen's system used engineering units
4 like gallons or pounds. This meant that
5 operators were looking at different numbers
6 than they were used to seeing.

7 Overtime rates had been high for
8 more than a year in the methomyl larvin unit.
9 For June through August of 2008, the average
10 overtime rate for the trained operators,
11 excluding the new operators -- trained
12 operators average overtime rate was 47
13 percent.

14 To make sense of that, if you were
15 working 47 percent overtime, your 40 work week
16 would be 59 hours for three months in a row.
17 Some operators even worked 60 to 70 hours per
18 week.

19 Research has shown that fatigue has
20 negative effects on performance. Fatigue can
21 cause certain behaviors that may have played a
22 role in the accident.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Impaired judgement, impaired
2 decision-making, task-shedding, and cognitive
3 tunneling are possibilities. Task-shedding
4 means that you would not be doing certain
5 tasks that you typically would do when
6 overwhelmed and tired. Cognitive tunneling is
7 a term used to describe a fixation on one
8 aspect of a process to the exclusion of the
9 bigger picture.

10 Some of the decisions made and not
11 made by all unit personnel, not just
12 operators, in the days before the explosion
13 affected the residue treater. Fatigue may have
14 played a role in these choices and it's an
15 ongoing investigatory topic of concern.

16 We've talked about the residue
17 treater to some degree already. I want to make
18 a couple points.

19 The system was not capable of
20 attaining the target temperature without the
21 addition of methomyl containing residue, as
22 mentioned before and called flasher bottoms.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 The heater gets it close to the operating
2 temperature, which is when the decomposition
3 will occur when the methomyl contained fluids
4 are introduced.

5 In the past, start-ups would get
6 the temperature within 5 to 10 degrees of the
7 required temperature, as found in the
8 operating procedure, and then methomyl
9 containing residue would be introduced, and
10 the exothermic, or heat-producing reaction,
11 would occur and raise the temperature to the
12 set point, as found in the operating
13 procedure.

14 There was a work-around in place,
15 which involved bypassing a temperature
16 interlock to open the flasher tails speed
17 valve and introduce the methomyl containing
18 residue to the residue treater.

19 Now, I'd like to talk about
20 operating procedures. The procedures had not
21 been updated to reflect the switch from the
22 Honeywell system to the Siemens system. This

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 was not just a name change issue.

2 For example, in the past, if you
3 wished to bypass a safety interlock, you would
4 do what is called pinning a relay. That is
5 actually introducing a physical object into an
6 electrical device that moves to prevent that
7 movement from occurring.

8 Now, if you wished to bypass an
9 interlock, you need a password, you access the
10 control system, you've got the required
11 authorizations, and then you can change the
12 computer logic.

13 Inputting the proper ration for the
14 MIBK hexane column is also not in the
15 operating procedure. As mentioned, that caused
16 difficulty during this start-up.

17 There are other changes required by
18 earlier process hazard analyses that were not
19 reflected in the operating procedure as well.

20 Both the process hazard analysis
21 and the operating procedures specify the
22 importance of the residue treater methomyl

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 concentration to not exceed half a percent.
2 Yet, sampling was not done or required to
3 ensure this was the case. Sampling wasn't done
4 at the residue treater. It could only be done
5 at the flasher feed and the discharge of the
6 residue treater. I will talk about this more
7 in a minute.

8 Now, we will take a look at these
9 issues from a regulatory perspective. The
10 Institute site is covered under both OSHA's
11 Process Safety Management Program and EPA's
12 Risk Management Program. The first I'll call
13 PSM and the second, RMP.

14 This particular unit is covered by
15 PSM because it has more than 250 pounds of
16 methyl isocyanate and more than 100 pounds of
17 phosgene. It's also covered by RMP due to the
18 phosgene, MIC, and flammable solvent
19 inventories maintained in the unit.

20 Both of the programs are similar
21 and they simply intend to prevent the
22 unexpected release of toxic, reactive, or

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 flammable liquids and gases. They require the
2 same actions by covered facilities.

3 They do have a different
4 perspective. OSHA has an employee focus. It's
5 also referred to looking inside the fence
6 line. EPA has a community focus, looking
7 outside the fence line at what the facility
8 might release to the community.

9 Both of them, I'll refer to as
10 requiring, as we talk about the subsequent
11 elements. Process hazard analyses are studies
12 that are intended to identify, evaluate, and
13 control hazards in a process. A team of
14 knowledgeable people will conduct such a
15 study. It's required that recommendations that
16 come from these analyses are resolved in a
17 timely manner and the resolutions are
18 documented.

19 In this case, audits have revealed
20 that the Bayer process hazard analysis did not
21 evaluate or control the hazards identified.
22 The operating procedures did not provide clear

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 instructions for safely conducting activities
2 involved in each covered process.

3 We've talked about the residue
4 treater and the sampling that did not occur.
5 That's what I'm talking about.

6 And the operating procedures shall
7 address, at least, the following elements,
8 including start-up following a turn around.
9 The operating procedure for the methomyl
10 larvin unit had been out of date since October
11 of 2007 regarding the control system and
12 considerably longer for recommendations that
13 had resulted from process hazard analyses.

14 We've already talked about the
15 residue treater temperature as specified in
16 the operating procedure being unachievable.
17 The workaround that was used on start-ups was
18 not included in that procedure.

19 Both the process hazard analysis
20 and the operating procedure identified the
21 need to keep the methomyl content in the
22 residue treater below a certain value to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 prevent a run away reaction. However, sampling
2 was not done to ensure that that happened.

3 Pre start-up safety reviews are
4 another element of both PSM and RMP. They
5 require operating procedures to be in place
6 and adequate before you start up a unit. In
7 this case, the operating procedure was not
8 revised for the control system change so it
9 was not considered in place, nor was it
10 adequate for successful operation of the
11 residue treater. We've already talked about
12 the work around.

13 Management of change is another
14 element of these programs. It is a written
15 procedure that requires change to be managed
16 for technology and equipment and personnel. It
17 requires operators to be trained in the change
18 prior to start-up.

19 The written procedure to manage
20 change covers these elements, yet the work
21 around had not been included in a review as
22 required by the management of change

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 procedure.

2 Bayer assumed that familiarity with
3 the Siemens system on the larvin unit and a
4 brief review of a few other significant
5 changes for the methomyl process was adequate
6 training for methomyl unit operation with the
7 new control system.

8 In fact, it was not adequate. The
9 methomyl process was not a batch process like
10 the larvin. It was, rather, a continuous
11 operation, more complex and more sensitive to
12 upset conditions.

13 We've already talked about the
14 changes to the screens that the operator used
15 made as recently as a week before the
16 accident.

17 PSM and RMP both require action
18 items to be followed up on. Action items
19 result from these programs from process hazard
20 analyses, incident investigations, and
21 compliance audits. What they specifically call
22 for are action items to be promptly addressed

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 and resolved and documentation of that
2 resolution.

3 Bayer's action tracking system was
4 lacking. A response plan was not created over
5 the past years. Actions were not tracked and
6 documentation of resolution and corrective
7 actions did not occur. There were a number of
8 open high priority action items at the time of
9 the explosion.

10 For example, there were more than
11 25 open action items from a process hazard
12 analysis conducted in August of 2004. That was
13 five years earlier and wouldn't be considered
14 prompt treatment to have not been corrected in
15 that period of time.

16 Finally, documentation of the
17 corrections was also inadequate. In many
18 responses to some of these action items in the
19 system used, it's unclear whether plans made
20 to correct the items were actually executed. A
21 plan is fine, but it has to be completed to
22 consider the action item being properly

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 resolved.

2 Now, Mr. Vorderbrueggen will
3 complete the presentation by talking about the
4 investigation path forward.

5 MR. VORDERBRUEGGEN: Thank you, Ms.
6 Corliss.

7 It's been a long night, so I'll go
8 through these quickly. Most of these have been
9 addressed or at least mentioned. Please bear
10 with us. We hope it's useful.

11 The investigation team is going to
12 continue identifying additional documentation
13 that is needed for our investigation and
14 request that from Bayer.

15 We will conduct follow up
16 interviews with some site personnel. They'll
17 be some new interviews and we may be talking
18 to some additional emergency response
19 individuals in the community.

20 We will continue collecting
21 information on the community impact. We will
22 acquire the missing methomyl larvin unit's

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 security camera and MIC monitor data that we
2 just became aware of in recent days.

3 Then, the meat of it is to review
4 the design documents associated with the
5 methyl isocyanate operations. We do intend to
6 run some air modeling to predict what kind of
7 chemical release might occur in the impact
8 zone. We intend to do some chemical testing on
9 some of the samples we collected back in the
10 fall.

11 Of course, ultimately, the team
12 will develop the report and the formal written
13 recommendations for consideration by the Board
14 at the end of our activities in a format
15 similar to this, and hopefully, a vote at the
16 public meeting.

17 So with that, Mr. Chairman, I will
18 turn the floor back over to you and if the
19 Board has any questions, we're ready to
20 respond.

21 BOARD QUESTIONS

22 MR. BRESLAND: Thank you, Mr.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Vorderbrueggen. We thank the team for your
2 excellent presentation.

3 Let me ask the Board members. We'll
4 start with Board member Wark. See if they have
5 any questions.

6 MR. WARK: Thank you, Mr. Chairman.
7 In the interest of time, I am not going to ask
8 a bunch of questions. I have a bunch of
9 questions regarding emergency planning
10 preparedness and response, and at some time in
11 the future, I'd like to be able to discuss
12 this with the appropriate personnel regarding
13 what happened here, talk to the LEPC's, talk
14 about on-site, off-site emergency planning,
15 and how that can be hardwired together -- the
16 same as in an area that I worked in quite a
17 bit, the radiological emergency preparedness
18 programs around commercial nuclear power
19 plants, and what applications there might be
20 there.

21 Finally, I would just mention that
22 in this regard, I'm happy to say that we are

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 completing -- one of our videos is going to be
2 on emergency planning preparedness and
3 response. We would hope that some of the
4 lessons learned here, we'll be able to take
5 nationally and be able to protect and assure
6 the health and safety of people across the
7 country. Thank you.

8 MR. BRESLAND: Board member Wright?

9 MR. WRIGHT: I too, in the interest
10 of time, will forego any questions. Most of
11 mine are technical in nature, and I'll discuss
12 those with the staff at headquarters. Thank
13 you.

14 MR. BRESLAND: Thank you. Let me
15 just ask a couple of questions. How many air
16 monitors are located on the fence line of the
17 property and what was their status in the time
18 of the incident?

19 MS. SCIALLO: There are three
20 monitors on the perimeter of the facility. The
21 Chemical Safety Board has received results for
22 two of the three monitors that were

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 operational on the night of the incident.

2 MR. BRESLAND: One clarification
3 question for Mr. Banks, which is on slide 34,
4 where you talk 49 minutes into the incident,
5 Bayer recommended -- I don't remember the
6 exact wording, but there was a recommendation
7 for a shelter in place. Can you just clarify
8 that? I think there may be some issues or
9 differences of opinion or maybe I didn't
10 exactly understand what you said.

11 MR. BANKS: Okay. At 49 minutes into
12 the incident, the Bayer incident commander
13 recommended to Bayer emergency operation
14 center to issue a shelter in place for the
15 Saint Albans and Nitro area.

16 This was based on his observations
17 of a pool fire that was advancing towards a
18 warehouse where methomyl was stored. This
19 wasn't based on any electronic monitors or
20 feedback from monitoring systems.

21 MR. BRESLAND: So it was a
22 communication that went from one part of the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Bayer facility to another part?

2 MR. BANKS: Yes.

3 MR. BRESLAND: But then --

4 MR. BANKS: Yes. I'm sorry. I didn't
5 complete that. The Bayer IC relayed that to
6 the Bayer EOC and asked that that information
7 be transferred to Metro 911. That
8 unfortunately wasn't done.

9 MR. BRESLAND: So that information
10 was not transferred, so that did not ever --

11 MR. BANKS: Yes.

12 MR. BRESLAND: Okay, thank you.
13 Thank you.

14 Did Bayer have any portable monitors and were
15 they used on the night of the incident --
16 portable monitors for chemicals in the
17 atmosphere?

18 MR. BANKS: Not that I'm aware. We
19 have no evidence that we found to indicate
20 that.

21 PANEL TESTIMONY AND BOARD DISCUSSION WITH
22 PANELISTS

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MR. BRESLAND: Do we have any other
2 questions from the Board members? Thank you.

3 We will now move along to our panel
4 discussion. Actually, by shortening the Board
5 member questions, we're back on schedule
6 again, I'm happy to say. Thank the Board
7 members for that.

8 Let's start with the panel members
9 on -- we asked them to do a four or five
10 minute presentation on the issues that they
11 see coming out of this investigation. We'll
12 start with Mr. Sterling Lewis, who was
13 appointed as the state fire marshal on May 1,
14 2000.

15 We've had a very professional
16 relationship with Mr. Lewis over the last
17 couple of years on investigations that I've
18 been doing here in West Virginia. We very much
19 appreciate his help. Mr. Lewis?

20 MR. LEWIS: Thank you, Mr. Chairman.
21 Members of the Board, members of the team,
22 investigators. Again, Mr. Chairman, I would

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 like to thank you for the privilege to get to
2 work with your investigators -- some of the
3 most professional, knowledgeable individuals
4 that I get to work with at the state fire
5 marshal's office. We certainly appreciate
6 that.

7 Along with my duties as the state
8 fire marshal, I am also the director for the
9 regional response teams in the state of West
10 Virginia, which we cover HazMat and WMD
11 mitigation, mass casualty, USAR with West
12 Virginia Task Force 1, which all falls under
13 the umbrella of the Governor's Mobile Response
14 Units.

15 On the night of the incident, I
16 received a call from the West Virginia
17 Department of Homeland Security and Emergency
18 Management advising me that Metro 911 had
19 called them and asked for the regional
20 response teams to be put on stand by. That's
21 our process. The county calls the state and
22 then the state director Jenneta and I, we work

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 together to decide whether we're going to
2 respond the units out.

3 I asked the emergency management
4 operator why do you want regional response
5 team assets? She advised me that she did not
6 know, that Metro 911 called and said they need
7 the regional response team on stand-by, but
8 they didn't know what the problem was, but
9 they knew that it was a Bayer Cropscience
10 plant.

11 At that time, I advised her I would
12 respond personally to the incident to see if
13 regional response team assets were needed.

14 In my response, coming in from
15 Nitro form the west end, coming into the
16 plant, I was in a tremendous amount of smoke
17 and could smell unusual stuff that you don't
18 smell when you go through Nitro usually.

19 At that time, I got on the radio
20 with Metro 911 and asked -- which is a normal
21 question when we do a HazMat response -- what
22 are we driving into? What are we responding

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 to? Again, this was 15 minutes after I had
2 departed my residence. We do not know -- 1770,
3 which is my unit number -- we have not been
4 told yet.

5 I arrived on scene at Bayer
6 Cropsience and pulled up to the gate and of
7 course, showed my identifications and my
8 badge. I was asked to turn over and park on
9 the side, that someone would call me, and they
10 did. The Response I got was we have had an
11 explosion in the larvin unit. We have one
12 individual that is being transported by
13 ambulance, and we have one individual that is
14 unaccounted for.

15 After approximately 40 minutes that
16 we got into the plant, into the plant's EOC,
17 we were ushered into a room, a number of us.
18 We waited approximately 20 minutes at that
19 point in time to get someone to us and we
20 asked what is going on. I got the response of
21 we had an explosion in the larvin unit. We
22 have one individual being transported by

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 ambulance and we have one individual
2 unaccounted for.

3 At that time, I figured I didn't
4 have enough information that I needed, so I
5 went back out to where the first responders
6 were because they were the ones that were
7 actually responding into the units and coming
8 back out and changing manpower in and out.

9 To make Response short and leave
10 time for the others, at the end of the night,
11 I knew no more walking into the aftermath than
12 I knew driving up the Interstate 64, and that
13 was approximately six hours later.

14 I advised the company that I would
15 not remove the victim until daylight. They
16 asked, since they were having shift change,
17 that the men that were coming into work were a
18 little uneasy about it and I understand, so I
19 agreed with -- Mr. Janetta and myself, we went
20 into the situation.

21 I asked if the environment we were
22 walking into was a safe environment. I was

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 assured that it was and we went on that
2 assumption because they were the
3 professionals.

4 After that, the West Virginia state
5 medical examiner came in and did what they
6 needed to do and removed the victim. I'll be
7 happy to answer questions.

8 MR. BRESLAND: Thank you, Mr. Lewis.
9 Do we have any questions? Board member Wright?

10 MR. WRIGHT: Marshall Lewis, I'm
11 just curious as to whether in your
12 professional opinion, you thought that your
13 denial of access was for your own protection
14 or a situation based upon the fact that maybe
15 they didn't know what situation they had going
16 in there?

17 MR. LEWIS: I could have gone that
18 way, but I'm sort of like Dr. Phil. This is
19 not my first rodeo.

20 It was a very rehearsed speech that
21 I got from every employee at Bayer
22 Cropsience. They train their employees well.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 I wish I could train my fire marshals that
2 well.

3 But no, I don't think there was any
4 mistake. I'm not sure they knew exactly the
5 situation they had because when I looked at
6 the destruction inside there, I knew
7 immediately that all the destruction there was
8 way above the pay grade of any of my fire
9 marshals and knowledge of my fire marshals,
10 and that's why I'm so glad to have the team
11 come in because we relied and always do, on
12 their expertise.

13 But no, I don't think it was just a
14 mistake.

15 MR. WRIGHT: Thank you.

16 MR. BRESLAND: Just one quick
17 question. You may not be exactly the right
18 person to ask, but what sort of HazMat,
19 outside HazMat Response capabilities would
20 there be in the area for a situation like
21 this?

22 MR. LEWIS: Are you saying other

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 than the regional response teams?

2 MR. BRESLAND: Well, maybe including
3 the regional response teams.

4 MR. LEWIS: The regional response
5 teams are made up of 19 units around the state
6 of West Virginia, geographically located to
7 respond.

8 There are a number of our fire
9 departments and we're very lucky in the valley
10 that with our fire departments we have here in
11 the Kanawha Valley -- they make up a large
12 number of those HazMat Response units.

13 We were able to pull out one unit
14 and we did air monitoring around the perimeter
15 because we wanted to be sure -- since we
16 couldn't find out what was going on inside, we
17 wanted to be able to protect the citizenry on
18 the outside. We set up our air monitors
19 outside the plant. Luckily and by the grace of
20 God, we had nothing that registered on our
21 monitors.

22 MR. BRESLAND: Okay, thank you.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Let's move on to Mr. Dale Petry, who currently
2 serves as the director of Emergency Management
3 Services for the Kanawha County Commission.

4 Mr. Petry?

5 MR. PETRY: Well, first of all, I
6 would like to also thank you the Board and the
7 investigative team for what I thought was a
8 very informative investigation. I'm just glad
9 that they saw it necessary to come and do the
10 investigation for us.

11 My role as the emergency county
12 director or emergency services is to
13 coordinate response efforts, to protect life,
14 property, and environment.

15 Effective communication is imperative to
16 fulfill this mission.

17 On August 28, 2008, our public
18 safety forces was prepared to do whatever was
19 necessary to protect human life and assist
20 Bayer's Institute site in mitigating the
21 emergency situation within their compound.

22 Unfortunately, Bayer's lack of

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 communication that night undermined our best
2 efforts unnecessarily. I'm disappointed to
3 report to you that I learned more about the
4 explosion and fire at the Institute site from
5 sitting in the hearing in Washington, DC this
6 week than I did during the incident and the
7 days that followed.

8 However, I will report to you that
9 we have learned some key lessons from this
10 experience that will ensure that certain
11 events of that evening do not repeat
12 themselves.

13 The Kanawha County emergency plan
14 contains guidelines specific to emergencies
15 inside plant facilities. These guidelines have
16 been developed and updated over the years by
17 emergency services and the Kanawha Putnam
18 Emergency Planning Committee, which includes
19 plant representatives.

20 Chief among these plans is protocol
21 for informing Metro 911 of emergency
22 situations within plant facilities, including

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 redundant communication methods. The plan
2 assumes that our chemical plants will call us
3 when an incident occurs on their property --
4 even a minor incident that requires no public
5 warning.

6 Although a local telephone network
7 was stressed that night due to the huge volume
8 of 911 calls, Bayer has radios tuned to our
9 public safety channels to use as an
10 alternative method of contacting Metro 911 and
11 to communicate with our public safety
12 personnel who respond to plant emergencies.
13 Bayer has long participated in weekly tests of
14 this radio system, but did not use it that
15 night.

16 Only after 911 operators called the
17 plant, we finally made contact. We received no
18 useful information. What telephone
19 communication we received from Bayer that
20 night came from a security guard at the main
21 gate and was seriously lacking in substance.

22 It was hours into the incident

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 before we had any idea of the chemicals
2 involved. This information came too late to
3 take proper actions to protect the public and
4 our first response personnel.

5 After midnight, a plant official
6 reported to our emergency operations center as
7 requested. He was less helpful to us than the
8 security guard at the main gate.

9 Had Bayer been forthcoming with
10 accurate information about what was going on
11 inside their compound, we could have initiated
12 measures to warn the public within ten minutes
13 after the explosion was reported. Their lack
14 of communication delayed those efforts for 35
15 minutes after Bayer refused to tell us what
16 had exploded.

17 We will not wait on information
18 again. Kanawha County has already instituted a
19 policy that says we will wait no longer than
20 15 minutes for accurate information about an
21 incident at a chemical facility.

22 If we're not getting information,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 we will issue a shelter in place warning as a
2 precaution to protect our citizens. The
3 legislature has followed our lead and that
4 same time limit is now a state law.

5 We have also installed a direct
6 line to the Institute site and I will now
7 carry contact numbers for key personnel at the
8 site so that we can bypass the security guard
9 who apparently couldn't tell us anything.
10 These are just a sample of measures that we
11 have taken to improve our Response efficiency
12 and we don't think we're finished.

13 Despite the crafted public
14 assurances that Bayer intends to correct their
15 communication failures, Kanawha County has
16 been responsive with actions to see that the
17 failures and confusion that night will not be
18 repeated.

19 MR. BRESLAND: Thank you very much,
20 Mr. Petry. Board member Wark, you have a
21 question?

22 MR. WARK: Yes, I do. First of all,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 I'd like to commend you for the improvements
2 that you're making in your emergency response
3 capability.

4 One question I do have -- you
5 mentioned that you have a plan, emergency
6 plan. How often do you exercise that plan --
7 drill it?

8 MR. PETRY: We drill that plan, I
9 would say, quarterly. We do any improvements
10 that we need to try to make the plan better.
11 We try to continually update our plan on any
12 instances and any failures that we occur.

13 MR. WARK: What's your relationship
14 with the local emergency planning committees?
15 Do you sit on their committees, for instance?

16 MR. PETRY: We meet every other
17 month with our local LEPC, which includes all
18 the chemical plants and emergency response
19 personnel.

20 MR. WARK: Okay, thank you.

21 MR. BRESLAND: I had a question
22 today when we did a news conference this

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 morning. I wasn't able to answer it and I
2 think you could probably help me with this,
3 Mr. Petry.

4 The question was, the 911
5 operators, when they receive a call about a
6 chemical plant emergency, which is probably
7 something that happens with relative frequency
8 here in the Valley because of all the chemical
9 plants, do they have a form that they would
10 use to ask questions of the person who is
11 calling in, to try to gather information on
12 exactly what's going on?

13 MR. PETRY: Yes, there is a form
14 that they have to look at to try to gather
15 information. Unfortunately, that night we
16 couldn't get any of it.

17 MR. BRESLAND: During the emergency
18 on August 28, did you receive any requests for
19 a shelter in place from inside the facility?

20 MR. PETRY: No. It was after that we
21 recommended a shelter in place before we
22 received anything from the plant requiring the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 same.

2 MR. BRESLAND: Okay, thank you very
3 much.

4 Next speaker is Mr. Nick Crosby, who is the
5 vice president of operations at the Bayer
6 Cropsience facility. Mr. Crosby?

7 MR. CROSBY: Thank you, Mr. Chairman
8 and fellow Board members. Good evening.

9 I want to speak to you this evening
10 not only as an engineer and business leader,
11 but as a member of the Kanawha Valley
12 community here.

13 On August 28, we suffered a tragic
14 accident at the Institute site. I want to make
15 the point perfectly clear. Our employees, our
16 neighbors, and the community is and must
17 remain our highest priority.

18 Over the past seven months, Bayer
19 Cropsience, the CSB, and others have been
20 working together to examine this incident, to
21 learn from it, and to identify opportunities
22 to improve the systems and processes.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 We've also been conducting our own
2 investigation. On Tuesday, I took part, along
3 with others in our community, in a
4 congressional hearing on the accident. At the
5 hearing, I discussed our commitment to further
6 engagement with our neighbors and greater
7 community. We will fulfill that commitment.

8 On the night of August 28, our
9 emergency responders did a tremendous job
10 under very difficult circumstances. They
11 followed the communication protocol set forth
12 in our region's emergency response plan.

13 After the fact however, we came to
14 understand that our communications in the
15 initial minutes after the incident fell short.
16 We have apologized for that.

17 Many members of our community
18 became concerned upon hearing an explosion and
19 seeing a fire. They did not receive the
20 immediate reassurance that they were not in
21 danger.

22 We've already taken many

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 significant actions to improve our emergency
2 communications with the community. For
3 example, we have new procedures for
4 communicating with Metro 911. We have
5 installed a telephone hotline and have new
6 radios to avoid overloaded phone lines to
7 Metro 911.

8 The task of alerting Metro 911 has
9 been re-assigned to our perimeter leader and
10 not a security guard. We have a new checklist
11 of critical information that he should
12 communicate to Metro 911.

13 We have hired an emergency services
14 leader to enhance our coordination and
15 emergency communications with Metro 911 and
16 the community.

17 And we have equipment from 911 with
18 the same real-time computer based system that
19 we use for modeling and monitoring chemical
20 dispersions that we use at a site.

21 During the incident, there was no
22 delay in ordering the shelter in place. The

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 incident commander promptly assessed the
2 situation, observed the characteristics of the
3 fire, and concluded that no chemicals were
4 being carried beyond the facility.

5 He made the decision that shelter in place was
6 not required and it was the right call.

7 Approximately 45 minutes later,
8 however, he observed that the fire was heating
9 up nearby storage bins. As a precaution, he
10 recommended a shelter in place for two
11 neighboring communities. This information was
12 relayed to Metro 911. Post-incident testing
13 confirms that only trace amounts of methomyl
14 were able to be found.

15 MIC or methyl isocyanate is a
16 critical and necessary building block for the
17 products at the Institute site, which are used
18 in important insecticides that help protect
19 crops, both in the United States and around
20 the world.

21 Bayer Cropscience and the prior
22 owners of the Institute site have invested

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 heavily to ensure that we employ the safest
2 production strategy for chemical processes.
3 We have examined other technologies for MIC
4 and we have determined that our process is as
5 safe as those alternatives.

6 At no time was any MIC released
7 during the incident. We have multiple and
8 redundant layers of protection which, working
9 together, protect our employees, our
10 neighbors, and their community from the
11 harmful release of MIC. Those layers of
12 protection worked as intended during the
13 incident to protect the MIC day storage tank.

14 We've shared details of these
15 layers of protection with the CSB and other
16 government officials. Above all, the safety of
17 our employees and neighbors from the community
18 remains our highest priority.

19 We've taken a number of steps to
20 prevent another incident like the one that
21 happened on August 28. We have conducted an
22 extensive internal investigation that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 identified the factors leading to this
2 incident.

3 Based upon the results, we have
4 implemented several measures, including safety
5 improvements, additional operating procedures
6 and safe guards, and an extensive training and
7 compliance regime to ensure that this kind of
8 incident will not occur in the future.

9 Finally, let me be clear. The Bayer
10 Cropsience has fully cooperated with all
11 agencies, including the CSB, giving them our
12 support, access to our facilities, our
13 employees, and their records.

14 I truly hope my comments this
15 evening have helped to provide some
16 clarification to address concerns and to
17 inform about the positive steps we are taking
18 forward. Again, I welcome the opportunity to
19 address our neighbors here this evening. We
20 remain committed to the community and focused
21 on the safe operation of our facility and the
22 safety of our employees, our neighbors, and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the community.

2 We look forward to demonstrating
3 our cooperation with our public emergency
4 response officials in enhancing an active
5 dialogue with our neighbors.

6 If people do have questions,
7 comments, or concerns about this incident, our
8 reconstruction activities or anything else,
9 please do not hesitate to contact us. We have
10 established an e-mail address, which is
11 institutequestions@bayer.com to enable us to
12 listen to what you, our neighbors, have to
13 say.

14 We take our responsibilities to our
15 community seriously and we intend to meet
16 those responsibilities. Thank you, Mr.
17 Chairman.

18 MR. BRESLAND: Thank you, Mr.
19 Crosby. Board member Wark, do you have any
20 questions?

21 MR. WARK: Yes, I have a couple. Do
22 you have a -- you know, in the area that I'm

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 familiar with the radiological emergency
2 preparedness program and the chemical
3 stockpile emergency preparedness program,
4 there's what we refer to as alert notification
5 system, which involves 911 ring-down. It
6 involves sirens, for instance.

7 Have you been addressing that at
8 all prior to this incident, as far as -- I
9 mean, do you have alert sirens to tell the
10 community off-site that something bad is
11 happening and that they should be paying
12 attention to the alert notification system?

13 MR. CROSBY: We have an internal
14 emergency alarm notification system, which is
15 designed for internal use only.

16 When our alarm sounds, we have a
17 duty and we have an agreed protocol whereby we
18 will call Metro 911 and inform them of the
19 type of incident. It is our duty to provide
20 the necessary information and the necessary
21 communications to allow Metro 911 to be able
22 to take the relevant actions within the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 community.

2 There are community sirens. There
3 are systems that are available, but those
4 systems are managed or controlled through Mr.
5 Petry and his 911 organization.

6 MR. WARK: The other question that I
7 have is, we've heard from the investigators
8 regarding monitors and I would like to ask you
9 this.

10 In your written statement for
11 tonight's meeting, which you provided to us
12 yesterday, you said that we monitor for MIC
13 and there's no indication that MIC was
14 released the night of August 28. End of quote.

15 My question is, were all of the MIC
16 air monitors in the facility turned on and
17 working properly that night, for your
18 perspective?

19 MR. CROSBY: We had an issue with
20 some local general monitors, which are used to
21 really detect what I would call very minor
22 leaks that evening.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 The monitors that we refer to in
2 terms of ensuring that our neighbors and our
3 community is safe are our fence line monitors.
4 They pick up a variety of compounds and would
5 readily detect any MIC if it were to leave the
6 site.

7 Those monitors that night, detected
8 no sign of any release of toxic chemicals
9 outside of our fence line.

10 MR. WARK: And they were
11 operational?

12 MR. CROSBY: They were in operation.
13 Yes, sir.

14 MR. WARK: That's all I have, Mr.
15 Chairman.

16 MR. BRESLAND: Board member Wright?

17 MR. WRIGHT: Mr. Crosby, how many
18 monitors are around the perimeter of the
19 facility?

20 MR. CROSBY: We have a number of
21 various monitors around the facility, two of
22 which actually manage -- detect chemical

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 activity around the fence line.

2 MR. WRIGHT: So only two of an
3 unknown number of monitors detect toxic
4 chemical activity?

5 MR. CROSBY: We have monitors which
6 are strategically placed, actually permanent
7 monitors on the fence line.

8 We also have a number of portable
9 monitors, which we can take out into the
10 community and can be used to actually detect
11 the same compounds. They can be set up on an
12 as-needed basis.

13 MR. WRIGHT: Okay, so let me get
14 back to the basics. How many monitors do you
15 have that will detect toxic chemicals?

16 MR. CROSBY: We have a total of six,
17 two of those are permanently installed and
18 four of those are mobile monitors.

19 MR. WRIGHT: And none of those
20 detected any toxic releases on the evening of
21 the 28th?

22 MR. CROSBY: We used the two fixed

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 monitors, sir, and neither of those monitors
2 detected any releases. That's correct.

3 MR. WRIGHT: Would you agree with me
4 that the system broke down miserably that
5 evening for your company and your obligation
6 and duty to notify the 911 operator or the
7 emergency services center?

8 MR. CROSBY: I think, sir, there's
9 two parts to our response. One thing and I
10 will answer the question. The one thing that I
11 am very, very proud of that evening is the way
12 that our emergency squad responded to that
13 incident. They did an absolutely fantastic job
14 on the site and I was very proud of them.

15 MR. WRIGHT: I agree with that.

16 MR. CROSBY: What I fully
17 acknowledge is that our communications to
18 Metro 911 broke down that evening. That was
19 not by design. We believed that we made the
20 right communication protocols. We hadn't.
21 We need to fix it.

22 We've been working with Metro 911.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 We are, in fact, planning a joint drill
2 towards the end of next month, where we will
3 test the changes and the enhancements and the
4 improvements that we've made to our
5 communication systems.

6 MR. WRIGHT: My follow up question
7 to you, sir, is do you believe you had
8 adequate information based upon the number of
9 monitors that you employed that evening? Had
10 you had the correct information and shared it
11 with the public that the public would have
12 been safe and possibly assured of their own
13 safety, had you shared that with them?

14 MR. CROSBY: I've always been
15 assured, sir, that the analysis that we
16 carried out at the time of the incident, the
17 way that the incident commander responded to
18 that and the decisions that we made about
19 shelter in place were the right decisions.

20 MR. WRIGHT: Thank you.

21 MR. BRESLAND: Mr. Crosby, you said
22 that you have two fixed monitors. I've driven

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 around the facility and it's quite a large
2 place.

3 Are you giving any thought to
4 installing more fixed monitors as a result of
5 --

6 MR. CROSBY: That's a very good
7 question, Chairman Bresland. We will be re-
8 examining the systems that we've got on-site.

9 Monitors are actually placed, to
10 the best of my knowledge, in the areas where
11 we are closest to the neighbors in our
12 community. I mean, they're placed
13 strategically for those reasons. They were
14 placed in full consultation with the
15 consultants with whom we purchased the system
16 from with the safety assistance.

17 But we will be reviewing this as
18 part of our incident review of the types and
19 locations of our monitors to see whether there
20 are enhancements that can be made, yes.

21 MR. BRESLAND: Are these specific to
22 MIC, phosgene, chlorine?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MR. CROSBY: They detect volatile
2 organic carbon compounds, chlorine. They look
3 for a number of other components.

4 They aren't specifically designed
5 for MIC, but they would certainly pick up MIC,
6 as well as a range of other chemicals on the
7 site.

8 MR. BRESLAND: What about the
9 portable monitors that you talked about? Are
10 those like drager tubes or more sophisticated
11 than that?

12 MR. CROSBY: They are, in fact,
13 portable versions of the installed monitors.
14 They can be taken out and they can be placed
15 within, I believe, about a three mile radius.
16 They have a radio link back into the safer
17 modeling and dispersion system that we use
18 within our emergency operations center.

19 MR. BRESLAND: Was there a reason
20 they weren't used on the evening of the --

21 MR. CROSBY: All of the information
22 we were receiving was that there was nothing

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 actually leaving the site.

2 We did, in fact, dispatch one of
3 our environmental staff up into the Cross
4 Lanes area to some portable monitoring with an
5 alternative handheld monitor, and he too,
6 confirmed that there was nothing being detected
7 at that time.

8 The other -- one final set of
9 monitoring that we carried out was we did use
10 the offer from the Nitro volunteer fire
11 department. We were using their firefighters
12 that evening to actually walk and patrol and
13 to assess what was actually happening around
14 the fence line. Again, we found no evidence of
15 any release.

16 MR. BRESLAND: Okay, thank you very
17 much. Any other questions? We'll move on to
18 Mr. Michael Flynn, who's with the
19 International Association of Machinists, which
20 I understand is a union that represents
21 employees of the facility. Is that correct?

22 MR. FLYNN: Yes, sir. I would like

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 to thank Chairman Bresland for the opportunity
2 to express our views on this most important
3 matter.

4 First, on behalf of the
5 International Association of Machinists and
6 Aerospace Workers, I want to remember the loss
7 of two union brothers, Bill Oxley and Barry
8 Withrow, as a result of this August explosion.

9 Going through an investigation of
10 an event of this magnitude to determine the
11 root causes takes time and creates additional
12 stress to their family members, friends, and
13 co-workers.

14 At the conclusion of this process,
15 it is our hope that those two tragic deaths
16 and the subsequent findings will contribute to
17 making work sites safer, not only here in
18 Institute, but throughout the chemical
19 industry.

20 On the morning of August 28, I was
21 contacted by Don Holmstrom, an investigator
22 with the CSB. This was my first notification

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 of the incident that occurred at Bayer
2 Cropsience.

3 He told me at the time that he did
4 not have the details of the explosion, but due
5 to the manufacturing and storage of the MIC,
6 the chairman, along with four other
7 investigators had already departed to the
8 site. He requested assistance in notifying our
9 local union representatives to ensure the CSB
10 would have the correct union contacts when
11 they arrived.

12 Through our territorial general
13 vice president's office, I was able to contact
14 Joe Gresham, the business representative at
15 the facility. He forwarded me the names and
16 the contacts for the local union safety
17 representatives, which I then forwarded to the
18 CSB.

19 Now, this was a normal CSB request,
20 since it is our experience that the Chemical
21 Safety Board involves all parties related to
22 their investigation. This is why I want to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 speak on the subject of the necessity for the
2 Chemical Safety Board to have unfettered
3 access to a plant they are investigating and
4 the ability to involve the workers, the
5 community for that investigation as it's
6 taking place.

7 Historically, Bayer Cropscience in
8 Institute and our local union have had in
9 place sound functioning safety committees.
10 Over the years, the committee has been both
11 proactive and reactive to the issues or
12 concerns raised as resulted to safety and
13 health.

14 For the most part, throughout this
15 investigation, that continued. Our safety
16 committee was involved with the OSHA
17 inspection process, the ATF and the CSB,
18 including interviews of the witnesses.

19 From my perspective though, that
20 cooperative spirit of working together toward
21 a common goal began to be compromised when
22 Bayer Cropscience's legal counsel started

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 raising issues that challenged the CSB's
2 planned activities under the Maritime
3 Transportation Security Act.

4 To add injury to insult, the
5 company's legal counsel sought out our notes
6 the union representatives had taken during the
7 interview process. To respond, we had to
8 utilize our legal department resources in
9 objecting to that request.

10 As I observed this challenge taking
11 place, it became apparent that the critical
12 work of the Chemical Safety Board was also
13 being affected due to their time and resources
14 being spent to respond to legal matters.

15 I was immediately suspicious of
16 these legal maneuverings, where the efforts of
17 an overzealous lawyer pulling out all stops
18 just to stymie any and all investigation.

19 The acknowledgment at the recent
20 congressional hearing before the Subcommittee
21 on Energy and Commerce that this was a public
22 relations tactic to prevent negative

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 information from being disclosed is in itself
2 most troubling.

3 As a union that represents workers
4 across North America in the aerospace,
5 shipbuilding, nuclear defense industries, we
6 are well versed and respect the need to
7 protect national security concerns. However,
8 we must be wary of national security concerns
9 being invoked for frivolous reasons such as a
10 company's public relations.

11 The work of the CSB, including
12 public hearings and their final reports, are
13 intended to prevent similar accidents in the
14 future. Whether you are a company, a
15 shareholder, or worker in a plant, or a member
16 in the community where the plant is located,
17 the information garnered from the CSB
18 investigation is not only beneficial, but can
19 prevent future catastrophes.

20 The American public would
21 ultimately pay the biggest price if all
22 companies involved in future Chemical Safety

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Board investigations exercised similar use or
2 misuse of national security
3 regulations to prevent a thorough and
4 transparent investigation.

5 Bayer Cropscience here in Institute
6 has a proud and experienced work force. They
7 have been committed to safety and our local
8 union leadership has built excellent safety
9 committees, negotiated language in collective
10 bargaining contract that serves our members
11 and employees well.

12 No one cares more about the safety
13 and health than the workers who live in this
14 community, along with their most precious
15 assets, their family and friends.

16 I want to close as I opened and
17 remember that it was Barry Withrow and Bill
18 Oxley who paid the ultimate price. It is my
19 hope that lessons learned from this tragedy
20 will benefit their family, friends, co-
21 workers, and community. Thank you, Mr.
22 Chairman.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MR. BRESLAND: Thank you, Mr. Flynn.
2 I certainly appreciate those comments and I
3 tried to make the same comment earlier this
4 evening and also in my congressional testimony
5 earlier this week.

6 Just from a practical point of
7 view, having worked in the Chemical Safety
8 Board for a long time, but since February 12,
9 when this issue came up, the work of this
10 Chemical Safety Board has been directed -- I
11 wouldn't say exclusively -- but closely
12 exclusively to dealing with this legal issue
13 that had been brought up and it brought our
14 investigation of this incident and another
15 very serious incident that killed 14 employees
16 in Georgia, basically to a halt, so I really
17 appreciate your comments. Thank you.

18 Board member Wark?

19 MR. WARK: Yes. I have a couple of
20 questions. The CSB investigators noted that
21 fatigue was a potential factor in the accident
22 with operators working 12 hour shifts many

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 days in a row and sometimes up to 18 hours at
2 a time.

3 I would like to know your view on
4 operator fatigue as an important safety issue
5 for the industry in general and also, to what
6 extent you would condone this extra overtime,
7 which having grown up on a farm, I know you
8 work 12, 14 hour days for a long time and you
9 get pretty loopy, so what do you have to say
10 about that?

11 MR. FLYNN: Well, first of all, each
12 of our contracts are locally negotiated. The
13 overtime rules, the rotating shifts, the
14 longer days are determined by our membership
15 in a democratic fashion when they negotiate
16 and vote on their collective bargaining
17 agreement.

18 With that said, any critique, any
19 investigation -- all the cards go on the
20 table, and not all the time it's comfortable
21 for a lot of parties. It's just not the
22 company.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 There are times that we have to
2 look at ourselves. We do an awful lot of
3 training, HazMat emergency response training
4 for our members and joint labor committees.
5 The biggest part of that is to look at our
6 entire process and work product.
7 There's lessons learned.

8 Now, Mr. Crosby said that they had
9 completed an investigation. Well, that
10 investigation -- our members participated in,
11 but I would say the investigation is not
12 complete until all the data is in from all the
13 investigative bodies.

14 That issue certainly rises to the
15 top and it's an issue that we deal with
16 throughout the union. Especially in an economy
17 like today, it's cheaper to pay somebody for
18 12 hours than to hire an additional body. A
19 lot of times, it's driven. The economy drives
20 that.

21 At the same time, people need to
22 work it. If the second wage earner in the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 family has lost their job, they're going to
2 take the overtime. With all the other
3 pressures going on, a lot of times it becomes
4 an economic issue.

5 But it should be looked at just
6 like any other issue needs to be looked at, in
7 a very transparent and candid manner.

8 MR. WARK: So you would say it would
9 be fair to say that in addition to an economic
10 issue, that it's a safety issue?

11 MR. FLYNN: Certainly, fatigue is a
12 safety issue. There are plenty of studies that
13 will prove that and I would say everything
14 should be looked at, yes.

15 MR. WARK: Thank you.

16 MR. BRESLAND: I have no questions.
17 Let me move on to Mr. Hendershot. I'll just
18 take a few second to introduce Dennis. I have
19 known him off and on over the years.

20 He's a chemical engineer, BS, MS.
21 He worked for Rohm and Haas for 35 years. He's
22 involved with one of the country's experts on

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 inherently safer design. He was intimately
2 connected with an investigation that we did of
3 the Texas City explosion because he was hired
4 by the independent safety panel headed up by
5 former Secretary of State James Baker, which
6 posted its report on safety culture of the BP
7 Texas City refinery.

8 So we've asked him to come and talk
9 about general chemical process safety issues,
10 keeping in mind his expertise in this area.

11 Mr. Hendershot?

12 MR. HENDERSHOT: Thank you, Mr.
13 Chair and Board and everybody.

14 The Board staff asked me to talk
15 about a couple of issues. First of all, just a
16 few brief comments about some personal
17 experiences I've had with Bhopal. Also, to
18 talk more extensively about inherently safer
19 design.

20 In December of 2009 -- this coming
21 December will be the 25th anniversary of the
22 Bhopal tragedy. In December of 2004, on the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 20th anniversary, I was privileged to
2 participate in an international conference to
3 mark that anniversary and to share progress
4 that the process industries have made in that
5 intervening time to prevent such things from
6 happening in the future.

7 After that conference, I, along
8 with a number of other attendees from the
9 conference was able to actually tour the
10 Bhopal plant and the city and the area. That
11 was a very memorable experience, seeing the
12 equipment where the release occurred, meeting
13 many people in the community who were injured
14 by the tragedy, talking with emergency
15 response personnel who had to deal with those
16 consequences, talking to plant operating
17 personnel, including some who were off-duty at
18 the time and were at home with their families
19 and were actually impacted by the tragedy as
20 members of the community.

21 Maybe the biggest impression of all
22 was visiting clinics and talking to doctors

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 who are still dealing with long-term health
2 consequences 20 years later.

3 One thing that really struck me
4 earlier this week when I was listening to the
5 congressional hearings on this incident and
6 just a few minutes ago when Marshal Lewis was
7 speaking, was how similar the experience of
8 the Kanawha Valley emergency response
9 personnel to that that the Bhopal India police
10 chief described to me as his experience in
11 December 1984, in terms of not being aware of
12 what was going on.

13 It was almost the same words.

14 CSB also asked me to talk briefly
15 about the concept of inherently safer design.
16 Inherently safer design is a philosophy for
17 design and operation of any technology,
18 including chemical processing. It's not a
19 specific technology or a set of tools and
20 activities, but it's really an approach to
21 design and it's a way of thinking for
22 engineers at all stages in process development

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 and design.

2 What do we mean by inherently safer
3 design? One dictionary definition of inherent
4 is existing in something as a permanent and
5 inseparable element. What that means is that
6 the safety features are built right into the
7 process, not added on. Hazards are eliminated
8 or significantly reduced rather than
9 controlled or managed.

10 The means by which you do this are
11 so fundamental to the design of the process
12 that they're really difficult or impossible to
13 change or defeat.

14 But again, there are some important
15 things that we have to recognize. When we
16 describe a process design as inherently safer,
17 we need to remember that first of all, we're
18 describing it as inherently safer relative to
19 one or more alternative designs.

20 I never use the word inherently
21 safe. If by safe, we mean that it's the
22 complete absence of all hazards and risks,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 then I'm not aware of any technology that
2 could ever be described as absolutely
3 inherently safe. We talk about something as
4 inherently safer relative to something else.

5 Also, we're generally talking about
6 inherently safer in the context of one or
7 perhaps several of the multiple hazards that
8 are associated with any kind of a process or
9 technology. But it may not be inherently safer
10 with respect to all hazards.

11 We have to remember no good deed
12 goes unpunished and oftentimes, any change in
13 technology, even when it's intended to
14 eliminate or reduce a particular hazard, has
15 the potential to increase other hazards or
16 introduce new hazards.

17 And so, when you make these
18 technology choices, it is really important to
19 fully understand all of the implications of
20 all of the various alternatives. That is
21 really essential.

22 There's been a lot of discussion of

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the potential for other inherently safer
2 processes to manufacture the products which
3 are produced at Institute. Other companies
4 have reported successful implementations of
5 alternative technologies -- and we saw some
6 mention of that in the slides earlier -- for
7 some of the materials produced in this plant.

8 It's not clear to me as an outsider
9 and from the information that is available to
10 the public how thoroughly those alternatives
11 have been evaluated at Institute. You really
12 can't tell. Society does not insist that a
13 technology be inherently safe. We insist that
14 it be safe.

15 High reliability organizations
16 operating inherently hazardous technology can
17 be quite successful. For example, air
18 transportation. I almost took that out after
19 my experience trying to get here today.

20 But you know, the Navy submarine
21 program, the deck of a modern aircraft carrier
22 -- we can do this.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 In Pudd'n Head Wilson, Mark Twain
2 suggests put all your eggs in one basket and
3 watch the basket. The important thing there is
4 watch the basket is in all capital letters.
5 What he's saying is that if you're going to do
6 that, if you're going to put all your eggs in
7 one basket, you have to be really good and you
8 have to be really good all the time -- not 90
9 percent of the time, not 99 percent of the
10 time. You have to be good all the time.

11 Here at the University, if you get
12 a 95 percent on a test, you'll probably get an
13 A. If you're dealing with a high risk
14 technology and you get a 95 percent on a test,
15 you're not going to get an A, so you have to
16 be good all the time.

17 As a chemical engineer and a strong
18 proponent of inherently safer design, I can be
19 convinced either way with regard to the
20 processes at Institute because I haven't
21 really seen a lot of information about how the
22 choice was made.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 With regard to changing technology,
2 early in my career, I worked for 15 years in
3 process research and development. Over that
4 time, I encountered a lot of really good ideas
5 that we were not able to successfully
6 implement -- sometimes for economic reason.
7 Sometimes because you just couldn't get them
8 to work properly on a production scale.
9 Sometimes because we encountered unanticipated
10 safety, health, and environmental issues.

11 In one case, we had a new plant
12 that was half built and millions of dollars
13 invested when we decided we couldn't make the
14 process work and we abandoned it.

15 Details really matter. They matter
16 a lot in chemical processing, so you can have
17 what looks like a trivial change in chemical
18 structure that can have major impacts on
19 things like chemical reaction selectivity,
20 rate, solubility, and other things that are
21 important in designing a manufacturing plant.

22 It's not my purpose here to try and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 explain why Bayer and for several previous
2 owners to have chosen not to change technology
3 at Institute -- I'm really not qualified to do
4 that. I'm not familiar with that technology,
5 so I would just be speculating, and there
6 really is little information publicly
7 available. There could be good technical and
8 economic justifications for this decision and
9 I notice that even the report of Dr. Lapkin
10 for the Good Neighbor Project acknowledges
11 some potential difficulties. But difficulties
12 often can be overcome, but not always. But
13 they need to be looked at.

14 It's very clear to me, from the
15 concern in this room and from the continuing
16 public concern going all the way to the United
17 States Congress, that the various operators
18 over the years at the Institute plant have not
19 been able to convince this community that they
20 have made a good decision. Thank you.

21 MR. BRESLAND: Thank you, Mr.
22 Hendershot.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 The program that you were involved with at the
2 BP Texas City accident was a study of the
3 safety culture of BP. What lessons did you
4 learn from that that could be transferred --
5 without obviously understanding too much about
6 Institute, but what lessons on safety culture
7 did you learn?

8 MR. HENDERSHOT: I've always thought
9 that the most important recommendation from
10 the Baker panel report was the first one,
11 which dealt with leadership, leadership
12 throughout the organization.

13 Again, leadership is just not the
14 CEO and the work manager and so forth, but
15 everybody in the organization is a leader. But
16 the leadership does need to start at the top
17 and it needs to be real and genuine and a full
18 commitment because if you don't have that
19 leadership and that top management commitment,
20 none of the other recommendations from the
21 Baker report are really going to matter
22 because they won't happen.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 I think that's absolutely critical.
2 As I was listening to the description of this
3 incident, there are a lot of similarities
4 between this incident and Texas City, in terms
5 of having it occur during a start-up, in terms
6 of issues with excessive overtime and fatigue
7 and procedures that are inadequate and so
8 forth.

9 It really comes down, I think, in
10 many cases to really having a good effective
11 process safety management system, which, I
12 think, most importantly provides feedback to
13 management as to whether it is functioning
14 properly or not. I think in many cases,
15 systems are put out there and assumed to be
16 working, and what management needs is bad
17 news.

18 They need to get the bad news about
19 what's not working because that's not what
20 they need to fix. Management needs to welcome
21 bad news. They need to look for bad news
22 because that tells them what their job is.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 You don't need to fix what's
2 working right. You need to fix what's broken,
3 but if you don't find out what's broken -- if
4 your system does not provide feedback about
5 what you might think is happening but is not,
6 in fact, happening, then you're not going to
7 be able to fix it.

8 MR. BRESLAND: Thank you, Mr.
9 Hendershot. Finally, Maya Nye has been sitting
10 here patiently since 6:30 this evening. I
11 assume you still want to speak.

12 MS. NYE: I do. I might sound a
13 little jittery. It's a bit cold in here.

14 MR. BRESLAND: Ms. Nye is the
15 spokesperson for People Concerned About MIC.
16 Thank you.

17 MS. NYE: Chairman Bresland, thank
18 you and Board members, thank you. Community
19 members, thank you for coming.

20 My name is Maya Nye and I am the
21 spokesperson for the community organization
22 People Concerned about MIC.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 I am also a community activist and
2 an accidental environmentalist. I'm also a
3 union member.

4 People Concerned About MIC is a
5 community organization in the Kanawha Valley
6 dedicated to the protection of health and
7 safety of all of those who reside, work, and
8 study in the vicinity of local chemical plants
9 producing highly toxic chemicals.

10 The group formed because concerned
11 community members learned that methyl
12 isocyanate, commonly referred to as MIC -- the
13 same chemical and killed and injured hundreds
14 of thousands of people in Bhopal in 1984 was
15 being produced in our backyard.

16 Now, I was a child when People
17 Concerned About MIC was formed in the mid-
18 1980's. I barely remember the Bhopal disaster
19 and I vaguely remember evacuating 8 month
20 after the incident that occurred here in
21 Institute that sent more than 100 people to
22 the hospital, including Ray Swan and Pam

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Nixon.

2 But I tell you what, I clearly
3 remember the incident that occurred in 1993,
4 in August, that occurred near the MIC tanks
5 and it killed two workers and it sent many
6 people to the hospital.

7 I was sitting in my living room,
8 about a crow's mile away from the plant and I
9 felt and heard a loud boom. I thought a tree
10 might have fallen on my house and the next
11 thing I knew -- I lived on a one way street --
12 and the next thing I knew, there was a fire
13 truck going down my road the wrong way, saying
14 there's a shelter in place in effect. Close
15 all doors and windows and turn off all air
16 conditioners and ventilation systems until
17 further notice.

18 As you can imagine, I was pretty
19 panicked at that point, so I called my father,
20 who, yes, was a Union Carbide employee, and I
21 called to ask him what to do and with no
22 information, he told me to hang tight. So I

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 hung up the phone and the smell had already
2 invaded my house.

3 I called my father again, only this
4 time I couldn't get through because the phone
5 lines were jammed.

6 Frantically, I grabbed some duct
7 tape and I started taping around the windows
8 and taping around the doors like they taught
9 us to do in school, only it didn't work
10 because there were too many windows and too
11 many doors and the smell had already invaded
12 my house.

13 So I sat there with my dog crying
14 and hoping that that wasn't the last phone
15 call I was ever going to have with my father.
16 I was 16 years old.

17 My story is only one of thousands
18 in this community and in communities across
19 the world, in harm's way of a chemical plant.
20 It is a story that has occurred time and time
21 again. Unfortunately, it continues to occur.

22 I recently spoke to a friend who's

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 been diagnosed with cancer and she attributes
2 her cancer
3 and her recently deceased neighbor to living
4 within spitting distance of a chemical plant.

5 I asked her if she would give an
6 interview to a newspaper reporter and she
7 responded, what can I say that I haven't
8 already said for the last 25 years?

9 So I sit before you today, not
10 because I am an ominous fanatical activist as
11 Bayer's press strategies would allow you to
12 believe, but because 15 years ago, almost to
13 the day, my life was changed forever when the
14 methomyl larvin unit exploded, the exact same
15 one.

16 Again, I felt the explosion, only
17 this time I was 10 miles away in Charleston.
18 Again, it killed two workers. Again,
19 notification of the incident severity was not
20 given in due time to the people who are
21 immediately affected by the incident.

22 Again, it caused lots of property

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 damage to local residents, which Bayer wasn't
2 entirely interested in addressing until the
3 watchful eye of Congress came down.

4 Again, many side effects have been
5 caused to our community that we may not fully
6 understand for years.

7 So while the plant names and
8 managers have changed, the effects to our
9 community remain the same and they bio-
10 accumulate across lines, phone, or ship.

11 We did not form our community
12 around this chemical plant. This chemical
13 plant was formed in our community and it
14 planted itself right next to a historically
15 black university in an unincorporated,
16 primarily African American neighborhood that
17 is adjacent only to mountains, rivers, and
18 poor white neighborhoods.

19 Now, the history of discrimination
20 is clear to us and to anyone who would look at
21 our history without bias. The continued
22 discrimination is clear when 25 years later,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the same voices are saying the exact same
2 things and little has been done to change the
3 talking points.

4 For 25 years, People Concerned
5 About MIC has made great strides to ensure
6 effective communications with the Institute
7 facility, regardless of entity control. Our
8 goals have been to establish access to
9 information about the dangers existing in our
10 community and to eliminate as many of those
11 dangers as possible in the production of
12 highly toxic chemicals.

13 Our efforts have been modeled and
14 orchestrated not only national community right
15 to know laws, but the worst case scenario
16 modeling that you saw earlier this evening. In
17 one fell sweep in August of 2008, Bayer
18 Cropsience slammed the door on 25 years worth
19 of community efforts, visualized only by the
20 chain that still locks the gate to our
21 evacuation route to this day.

22 Our group has been accused by some

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 of trying to eliminate jobs and to this, I
2 retort, the chemical industry put food on my
3 table so don't tell me I don't understand the
4 need for industry. Chemical dollars and
5 scholarships sent me to college.

6 We understand the need for
7 industry, however, we deserve the kind of jobs
8 and the kind of industry that does not cause
9 the untimely death and preventable death of
10 workers or the bio-accumulation
11 of toxins in our children's bodies.

12 We deserve an economy that is not
13 solely based on extractive and chemical
14 industries that tell us that we must choose
15 between jobs and health. We are not acceptable
16 risk factors.

17 We come before you today asking
18 that you finally hear our voices, and I think
19 you have started listening, and I appreciate
20 it. We ask that you make recommendations to
21 our government and industry that stop this
22 systematic exploitation of our community.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 We are tired -- I think that's an
2 understatement -- but we are tired of smoke
3 and mirrors and cagey non-answers and our
4 lives in your hands and we deserve to know the
5 truth about the dangers that exist in our
6 community. We shouldn't have to, months and
7 months later, go to DC and watch folks testify
8 before Congress before we get that
9 information.

10 We hope that the CSB recommends
11 that the fox can no longer guard the henhouse
12 and that corporate arguments based on non-
13 operational monitoring systems will no longer
14 be acceptable.

15 I want to commend the Chemical
16 Safety Board for requesting our presence on
17 this panel because, especially after the
18 public relations strategies to marginalize us.

19 Thank you for your continued effort
20 to include community concern into the
21 conversation regarding chemical safety. It's
22 one of the most important voices that you'll

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 ever have.

2 We request a thorough and
3 comprehensive investigation and even more
4 thorough recommendation to industry and
5 government that addresses the underlying
6 issues at hand and looks across the lines of
7 ownership. Thank you.

8 MR. BRESLAND: Thank you, Ms. Nye.
9 Let's see if the Board members have any
10 questions.

11 Board member Wark?

12 MR. WARK: I don't really have any
13 questions to speak of. I do want to extend my
14 condolences, which I did not do earlier, to
15 the gentlemen who died in this incident and
16 also to your friends that perished previously.

17 I agree 100 percent that there's
18 this law out there called EPCRA, which is
19 Emergency Preparedness and Community Right to
20 Know Act, and that's something that we have to
21 start taking more seriously, not just here in
22 Institute, but throughout the country.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 We go out on investigations once in
2 awhile and the ones that I've been out on --
3 the few that I've been out on -- the next day,
4 there's a talking head interviewing a
5 community member on local TV and they're
6 standing there saying I didn't know that was
7 there. I didn't know what they had on-board.
8 In some cases, it wasn't anymore than from
9 here to the back of the room from the
10 facility.

11 I just feel that we will do a
12 thorough, complete job here and let the
13 recommendations and they chips fall where they
14 may. Thank you.

15 MS. NYE: Thank you.

16 MR. BRESLAND: Board member Wright?

17 MR. WRIGHT: I just have a comment,
18 a statement. I gather that you agree with me
19 that public relations should take a backseat
20 to public safety.

21 MS. NYE: Yes.

22 MR. BRESLAND: As someone who's

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 worked or did work in the chemical industry
2 for many years and dealt with community issues
3 similar to the one that you were describing
4 and the one that we're hearing about this
5 evening, how would you -- Ms. Nye, how would
6 you assess the relationship between the
7 community and Bayer? I don't necessarily mean
8 your organization, but the community in
9 general, in this area?

10 MS. NYE: Well, I think you could
11 probably see from the show of concern in this
12 room that there's not a whole lot of trust in
13 the efforts that have been put forward by
14 Bayer.

15 MR. BRESLAND: If you were to make
16 suggestions to Bayer for ways to improve it,
17 what would you do?

18 MS. NYE: Crucial information in a
19 timely fashion would be truthful. Yes,
20 truthful information in a timely fashion, most
21 definitely.

22 Truthful information that impacts

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 us. I mean, such as what the chemicals are
2 that are being
3 released that we may not know are impacting us
4 because the reports that were given earlier in
5 regards to the firefighters are not the only
6 reports that there were of health concerns.

7 I would like that to be
8 acknowledged. There were many reports from
9 community members that were not listed there
10 and I'm not sure how we compile that
11 information. Not everyone went to the
12 hospital. A lot of people are just used to
13 suffering and dealing with it.

14 PUBLIC COMMENTS

15 MR. BRESLAND: Okay. Well, thank you
16 very much. Thank you to all of the panelists
17 for being here this evening and expressing
18 some very interesting points of view and very
19 interesting observations for us on the issues.

20 We come to the final part of the
21 agenda this evening, which is the opportunity
22 for the public to speak. We do have a public

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 sign-up sheet that I have a number of names
2 on.

3 I think I'm going to call them two
4 at a time to perhaps save a little time. We'll
5 get the first two up and that is K. Nybarger
6 from United States Steel Workers and Philip
7 Nimkus.

8 If you can spell your name and
9 please -- it's getting late. People have to go
10 to work in the morning. I have to catch a
11 plane at 6:30 in the morning. I'd like to get
12 a little sleep before I get on the plane. So
13 please limit your -- and we're very interested
14 in hearing what you have to say.

15 MR. NYBARGER: I would first like to
16 offer my condolences to the friends and family
17 of the two brothers that were killed in the
18 Bayer accident.

19 Good evening. My name is Kim
20 Nybarger. I'm a health and safety specialist
21 employed by the United Steel Workers
22 International Union and Health Safety and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Environment Department.

2 I'm also a dues-paying member of
3 the USW and I've been a union worker in
4 several industries for a number of years.

5 I've been associated with the
6 activities of the Chemical Safety Board since
7 their inception. In fact, the oil industry --
8 oil refiner that I come out of was the topic
9 of the first published work of the CSB, a
10 safety bulletin in August of 2001 on the
11 subject of management of change.

12 This followed a workplace accident
13 at my refinery that took the lives of six of
14 my co-workers. The company, through their
15 legal representatives, initially expressed a
16 concern of publicly reporting all the events
17 that took place, including root causes. The
18 assumption was fear of legal proceedings.

19 The union pressed for a full
20 disclosure and that the information be shared
21 not only among our sister facilities, but all
22 refiners who may have coking operations so

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 that the lessons learned may help one of them
2 avoid learning the same way we did through the
3 loss of workers' lives.

4 I was deeply disturbed when I read
5 initial reports that Bayer apparently, through
6 their legal department, was using a Department
7 of Homeland Security Law to prevent certain
8 information from being made public, claiming
9 that material might aid in terrorists and is
10 protected as sensitive security information.

11 I do appreciate the job the Coast
12 Guard does and is required to do under
13 Homeland Security. However, when you learn
14 that the number of terrorist attacks on
15 industrial facilities which use highly
16 hazardous chemicals and compare that to the
17 releases, fires, and other emergency events at
18 these facilities, it would appear that the
19 greater potential harm is from the day to day
20 operation.

21 There is a greater good to the
22 public to be made aware of the seriousness of

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the effects of a release of methyl isocyanate.
2 The neighbors of this Bayer facility must know
3 what the potential consequences are from a
4 release and they need to know what to do in
5 the event of a release of MIC to avoid the
6 same tragic end as the residents of Bhopal.
7 This is in part what CSB public meetings like
8 this accomplish.

9 The future may have other companies
10 using Homeland Security issues to mask
11 disclosure of deadly chemicals on their
12 premises. I conceive facilities claiming the
13 same privacy rules as a matter of trying to
14 cover any anticipated liability.

15 This process appears to be more the
16 tactics of legal maneuvering than any concern
17 of safety sensitive information being
18 released.

19 There are many steps that can be
20 taken to help a company not be a target of
21 terrorist activities. Substitution of a safer
22 Chemical is one step or reducing inventory to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 a minimum for the process. In other words,
2 cutting down on the amount of the hazardous
3 material in storage. Redundant process
4 controls and emergency disposals systems are
5 other ways to minimize the chance of an on-
6 site release.

7 Leaks, fires, and process upsets
8 are happening on a weekly basis at our
9 Chemical, refining, and gas plants. These
10 issues of safe operations pose a greater
11 hazard to the communities surrounding these
12 facilities than an attack from the outside.

13 The failure of the facilities to
14 adhere to the minimum requirement of safe
15 operation directed by the government in the
16 OSHA process safety management standard found
17 in the Federal Code of Regulations 29, part
18 19, under 1910.119 has, in some instances, had
19 deadly consequences.

20 A recent national interest program
21 of OSHA inspections at the nation's refiners
22 has shown a severe lack of compliance with the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 process safety management standard.

2 Now, keep in mind that this no high
3 performance program, but merely the bare
4 minimum legal requirements and any fee for the
5 nation's Chemical manufacturers is coming next
6 year.

7 It's a sad fact that unless a body
8 count is high enough to get public attention,
9 few people notice the hazards killing workers
10 on the job. Over the last five years, an
11 average of 5,680 have died every year and we
12 usually don't hear anything because they only
13 die 1 or 2 at a time.

14 It is oftentimes only through the
15 scrutiny of investigations conducted by the
16 CSB that the public has an opportunity to
17 learn of the potential health risks posed by
18 facilities in their neighborhood.

19 The CSB does not issue penalties,
20 but only strives to find all the underlying
21 causes and make them known -- puts the results
22 of their investigations into the public domain

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 so that other companies can hopefully learn
2 from these investigation without having to
3 kill a handful of workers to discover failures
4 in their management systems that allow these
5 catastrophic events to take place. We cannot
6 allow the legal manipulation of companies to
7 trump critical safety information for the
8 public.

9 Thank you for giving me the
10 opportunity to address this group.

11 MR. BRESLAND: Phillip Nimkus? We
12 like the comments to be addressed to the Board
13 members. Please remember the three minute rule
14 and if you have written comments, we'd be more
15 than happy to take them and put them into the
16 record.

17 MS. HENDRIX: Okay, well, I have an
18 e-mail from Philip Nimkus, who is affiliated
19 with the Coalition Against Bayer Dangers in
20 Germany. He said that he was requesting to
21 have it read into the record.

22 MR. BRESLAND: Fine.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MS. HENDRIX: But I will submit it.
2 He sent me an e-mail and he said that the
3 Congress's investigation was very good, but
4 did not mention the early warnings and the
5 involvement of Bayer's board of management. So
6 he wanted me to read this letter and submit it
7 to you.

8 He says Dear Chairman Bresland, The
9 Coalition Against Bayer Dangers, an
10 international network based in Germany has
11 been monitoring Bayer for 30 years.

12 We're working on a broad range of
13 issues. Emissions of Bayer plants, hazards
14 caused by Bayer products, accidents in Bayer
15 plants, corporate influence, etc.

16 The group was built up after an
17 explosion in a German Bayer factory in 1978.
18 In cooperation with groups from West Virginia,
19 we've been working on the Institute plant for
20 several years.

21 Last year, on March 10, we
22 introduced a counter-motion to Bayer's 2008

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 shareholder meeting in which we stated, quote,
2 whereas the volume of super toxic agents like
3 phosgene and MIC stored at the German Bayer
4 plants was reduced following the Bhopal
5 catastrophe, the tanks in Institute remained
6 as they were. They Bayer board of management,
7 Bayer's responsibility for the high pollutant
8 emissions, the frequent occurrence of
9 incidents, and the constant risks caused by
10 the storage of MIC and phosgene -- he says you
11 can review the complete text on the Bayer
12 website.

13 He says we also spoke in the
14 meeting, which took place on April 25, four
15 months ahead of the Institute explosion.

16 Attending were the Bayer board and
17 supervisory board, the media, and about 4000
18 shareholders. Again, we criticized the
19 frequent spills of chemicals and demanded to
20 dismantle MIC and phosgene tanks at Institute.

21 Bayer CEO Werner Wenning replied,
22 stating verbatim, that the plant had, quote,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 the newest security installations and an
2 excellent safety record since 2002, end of
3 quote -- that the plant was, quote, explicitly
4 lauded by authorities for its safety record
5 and that no action was necessary.

6 After the August explosion, we
7 demanded, in cooperation with local groups,
8 that the Institute plant becomes an MIC and
9 phosgene-free facility.

10 In Germany, Bayer produces carbonate
11 pesticides without utilizing large quantities
12 of MIC.

13 Until today, the company has not
14 apologized for the gross negligence by which
15 the methomyl unit has been operated for the
16 past years.

17 Particularly disturbing to us is
18 that Bayer's recently published annual report
19 does not mention the Institute explosion and
20 the death of their workers with a simple word.

21 We therefore again introduced a
22 counter-motion to Bayer's next shareholder

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 meeting, which takes place May 12. Quote,
2 highly hazardous substances like phosgene and
3 MIC do not belong in mass production, and
4 certainly not in the vicinity of residential
5 areas.

6 Ever since the company became
7 established, Bayer has endeavored by exerting
8 pressure and making threats to suppress
9 information and even more, criticism. It uses
10 its economic power indiscriminately in order
11 to protect its profits, the truth, and the
12 interests of humans and the environment are
13 left by the wayside.

14 The board of management and the
15 supervisory board have not taken any steps to
16 substantially improve the safety situation in
17 Institute or to enlighten the general public.

18 We ask you to discuss these early
19 warnings and Bayer's denials of any safety
20 problems. Since Bayer dismantled their tanks
21 with highly hazardous substances in Germany,
22 we're demanding that they do so also at

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Institute.

2 So I would like to submit this for
3 the record. In the interest of time, I'll
4 forego reading my statement, but my statement
5 basically says that I've been so frightened by
6 the incident with the chemicals here that I
7 wouldn't live here and I'm moving. It was
8 very, very frightening.

9 MR. BRESLAND: Okay, thank you very
10 much. The next two people I have on the list
11 are Regina Hendrix and Jenna Frazier.

12 MS. HENDRIX: That was mine, and I'm
13 going to submit it for the record.

14 MR. BRESLAND: Okay, then we got
15 you. The next person will be Janet Frazier
16 from Marshall University, followed by
17 Demetrius Paparuchas? Pardon my pronunciation.

18 MS. FRAZIER: First off, thank you,
19 Chairman Bresland, for coming to us, this part
20 of West Virginia to discuss the incident that
21 happened at Institute in August.

22 I have been doing some research on

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the MIC handling at the LaPort, Texas facility
2 and I was hoping that in your investigation,
3 that you evaluate as to what that sort of MIC
4 handling and processing can't be done in
5 Institute -- to see as to whether it's a
6 financial issue or an economic issue. An
7 economic issue being different in that it
8 values more than just the dollar signs. It
9 values the costs and benefits of its effect on
10 human life and human health and welfare, as
11 opposed to just finances.

12 So with that, I found that LaPort's
13 handling of MIC -- how they make it on demand
14 and in as-needed quantities, it's not very
15 time consuming. It's often more efficient,
16 although because the Institute plant make sit
17 on-site and uses it on-site, it may not be as
18 efficient, but generating it in smaller
19 quantities has proven to be safer and has
20 produced a better safety record at the LaPort,
21 Texas facility owned by DuPont.

22 So investigation as to why that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 sort of means of handling and creating MIC
2 can't work in Institute, I would greatly
3 appreciate it. I think that would highly
4 benefit the community as well. Thank you.

5 MR. BRESLAND: Thank you very much.
6 Mr. Demetrius?

7 MR. DEMETRIUS: Yes, sir. That would
8 be me. My original question was answered
9 earlier just by listening to what the panel
10 actually said. Realistically, I guess that
11 brings up another question.

12 How many more instances do we have
13 to have before something actually happens?
14 That's all I have to say.

15 MR. BRESLAND: Thank you. The next
16 two speakers are Gerald Hankins from West
17 Virginia State University and Rich Ford,
18 followed by Gary Zuckett. Three of you up
19 here.

20 MR. HANKINS: I would like to thank
21 you, Chairman Bresland and the rest of the
22 committee for opening up the floor for public

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 comments.

2 My name is Gerald Hankins. I'm an
3 assistant professor of biotechnology at West
4 Virginia State and secondarily an assistant
5 professor of neurological surgery at the
6 University of Virginia and a part-time
7 resident of Saint Albans.

8 One thing I'd like to note from the
9 earlier comments of the two fixed monitors
10 that were in use. Neither one of these, from
11 everything that I've heard and read in
12 testimony, were located on the part of the
13 perimeter of the plant to which the wind was
14 blowing.

15 It was blowing toward Saint Albans.
16 The monitors are not there. That is not where
17 the cloud was observed by the Saint Albans
18 fire chief and therefore, any toxic chemicals
19 that were blowing outside of the plant would
20 have not been detected by those monitors. So
21 they were totally inefficient and ineffective
22 to have two monitors there.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 The second point that I would like
2 to make -- and economics and cost has been
3 mentioned quite a bit and you might expect
4 that I was going to talk about effects on the
5 nervous system or of the chemicals -- but we
6 are in a situation and it's been alluded to in
7 the past, earlier, where the economics is a
8 situation.

9 Historically, people out of power -
10 - blacks and other forepeople have effectively
11 subsidized the industries that have been
12 placed in their midst in order to keep their
13 false love.

14 So to the extent that cost and
15 economics is a consideration, the question is
16 to what extent do people have to subsidize the
17 operations of the plant with their health and
18 financially, actually, through the extra costs
19 that the people have to bear and the
20 institutions -- not just the University -- in
21 order to try to protect themselves against the
22 hazards that are produced in the plant?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 So I certainly hope that these
2 economic consideration also consider the fact
3 that Bayer is being subsidized by the
4 community and by this University.

5 MR. BRESLAND: Thank you. Mr. Rich
6 Ford?

7 MR. FORD: Hi. Richard Ford, member
8 of the West Virginia State University
9 community, and more to the point, I live and
10 work downwind of the Bayer plant.

11 Mostly, I want to thank the Board
12 for taking a serious interest in this and
13 underlying most of the panel testimony.

14 Dr. Hankins said less money to
15 save, but to be very clear, is there any
16 reason why the chemical industry should not
17 bear the cost of West Virginia State
18 University's preparation for such emergencies?
19 It's going to cost us an awful lot to deal
20 with that. Thank you.

21 MR. BRESLAND: Mr. Gary Zuckett, who
22 will be followed by Mr. William Taylor.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MR. ZUCKETT: First of all, I would
2 like to thank you for providing the public
3 with a forum today. Just a couple of
4 questions.

5 At Kanawha Putnam emergency
6 planning committee meeting discussing this
7 incident, the Charleston area medical center
8 safety director CW Sigmond confirmed that Bill
9 Oxley, the worker who was severely burned, was
10 not decontaminated prior to being transferred
11 off-site.

12 Unfortunately, the first casualty,
13 Barry Withrow, had cyanide in his blood,
14 according to the New York Times. I'm wondering
15 if this is going to be taken under
16 consideration in your investigation?

17 Also, I would like to know if the
18 CSB will investigate all of the toxic Chemical
19 processes and storage at the Institute site,
20 including MIC, not just the part that
21 exploded? Thank you.

22 MR. BRESLAND: Thank you. Mr.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 William Taylor? We'll pass. Donna Willis?

2 MS. WILLIS: As a resident of
3 Institute for 54 years, I have been through
4 the blowing out of windows by Carbide and the
5 chlorine leak in Carbide and the numerous
6 other leaks of Carbide and Rhone Poulenc and
7 Aventis and Bayer and -- I just want to know
8 how much chemicals can the human body take and
9 not show some physical effect that's not
10 associated -- to cigarettes? Okay, because
11 there is not a physician in the state of West
12 Virginia who has been certified by our board
13 who can stand up and say that we are suffering
14 cancer, that we are suffering lung diseases,
15 that we are suffering heart ailments or
16 anything else all because of cigarettes and
17 second-hand smoking.

18 Who is out here testing these drugs
19 and these chemicals and what effect it will be
20 on our bodies. I had a child who was lying in
21 a bed, sleeping infant, when it happened that
22 the MIC leak happened. What effect is that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 going to have on my child 30 years from now.

2 Is he going to live to 40?

3 I'm not going to make it 70. See,
4 my heart's gone at 41 years old. No rhyme, no
5 reason, no medical.

6 The concern that I have is that a
7 lot of people believe that they can put things
8 in black communities and think that we're
9 nothing. I'm high maintenance. My whole family
10 is high maintenance. So if that's the idea
11 that there's still working with today, there's
12 a rude awakening. Black people are no longer
13 the pit of the valley of America.

14 When I hear intelligent people
15 trained in the field of engineering, chemical
16 engineering, stand up and say, well, there was
17 a disconnect here, there was a wrong here.
18 There was mis-communication, la di da. If
19 anybody else had said that on their job, they
20 would have been fired.

21 When economics, no matter what the
22 problem is in America -- I don't care about

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the money. I don't care about the money Bayer
2 can make. I don't care about the money they
3 can pay their employees. I don't care because
4 human beings are God's gift to this earth and
5 when you diligently pick at them and tear them
6 apart in order to make a product, you have
7 scorned the reason why we exist as human
8 beings.

9 For years, we have sat up here and
10 we have listened and we have watched people
11 ignore Institute -- ignored the last three
12 days. If anybody was snubbed, raise your hand
13 because it's been all over.

14 And the excuses. I called to tell
15 them there's a huge smell of flowers over on
16 my street. They send over a person who tells
17 me that I have a gas leak. I live on an all
18 electric facility. There is no gas.

19 So that kind of stuff really
20 irritates us, but it so good to see the
21 representatives from the county commission
22 here because they know we've been through this

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the last 40 years. They never once spoke up
2 for us. It's good to see that, finally, that
3 these people who have been working jobs to
4 help us in the fire and everything else, they
5 are finally getting somebody to listen to them
6 to help us.

7 Personally, I think that Bayer can
8 have Institute. They can have the vegetables
9 we grow -- feed their families that mess. They
10 can breathe in the air that we breathe. They
11 can live in the chemically-infused homes that
12 we live in.

13 Give us a ticket to anywhere and we
14 will go because it is no use having this
15 happen to our community over and over again
16 for decades and our state doesn't acknowledge
17 us, our county doesn't acknowledge us, and
18 President Carter, I am so glad to see you here
19 because now I know he cares about the college.

20 MR. BRESLAND: Thank you. The next
21 speaker is Steve Irwin. Steve Irwin is
22 declining. Jesse Johnson? Jesse Johnson? Sue

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Davis? Sue Davis followed by Mike Harmon.

2 MS. DAVIS: Can you hear me, I hope?
3 First of all, I'd like to just read something
4 that my daughter sent me today because it's
5 interesting that I saw that the headlines in
6 the paper where it says that Bayer does not
7 like to be compared to Bhopal. They don't want
8 it to be compared to us.

9 Yet, of all of the failures and all
10 of the things that were broken, either before
11 or after the incident, here's what I read --
12 it was a National Geographic documentary. This
13 was supposedly what took the place the night
14 before Bhopal occurred.

15 None of the plant safety systems
16 were in operation. Flare power was
17 disconnected. The vent gas scrubber was out of
18 caustic soda and undersized. The water
19 curtains on the side, the pressure valve was
20 not working. The run-off tank already
21 contained MIC. The mandatory refrigeration for
22 the MIC unit was turned off to save money.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 You know what? I asked one of the
2 former plant managers in a public meeting for
3 community safety assessment -- I said, end
4 this question for me. Why do you have to store
5 such large amounts of MIC rather than to bring
6 it in as you need it or do it any other way?

7 He didn't say anything that any of
8 you said. He said because it's more
9 economical. So in other words, they equate
10 money with my life and your life.

11 I want to say one thing. First of
12 all, I want to start with Dr. Carter's
13 welcome. You said that you talked about this
14 being a laboratory of living relations. I'm a
15 lab rat. I've been a lab rat for 60-some
16 years, starting when the first US government
17 rubber plant was bought here.

18 How in the world did they find this
19 community when Institute was not on anybody's
20 map? Someone had to look for some lab rats. It
21 has been that way ever since, ever since, and
22 it's only getting worse.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 You know what I think of being a
2 lab rat because when I look at a lot of the
3 MSDS sheets, they don't have any stats. They
4 say known to cause cancer in rats, and they're
5 talking about the ones that crawl on the
6 ground. But the long-term effects on humans,
7 not yet known -- not yet status. Those two
8 awful letters, capital N-E -- none
9 established, no permissible level exposure
10 established. So they're testing through us.

11 Dr. Carter, you said you were
12 training your students for their future roles.
13 I know one student of yours that will not have
14 a future woe because two or three days
15 following the explosion, the young kid, a
16 freshman, just beginning his life, went to the
17 hospital -- lived on this campus -- went to
18 the hospital because he couldn't breathe. He
19 was having trouble, gets to the hospital, and
20 they tell him you're all right. They send him
21 back to the dorm.

22 A couple of days later, he goes

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 back because he still can't breathe. He never
2 returned to the campus.

3 You know what? When we had our
4 meeting here, People Concerned About MIC, I
5 stood out in that hallway and I begged
6 students to come in here. I said, please come
7 and learn something. We've invited the plant
8 official. We've invited the governor. We
9 invited everybody. Come and learn something. I
10 said, there are things you need to know to
11 protect yourself. I said, we don't want to see
12 you sent home to your parents in a box. And
13 four or five days later, that kid was sent
14 home in a box. That breaks my heart.

15 It breaks my heart, Mr. Crosby,
16 that your men die at that plant. A Chemical
17 facility or a chemical tank -- it doesn't have
18 a brain. But the people who man those things
19 have the brains. That's where the problems
20 come from. Nothing wrong with their brains,
21 but what are they doing?

22 And Mr. Crosby, you said -- and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 I'll turn to you if you want me to and I'll
2 try to end it -- but you said that you've done
3 all that you can to assure that this kind of
4 thing will not happen again. I have heard that
5 for 40 years and it continues to happen.

6 MR. BRESLAND: Can we move on?

7 MS. DAVIS: Mr. Hendershot? You
8 looked up the words in the dictionary that you
9 needed to know. I looked up some words too --
10 I looked up one word and you know what it was?
11 Terrorist. Terrorism.

12 And you know what? It relates to
13 people who instill fear in those around them.
14 Who fits that description?

15 The Right to Know act is fine. The
16 problem is, when we call the plant to know
17 something, they say it's nothing to know. The
18 former plant manager told me, in writing, and
19 I still have the letter that I plan to submit
20 to you all with some other things -- he told
21 me, when I wrote him a letter -- and I had
22 asked him about an incident that we had -- and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 under FOIA, he told me that they're not
2 subject to FOIA and they didn't have to tell
3 me anything. They're private.

4 I don't understand that. They're
5 private till it comes to sending their things
6 over here. I think that means that they're not
7 probably going to say one more thing. I was --
8 and it's kind of like what Donna said -- when
9 I was pregnant with one of my children, my
10 youngest, in fact, and I worry about her to
11 this day -- but when I was pregnant with her
12 and I stayed in a house on Lincoln Avenue and
13 I was upstairs and in the middle of the night,
14 this awful smell had filled that house as it
15 does all the time in the same smell -- all the
16 time.

17 I was so sick, I couldn't walk. I
18 couldn't turn. It was terrible. I somehow
19 managed to contact the plant. I think that was
20 probably one of my first calls to that plant.
21 I asked them, I said what on earth do you have
22 in the air? I said it is all in my house. I

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 said I am pregnant. I don't know what to do.
2 Is it going to harm my child? Do I need to get
3 up and go to the doctor? He said I'll call you
4 right back and I'm still waiting and she's 28
5 years old now.

6 I found out also that my brother
7 who lived in Dunbar had called at the same
8 time. They had problems in their house and
9 they never called him back. I could go on and
10 you all know I could go on. But I thank you.
11 Thank you so much for what you're doing. Thank
12 you for what you're doing.

13 I'm going to say one thing to you
14 and I think I said it to you today and that
15 is, it seems like -- to me, this is being
16 turned into an MIC problem. MIC is going to
17 wipe us all out fast, right? But if it doesn't
18 leak, what about the problems that we're
19 having to endure every single day.

20 I am sick half of the time. What
21 about those problems? I don't care whether you
22 close MIC down. That's not what I'm asking you

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 to do. I'm asking you to pack Bayer up and
2 ship them out of here. Send them back to
3 Germany. Send them back to Germany because
4 they're in this country, just like they're in
5 Institute because we are lab rats and we are
6 back.

7 They are in this country because
8 they know that our country will allow them to
9 do in this nation what their own government
10 will not let them do in their own nation.

11 MR. BRESLAND: Ms. Davis, thank you
12 very much. Thank you. Mike Harmon? Mr.
13 Harmon?

14 MR. HARMON: Hi. My name is Mike
15 Harmon. I live in Saint Albans in the house
16 that I grew up in. I've been there for 54
17 years. I can really identify with the lady
18 that just spoke who talked about living here
19 for 54 years.

20 And like Mya, I'm roughly a mile
21 from the plant here. So over the years, I've
22 certainly witnessed a number of incidents,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 including the one that happened last August
2 here.

3 I want to personally thank Maya Nye
4 for re-convening People Concerned About MIC. I
5 was a member of People Concerned About MIC. I
6 started attending the meetings in 1985 because
7 of the leak that Maya described that sent over
8 100 people to emergency rooms here in the
9 local area -- same plant, different owner.

10 When I looked at the newspaper this
11 morning, this headline caught my eye. It says
12 cutting MIC is doable, but costly. I looked at
13 that and I thought, you know, this is a golden
14 opportunity for a full employment program for
15 the chemical industry here in the Valley.

16 In 1985 -- and I was happy to hear
17 the questions that you folks raised tonight
18 about air monitoring, which is obviously
19 completely deficient here at this plant.

20 But in 1985, I made an urgent plea
21 then that we implement a comprehensive air
22 monitoring system here in the community so

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 that the residents of Institute and other
2 neighborhoods that are in close proximity to
3 chemical plants would be able to know for
4 certain what it is that they're breathing on a
5 daily basis.

6 Over the years, we've had a number
7 of meetings and discussions with chemical
8 plant people, union folks, environmental
9 protection people, public health officials and
10 so forth, and everybody has said, almost to
11 the letter, that we don't have enough
12 information about chemical exposures here.

13 In other words, we don't know what
14 causes this or that illness. We don't know
15 whether certain emergency responders were
16 exposed to toxic chemicals. That's an issue
17 that you're struggling with in this
18 investigation. We don't really know whether
19 residents should shelter in place because we
20 don't get that information.

21 When Carl Beard, the former
22 director of the West Virginia Air Police

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Control Commission retired, he spoke
2 passionately and eloquently to his commission
3 about the need to do more air sampling here in
4 the Kanawha Valley because when we did do the
5 air sampling, we found chemicals in the air
6 that were not supposed to be there in
7 concentrations that exceeded safe standards
8 for human exposure.

9 Anyway, so we talked about the
10 headline in the paper. I do applaud Congress
11 woman Capito's attendance at the hearings in
12 Washington and for her apparent concerns for
13 the safety of the employees and residents of
14 the local area.

15 I urge her and this body to require
16 that Bayer Cropsience immediately cease
17 operations at the plant involving MIC until it
18 has achieved the highest level of safety
19 achievable in this facility.

20 We could call it the Bayer
21 Cropsience Stimulus Package and Full
22 Employment Program. I would think that that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 would make all of us happy -- the union
2 members, the plant management, public
3 officials, and so forth. Thanks.

4 MR. BRESLAND: Thank you. I have one
5 final speaker, Mr. Bill DePaulo. He's making
6 his way up, and then, that's the end of the
7 list of speakers.

8 MR. DEPAULO: Hello. My name is Bill
9 DePaulo. I live in Charleston. I'm a lawyer.
10 I'm with the Sierra Club. We're frankly, at
11 the Sierra Club, we're Concerned that we've
12 neglected this whole topic and haven't done as
13 much as we should have.

14 I'm glad to see that you all have
15 taken a very serious interest in it. It's been
16 a massive information dump for those of us who
17 are not chemists and don't know as much about
18 it as you do. So that's a great public service
19 and we thank you for it sincerely.

20 I know -- I'm not here to kick
21 anybody around. I want to ask a few questions
22 that hopefully will move your analysis

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 forward.

2 Ms. Sciallo -- I hope I'm
3 pronouncing that correctly --

4 MR. BRESLAND: Excuse me. If you
5 have a question, please direct it to me and
6 then we can decide where to take it.

7 MR. DEPAULO: Okay, that's fine. I'm
8 not trying to cross examine her. She mentioned
9 the Risk Management Program, which had
10 complied a worst case scenario.

11 It was based, I believe, as was
12 explained here this evening on the assumption
13 of the rupture of the largest vessel, which
14 was a 200,000 gallon vessel, I believe, as it
15 was described.

16 There are other vessels on the
17 site, as I understand. The day vessel has a
18 26,000 gallon capacity, I believe. There are
19 multiple vessels there. Wouldn't the worst
20 case scenario assume the rupture of multiple
21 vessels. In fact, the worst case scenario, no
22 matter how improbable it is, would assume the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 rupture of all the vessels present. So isn't
2 that the way the question ought to be asked?

3 Secondly, the assumption that would
4 affect 300,912 people was based upon the
5 computer model, which was limited to 25 miles.
6 Is that a satisfactory assessment? In other
7 words, was it Croppscience's computer program
8 or the EPA's or some others?

9 It just seems to me that if that's
10 a limit on the computer program, that's not an
11 acceptable analysis of the worst case
12 scenario.

13 There's another component to this.
14 Although a whole range of adverse impacts on
15 individuals were described from difficulty
16 breathing to death, I've never seen these
17 kinds of analysis done where you didn't
18 actually have probabilities of outcomes. How
19 many people would have asthma? How many people
20 would get nauseated? How many people would
21 die? That's not a trivial and it's not
22 intended to be an inflammatory question.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 The information you gave us today
2 was truly helpful, but you need to, if you
3 will, to truly let the chips fall where they
4 may. In other words, don't sugarcoat the
5 ending, the last chapter on this.

6 I'm certain that some computer
7 person somewhere has sat down with a
8 probability study and said, okay, if we're
9 exposing 300,000 people to this, how many of
10 them are going to be dead? That's a number
11 that as a community, we're entitled to know
12 because we make the decision what risk, as a
13 community, are we willing to absorb to get
14 whatever economic benefits Cropscience offers
15 us. We need to know the ratio.

16 It's relevant and all we're talking
17 about is perusing pesticides here -- a
18 pesticide. We need to know what the pesticide
19 homicide ratio is if we're going to accept the
20 risk.

21 Now, there's another item, which, I
22 know Mr. Chairman, you live in the state, but

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 you don't live in this area. There's a
2 geological or a topographical fact that may be
3 relevant.

4 There's a very, very significant
5 steady wind that blows west to east through
6 this valley. The people who complained about
7 the impacts -- and local communities are
8 certainly correct to make those observations -
9 - but if there is a rupture or multiple tanks
10 with significantly more than 200,000 gallons,
11 it's going to be blown to the largest
12 population center here, all the way back to
13 Charleston and beyond. That needs to be
14 factored in to your analysis. That is not a
15 trivial part of the puzzle.

16 I know people who are considering
17 locating wind turbines, not on the mountain
18 ridges here, but down in the valley because
19 the Venturi effect that's generated by the
20 valley on the wind makes the wind blow through
21 more powerfully. Thank you.

22 MR. BRESLAND: Thank you very much.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Could you state your name and spell it?

2 MS. JAMES: Yes, I will. My name is
3 Pam James. This is totally not planned, so I
4 promise to go under the three minute rule,
5 unlike everyone else.

6 I would also ask for respect in
7 what I say because I am on the other side of
8 the fence tonight. I'm a Bayer employee's
9 wife.

10 I am only here to support Nick
11 Crosby and the plant. My husband has a
12 chemical engineering degree. My husband is Rod
13 James and I think I can pretty much say he's
14 well respected in the plant by all employees
15 that know him.

16 I have sent my husband to this
17 plant for ten straight years. We're both born
18 and raised in West Virginia. He was a chemical
19 engineer. He was also on a nuclear-powered
20 submarine as an officer, and those aren't safe
21 either. There's lots of dangers in jobs.

22 But what I wanted to say tonight

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 was I've also sent my daughter into the plant
2 numerous times on Take Your Daughter to Work
3 Day. These men and women don't go into this
4 plant with unsafe environment. There are just
5 all kinds of things that can happen in
6 numerous jobs. Teachers have gotten shot in
7 schools. There's things that happen.

8 I would also like to say that Barry
9 Withrow -- and many of you don't know Barry
10 Withrow and it really hurt me tonight --
11 everybody has their opinions. I'm here for
12 Bayer -- but it really hurt me to night to
13 hear the other side sit back here when Nick
14 Crosby was talking or things were being said
15 that went wrong that night. Things went wrong.
16 Does everybody not agree?

17 Nick has admitted communication was
18 a problem that night. What was so funny about
19 that? Why do you take joy in lives that are
20 lost? And that's how I took that sitting
21 there. People laughing. Things went wrong.
22 Let's move on. Let's learn from it.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Barry Withrow was a personal friend
2 of ours. We went to church together. I sit in
3 church Sunday afer Sunday watching his wife
4 cry. She misses him, but it could be a happy
5 song. She's looking forward to going to heaven
6 to meet Barry one day.

7 But this is what hurts me is that -
8 - let's work together as a community. Let's be
9 adult about this. I lost a friend that night.
10 When I got up and was woken that there's been
11 an accident. I may not have a job to go to
12 tomorrow. That's what my husband told me.

13 I said what about Barry? That's the
14 first thing I said when he said it might be
15 the larvin unit. He said no, I think Barry has
16 gone to a different unit. Well, Barry's wife
17 was also at home thinking I might call Rob and
18 see if he knows anything.

19 So you people that are here for the
20 other side didn't know Barry. I didn't know
21 Bill Oxley, but also know that my husband is
22 well-respected. He's a smart man and he

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 wouldn't go into an environment that's unsafe.

2 So I would just ask -- I don't know
3 what the future holds for any of this, but I
4 wanted to speak on behalf of Bayer and my
5 husband because I trust my husband. I don't
6 think -- I know that he wouldn't hide things
7 and I would hope that he doesn't work for a
8 company that does.

9 I don't know all the technical
10 stuff about all this stuff that's gone on. I
11 don't understand it. He tries to explain it to
12 me, but again, I just wanted to say that lives
13 were lost that night. It was sad and it was
14 very disrespectful to me tonight to hear
15 people laugh and carry on about this kind of
16 stuff.

17 MR. BRESLAND: Thank you.

18 PASTOR LEWIS: Hello. My name is Jim
19 Lewis and I'm an Episcopal minister and this
20 is a real challenge to ask a preacher for
21 three minutes.

22 I'm going to really try and do it

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 in less than that. I've got a statement and
2 I'll give it to you. The ending of the
3 statement talks a little bit about something
4 that's not been mentioned and that's the
5 legislation that was just done here in West
6 Virginia, the 15 minute rule. It was 10
7 minutes in Bhopal, the people were dead. We
8 need something more than that, so I'll submit
9 that.

10 I'm here, really, as a pastor
11 because I serve a church in which about 3/4 of
12 the people in that church live in Institute,
13 Dunbar, South Charleston, and in this region
14 here, Dunbar. I also am a part of the group
15 that Maya represents here, People Concerned
16 About MIC.

17 I'm a pastor in that church and
18 Margo Holt -- the name hasn't been mentioned
19 here tonight -- is also in that church. I
20 mention her name and I want to thank the
21 Charleston Gazette for making the Freedom of
22 Information Act really work for us because in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 their article using the Freedom of Information
2 Act, we were able to understand that this has
3 been a public relations game with us. It's
4 really a public relations game.

5 That report opened up to us exactly
6 what's going on. Mr. Crosby, you said today or
7 Mr. Crosby said here this evening that he
8 wants dialogue with the community. Well, if he
9 wants dialogue and his company wants dialogue
10 with the community from all of us, every
11 single one of us, then don't pit us against
12 one another.

13 To pit Margo Holt against Maya Nye
14 is not right. You won't get to the truth. Mr.
15 Hendershot said that management needs to hear
16 bad news and welcome it. We all need to get
17 together and find good news and be able to
18 look at some of the bad news.

19 To pit Mildred Holt as a longtime
20 person here who wouldn't get real active about
21 this like Maya Nye has -- it's a younger woman
22 here -- is just no way to create dialogue in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 this community.

2 A report that came through from the
3 Freedom of Information Act told us that the
4 company is trying to marginalize those of us
5 who are raising these difficult questions --
6 Maya and People Concerned About MIC. There
7 will be no dialogue if we have that kind of
8 attitude. We will not be marginalized.

9 I want to thank Maya for the
10 inspiration and the work she's done for us. I
11 came back to live here in my community, West
12 Virginia, where I'd been away on 9-11.

13 When I came back here -- by the
14 way, having worked in the Dunbar peninsula
15 where Bayer was with antibiotics and chickens
16 and to come here and find them here and to
17 find the leadership that I find with Maya and
18 this group of people who have been working for
19 25 years around this problem is real
20 encouraging to me, an older guy.

21 Do not pit us against one another.
22 That's no way for dialogue interviews his

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 community. I tell you, Mildred Holt, a member
2 of my parish, a black woman and Maya, a dear
3 friend now, a new person -- a new person in my
4 life -- was here. Those two people seem to me
5 to have a great deal to contribute to this
6 discussion. Do not pit us against one another,
7 That's no way for dialogue.

8 Thank you all for coming down here.
9 We really needed this kind of outside help to
10 come in here and listen to us and give us this
11 presence here tonight. Thanks a lot.

12 MR. BRESLAND: Thank you very much.
13 Reverend Lewis.

14 MR. FOOCE: One more person.

15 MR. BRESLAND: Please state and
16 spell your name.

17 MR. FOOCE: Kevin Fooce.

18 MR. BRESLAND: How do you spell your
19 name?

20 MR. FOOCE: F-O-O-C-E.

21 MR. BRESLAND: Okay.

22 MR. FOOCE: I was on a phone

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 conference one night and I got asked about
2 this situation. Maya, I believe, was one of
3 the ones asked. She didn't have any help. You
4 all, all of a sudden, come to help these
5 people.

6 The next day, I called OSHA to get
7 the report for what happened. I say that Bayer
8 --
9 I've taken people to the hospital before in
10 these past two incidents. Bayer did not have
11 protocols. They did not train their people.
12 They did not give them safety equipment. They
13 did not give them training on safety
14 equipment, and they had been cited before for
15 this problem.

16 This is the facts. This is what
17 OSHA has cited for. Am I correct? This has not
18 been brought up tonight, but this needs to be
19 brought up.

20 It is because somebody willingly
21 did not write the protocols, willingly did not
22 train their people, and they created an

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 accident. This accident could have been
2 prevented. It should have been prevented, and
3 these two people should have gone home to
4 their families that night.

5 That is the whole point of this.
6 Thank you.

7 MR. BRESLAND: Thank you very much.
8 Please state your name and spelling.

9 MR. ANOPOLIS: Yes. My name is Doug
10 Anopolis. I lived on campus when this
11 happened. I'm not here to point any fingers. I
12 don't know anything. I'm not that bright if a
13 human being really -- well, okay.

14 But all joking aside, what's
15 unfortunate to everybody here is you all
16 became the faces of something bad that's
17 happened. It's not every -- you can't point
18 the fingers at one person. It's not
19 everybody's fault.

20 Yes, I don't want people to lose
21 jobs, but also, I don't want people to lose
22 lives. I'm only 23 years old. That's pretty

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 young, at least last time I checked. I just
2 want people to get together and go, maybe we
3 should try a little harder. I think there's a
4 famous song -- I can't remember who did it --
5 but it goes this song is not about you.

6 This song is not about you guys.
7 It's not about you guys. It's about us,
8 students, workers, so please put petty things
9 aside, both of you. Let's try to work
10 something out so I can be really proud to be
11 American again and be in the state of West
12 Virginia.

13 That's all I ask. Thank you.

14 MR. BRESLAND: Thank you. Thank you
15 very much. Do we have anyone else who would
16 like to be part of the public comment period?

17 If not, I Thank all of you very
18 much for your -- do we? Oh, here we go. Hold
19 on. State your name and spell it, please.

20 MS. JACKSON: My name is Gertrue
21 Jackson. G-E-R-T-R-U-E. I would just like to
22 state that the night of the accident -- I live

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 at 110 Vernon Street, which is at the end of
2 the golf course in the little community of
3 Institute.

4 I parked my car and I walked
5 towards the steps and I witnessed the
6 explosion, the noise, and then what looked
7 like a mushroom cloud. I was out and we were
8 trying to inquire whether or not it was any
9 chemical leaks that night. I was out for about
10 an hour close to the college campus.

11 We weren't told anything. My
12 feelings are there wasn't a large staff
13 available to give us any answers. I saw that
14 you had a time frame of 10:39 --was that
15 correct? When it happened? It actually
16 happened 10:24 or 10:25, not 10:39 -- not that
17 it makes any difference.

18 My heart goes out to the family of
19 the men that were killed. I'm really saddened
20 by that. I retired in -- I love to work out in
21 the yard. I love my flowers and when I'm out
22 there, I have such peace of mind -- at least,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 I did.

2 But this frightens me. I'm like
3 this lady. I don't know if I want to live in
4 Institute anymore and I constantly smell
5 odors, constantly. So whatever it's worth, I
6 felt led to say that. And the explosion was
7 10:24 or 10:25, not 10:39.

8 CLOSING STATEMENT

9 MR. BRESLAND: Thank you very much.
10 Going once? I think we're all out of speakers,
11 so just let me make a few closing remarks.

12 I'd like to thank each of the board
13 members and the investigation team for their
14 participation. I'd like to thank the panel
15 members again for their participation.

16 All of us share a strong interest
17 in preventing these tragic explosions from
18 occurring. Our hope is to make sure that
19 workers, the community, and emergency response
20 personnel are not forced to experience an
21 instance similar to this one.

22 Our investigation is continuing and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 we expect to complete our final report with
2 safety recommendations by the end of the year.
3 The CSB plans to return to Institute to
4 release its final report and recommendations.

5 I would like to thank all of
6 today's participants. I'd like to thank the
7 audience. You've been very, very patient. It's
8 been a long evening. I'd like to thank you
9 all, and you're now allowed to go home. Thank
10 you very much.

11 (Whereupon, the hearing concluded
12 at 10:36 p.m.)

13
14
15
16
17
18
19
20
21
22

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com