

In The Matter Of:

*Elevator Safety Division
Public Hearing*

January 10, 2008

*Marzullo Reporting Agency
345 North LaSalle, 1605
Chicago, IL 60610*

Original File km11008elevater.txt

Word Index included with this Min-U-Script®

Page 1

[1] [2] [3] ELEVATOR SAFETY DIVISION PUBLIC HEARING
[4] January 10, 2008
[5] 8:30 a.m.
[6] [7] [8]
[9] The Report of Proceedings had in the
[10] hearing of the above-entitled cause, taken before
[11] KATHLEEN T. MUHNE, a Certified Shorthand Reporter and
[12] Notary Public in and for the County of Cook and State
[13] of Illinois, at 100 West Randolph Street, Suite 900,
[14] Chicago, Illinois, on January 10, 2008, at the hour
[15] of approximately 8:30 a.m.
[16] [17] [18] [19] [20] [21] [22] [23] [24]

Page 3

[1] CHAIRMAN CHRISTENSEN: Okay. I'm going to
[2] call the meeting to order. We are going to start
[3] with the Pledge of Allegiance.
[4] (WHEREUPON, the Pledge of
[5] Allegiance was recited.)
[6] Has the board had a chance to read over
[7] the November 27th, 2007 minutes?
[8] MR. GREGORY: Yes.
[9] CHAIRMAN CHRISTENSEN: Okay. Is there a
[10] motion to accept the minutes?
[11] MR. GREGORY: No. I would like to have a
[12] correction.
[13] CHAIRMAN CHRISTENSEN: First you have to have
[14] a motion to accept the minutes.
[15] Is there a motion to accept the minutes?
[16] MR. SWIENTON: I move to accept the minutes.
[17] CHAIRMAN CHRISTENSEN: Is there a second?
[18] MR. MASON: Second.
[19] CHAIRMAN CHRISTENSEN: Any additions or
[20] corrections?
[21] (No response)
[22] Go ahead, Dick.
[23] MR. GREGORY: Dick Gregory. Every place in
[24] the minutes where it says, "Mr. Douglas," it should

Page 2

[1] PRESENT:
[2] ILLINOIS ELEVATOR SAFETY BOARD
[3] MR. FRANK CHRISTENSEN, Chairman
[4] MR. KELLY WELLER
[5] MR. KENNETH MASON
[6] MR. RICHARD GREGORY
[7] MR. DARREL SWIENTON
[8] MR. TOM JIRIK
[9] MR. ROD GILLES
[10] MR. TOM GANIERE
[11] MR. MARK HERTSBERG
[12] MR. WILLIAM BOGDAN
[13] OFFICE OF THE STATE FIRE MARSHAL
[14] MR. ROBERT CAPUANI
[15] MR. CHET JANUS
[16] MR. JOHN FENNELL
[17] [18] [19] [20] [21] [22] [23] [24]

Page 4

[1] say, "Mr. Gregory."
[2] CHAIRMAN CHRISTENSEN: I was wondering who
[3] that guy was.
[4] MR. GREGORY: Send the bills to Mr. Douglas
[5] and send the money to Mr. Gregory.
[6] CHAIRMAN CHRISTENSEN: Any other corrections?
[7] No additions?
[8] (No response)
[9] All those in favor, say aye.
[10] (A chorus of ayes)
[11] CHAIRMAN CHRISTENSEN: All those against?
[12] (No response)
[13] Ayes have it.
[14] Moving on to old business, Elevator
[15] Safety Program Progress Report by Director or
[16] Administrator, Bob Capuani.
[17] MR. CAPUANI: All right. As of Monday we have
[18] 74 contractors, 9 limited contractors, 94 inspectors,
[19] 1,612 mechanics, 585 apprentices, 14,488 conveyances
[20] with approximately 2000 to enter yet. The
[21] municipalities, we have had 75 sign up and we have 71
[22] letters of intent.
[23] CHAIRMAN CHRISTENSEN: Next, Otis safety tags.
[24] Dick Gregory, you are supposed to report on it.

Page 5

[1] MR. GREGORY: Yes. The report, it shows up on
[2] the agenda for the meeting next week of A17 standards
[3] committee, but nothing is going to happen because we
[4] are waiting for input from the maintenance and repair
[5] and replacement committee which is meeting in April
[6] or something like that in Baltimore. So we are not
[7] going to -- there won't be anything until the area of
[8] June.
[9] CHAIRMAN CHRISTENSEN: Okay. All right.
[10] Update on the mechanics specs, Bob.
[11] MR. CAPUANI: All right. I got an e-mail from
[12] Patti Bonner(Phonetic) from NAC. The new question
[13] disk with references to be before January 15th.
[14] MR. GREGORY: What is this now?
[15] MR. CAPUANI: The disk for the tests with the
[16] references.
[17] CHAIRMAN CHRISTENSEN: Okay. John Fennell, is
[18] there a proposal?
[19] MR. FENNEL: The proposed rules, we received
[20] three or four sets of comments. The first notice
[21] period ends next Thursday, and we are evaluating
[22] those comments and we will look at -- we will respond
[23] to and look at amending rules and then bring it up
[24] before the board when it goes on second notice.

Page 6

[1] So it will probably be in front of the
[2] board at the February meeting.
[3] CHAIRMAN CHRISTENSEN: Thank you.
[4] Bob, the next subject is to give us a
[5] full report on allegations that an inspector has been
[6] doing inspections that do not exist.
[7] MR. CAPUANI: All right. I have a file on it.
[8] Jim Aubin has got a file on this. What we found out,
[9] we received a letter from a conveyance owner that an
[10] inspector inspected four conveyances that do not
[11] exist.
[12] We also had -- I received a letter from
[13] an engineer of the building and what he stated was
[14] that the inspector inspected 20 conveyances, 18
[15] traction cars, 22 floors, two hydraulics. He signed
[16] out at 9:30 for the keys and the engineer said he
[17] left at 2:00 and he signed all those inspection forms
[18] before 2:00 o'clock.
[19] Also, on that, the inspectors are using
[20] the wrong forms.
[21] On June 18th a letter was sent out to
[22] all licensed inspectors stating that starting July
[23] 1st the standard form used for the Illinois State
[24] Conveyance Inspections will be the ASME forms. This

Page 7

[1] was voted on at the June 12th meeting by the board.
[2] CHAIRMAN CHRISTENSEN: Is that it?
[3] Okay. The recommendation to the board
[4] about the two -- there are two separate inspectors,
[5] two different jobs?
[6] MR. CAPUANI: Right.
[7] CHAIRMAN CHRISTENSEN: I think after we have
[8] this meeting, then we hear the variances and appeals
[9] and the public comment, I think we should have a
[10] closed door meeting with just the board members to
[11] talk over what we are going to do about those two
[12] different situations.
[13] Is that agreeable with the board?
[14] (A chorus of yeses)
[15] Moving on, we have the Report on
[16] Multiple Owners Occupied Time Share Properties. John
[17] Fennell.
[18] MR. FENNEL: After we reviewed the situation
[19] and the different permutations we can have with time
[20] shares, it is our recommendation that the board
[21] define a time share the same as a hotel; that it is
[22] not a private residence because it is occupied by
[23] more than one owner.
[24] The private residence exception in the

Page 8

[1] elevator code was intended to cover those conveyances
[2] inside residences that have the same owner. These
[3] time shares, they change from week to week, two
[4] weeks, weekends. So it's the same as a hotel room,
[5] and those conveyances within time shares should be
[6] licensed and licensed by the board and we can
[7] still -- you still have a limited contractor and a
[8] limited mechanic, but those would be licensed and
[9] inspected. That is our recommendation to the board.
[10] MR. GREGORY: I move that the board require
[11] conveyances in time share buildings, such as time
[12] shared condominiums; two, that those conveyances are
[13] required to be registered in the category of the
[14] conveyances that they are, such as elevator, or
[15] wheelchair lift.
[16] MR. GILLES: I will second.
[17] CHAIRMAN CHRISTENSEN: There has been a motion
[18] made. It has been seconded.
[19] Any question?
[20] MR. GREGORY: Sorry. Gregory moved.
[21] CHAIRMAN CHRISTENSEN: Rod Gilles was the one
[22] the seconded.
[23] Is there any additions to it or
[24] corrections, anything?

Page 9

[1] (No response)
[2] Okay. All those in favor, say aye.
[3] (Chorus of ayes.)
[4] All those against?
[5] (No response.)
[6] Ayes have it.
[7] We are going to go -- even though we
[8] have variance as the next thing, we are going to go
[9] to new business. After that then we will probably be
[10] going from public comment to after this meeting to
[11] appeals and variances.
[12] Okay. New business. I'm going to start
[13] off with Bob Capuani.
[14] MR. CAPUANI: Okay. I handed out a 2008
[15] suggested schedule, and you will see on that schedule
[16] there are four meetings in Springfield. The reason
[17] why is that I'm getting a lot of complaints from the
[18] Springfield area and down state that they cannot make
[19] it to the Chicago meetings, okay. A lot of
[20] municipality conveyance owners want to voice their
[21] opinions.
[22] So I suggest that -- I put four dates
[23] down there for Springfield meetings. I would like
[24] the board to vote on it.

Page 10

[1] MR. GILLES: I would like to make a motion
[2] that we accept the schedule as submitted.
[3] CHAIRMAN CHRISTENSEN: Okay. There has been a
[4] motion made. Is there a second?
[5] MR. JIRIK: I will second the motion.
[6] CHAIRMAN CHRISTENSEN: There has been a
[7] second.
[8] Any questions?
[9] MR. HERTSBERG: Will it be at the same time?
[10] MR. GREGORY: If we can do this, even for the
[11] Chicago meetings for the people from out of Chicago,
[12] we could make them -- could we make the meetings at
[13] 9:30 so that you can drive from Chicago to
[14] Springfield or drive from Springfield to Chicago or
[15] Peoria to Chicago or something, make them at 9:30?
[16] And the other thing is that the
[17] September 11th meeting, and I guess I left my notes
[18] in my briefcase behind me, but the September 11th
[19] meeting is scheduled at the same time as the National
[20] Association of Elevator Contractors, which means that
[21] some of us who are involved with that are less likely
[22] to be present at the meeting.
[23] And the October 9th meeting, and I don't
[24] know who that affects, but that's the Yom Kippur,

Page 11

[1] which is a very important holiday in the Jewish
[2] religion. I don't happen to be Jewish, but that
[3] doesn't matter.
[4] CHAIRMAN CHRISTENSEN: Is anybody on the board
[5] Jewish?
[6] MR. HERTSBERG: Yes, I am.
[7] CHAIRMAN CHRISTENSEN: Do you need a different
[8] time on that?
[9] MR. HERTSBERG: I would prefer it if you
[10] could.
[11] CHAIRMAN CHRISTENSEN: Well, the September
[12] 11th and October 9th, do we want to amend those,
[13] change the dates on there?
[14] MR. GILLES: Yeah.
[15] MR. CAPUANI: Before you change the dates,
[16] they can be suggested dates because we have to see if
[17] the room is available.
[18] MR. GREGORY: Okay. I mean, the week after
[19] September 11th is an A17 meeting in --
[20] CHAIRMAN CHRISTENSEN: How about this, can we
[21] accept the dates all the way until August?
[22] MR. GREGORY: Yes.
[23] MR. GILLES: There you go, sure.
[24] CHAIRMAN CHRISTENSEN: You are going to cancel

Page 12

[1] out your first motion, Rod, on that one?
[2] MR. GILLES: Yes.
[3] CHAIRMAN CHRISTENSEN: So we are going to
[4] accept all the meeting dates all the way to August
[5] 14th.
[6] MR. CAPUANI: So at the next meeting we will
[7] vote on the last three?
[8] CHAIRMAN CHRISTENSEN: Correct.
[9] MR. HERTSBERG: So the time --
[10] CHAIRMAN CHRISTENSEN: Is that your motion,
[11] Rod?
[12] MR. GILLES: Exactly.
[13] CHAIRMAN CHRISTENSEN: Do we want to change
[14] the time on it?
[15] MR. GREGORY: Right.
[16] CHAIRMAN CHRISTENSEN: To 9:30. Can we do
[17] that? Is there any problem with that?
[18] MR. CAPUANI: I don't believe so in
[19] Springfield.
[20] CHAIRMAN CHRISTENSEN: No. This is for here
[21] too. Do you want to change both meetings?
[22] MR. GREGORY: Well, the people from down state
[23] have to --
[24] MR. GILLES: I like the 8:30 myself.

Page 13

[1] MR. GREGORY: You like the 8:30?
[2] MR. GILLES: For here I do, yeah.
[3] MR. HERTSBERG: For here I do too.
[4] MR. GREGORY: Okay. I go along with the guy
[5] who has to get here.
[6] CHAIRMAN CHRISTENSEN: So we will stay with
[7] the original motion that Rod made, that we will keep
[8] everything all the way to August and keep the times
[9] set on this paper?
[10] 9:30 in Springfield and 8:30 in Chicago.
[11] MR. GILLES: That's what it says, yes.
[12] MR. GREGORY: Oh, it didn't say that before.
[13] CHAIRMAN CHRISTENSEN: Is there a second on
[14] that motion? Somebody seconded it I think.
[15] MR. JIRIK: I did.
[16] CHAIRMAN CHRISTENSEN: Any more questions on
[17] it?
[18] (No response)
[19] All those in favor, say aye.
[20] (Chorus of ayes)
[21] All those against?
[22] (No response)
[23] Ayes have it
[24] Bob, new business.

Page 14

[1] MR. CAPUANI: Just for the board's information
[2] and the public, I will hand these out. There is a
[3] state act that prohibits any automatic alerting
[4] device dialing 9-1-1.
[5] CHAIRMAN CHRISTENSEN: Okay.
[6] MR. CAPUANI: Second, I'm getting a lot of
[7] phone calls, and what it's about is phase one
[8] operation. When a fireman comes into a building,
[9] turns the cars on phase one, inspectors are not
[10] allowing the companies to use an L-E-D. According to
[11] the ASME code 2.27.3.1.5, "All fire recall switches
[12] shall be provided with an illuminated visual signal."
[13] It does not refer to the hat.
[14] Phase two does refer to the hat. I need
[15] the board to interpret and clarify this.
[16] CHAIRMAN CHRISTENSEN: I will go to Dick on
[17] this.
[18] MR. GREGORY: I move that we interpret it to
[19] be exactly what it says in the code, and that is that
[20] an L-E-D, a light bulb -- well, an illuminated visual
[21] signal. It does not say hat. It does not say it,
[22] and if we meant that in the standards committee we
[23] would have said fireman's hat.
[24] So I move that we interpret it as what

Page 15

[1] the code says.
[2] MR. GILLES: I will second it.
[3] CHAIRMAN CHRISTENSEN: There has been a motion
[4] and it has been seconded. Any question on it?
[5] (No response)
[6] All those in favor, say aye.
[7] (Chorus of ayes)
[8] All those against?
[9] (No response)
[10] Ayes have it.
[11] MR. CAPUANI: L-E-D is approved, right?
[12] CHAIRMAN CHRISTENSEN: Yes.
[13] MR. CAPUANI: Okay.
[14] Next one, emergency exits. According to
[15] ASME A17.3, there is an electrical contact on side
[16] emergency exits. We are getting a lot of calls from
[17] inspectors that they want to write up the emergency
[18] exit having electrical contact on top of the car, and
[19] I let them know I will bring this up to the board. I
[20] feel that it is a safety hazard myself not having
[21] electrical contact on emergency exits.
[22] CHAIRMAN CHRISTENSEN: I think you are
[23] correct. I think really they should have that.
[24] MR. GREGORY: When did we take -- when did --

Page 16

[1] emergency -- Side emergency exits you are asking
[2] about?
[3] MR. CAPUANI: No. No. Side emergency exit is
[4] in the code. We are talking about top.
[5] CHAIRMAN CHRISTENSEN: The top, there is
[6] nothing in there.
[7] MR. CAPUANI: It doesn't refer to the top
[8] emergency car exit. Here's a copy of it if you want.
[9] (Tendered)
[10] MR. GREGORY: This is for hydraulics.
[11] MR. CAPUANI: Uh-hum. What the inspectors are
[12] asking is that they want to write up top emergency
[13] exits when electrical contact stops the car.
[14] CHAIRMAN CHRISTENSEN: John Fennell.
[15] MR. FENNEL: Does the code require an
[16] electrical stop on a top exit?
[17] MR. CAPUANI: No.
[18] MR. FENNEL: It does not?
[19] MR. GREGORY: What you are showing us here is
[20] the section on hydraulics.
[21] MR. CAPUANI: Right. I just want to refer to
[22] side -- even tractions, all it says is the side
[23] emergency exit.
[24] MR. GREGORY: Oh, your question is in regards

Page 17

[1] to A17.3.
[2] MR. CAPUANI: Right, and inspectors want to
[3] put it on top of the car.
[4] They want to put the electrical contact
[5] on the top of the emergency exit.
[6] MR. GREGORY: On an existing elevator?
[7] MR. CAPUANI: Yes. Correct.
[8] MR. GREGORY: That's not in the code. That's
[9] not in A17.3.
[10] MR. CAPUANI: Correct. That's why we are
[11] bringing it up here.
[12] MR. FENNEL: I would ask the Chair to
[13] postpone the decision until the February meeting so
[14] we can sit and talk about this. I have a real
[15] problem that it is not in the code. So we need to
[16] research the -- we need to research and come back to
[17] the board with an opinion as to whether or not we can
[18] actually require it.
[19] CHAIRMAN CHRISTENSEN: Okay. That's what we
[20] will do. That's the Chair's decision. We are going
[21] to bring that back at the February meeting.
[22] Any other public comment?
[23] MR. CAPUANI: No. I think I'm done.
[24] CHAIRMAN CHRISTENSEN: Done?

Page 18

[1] MR. CAPUANI: Yes.
[2] CHAIRMAN CHRISTENSEN: Is there any comment
[3] from the board?
[4] (No response)
[5] None, okay. Now I will open it up for
[6] public comment if anybody wants to come up. I have
[7] John Thompson, Patti Young.
[8] MS. YOUNG: Can I go first please?
[9] CHAIRMAN CHRISTENSEN: Sure.
[10] MS. YOUNG: Patti Young with Thompson Elevator
[11] Inspection Service.
[12] Give me one minute while I set up what I
[13] need to present.
[14] First off, Happy New Year to everybody,
[15] Ladies and Gentlemen. What I like about a new year
[16] is it is always a time to take a moment to reflect --
[17] MR. CAPUANI: Patti, Can you address -- you
[18] are addressing the board, not the public please.
[19] MS. YOUNG: Okay. I know I have a bad habit
[20] at doing that.
[21] MR. CAPUANI: Thank you.
[22] MS. YOUNG: What I do like about a new year,
[23] everybody on the board, is that it's an opportunity
[24] for us to reflect on things that have occurred this

Page 19

[1] past year and it is an opportunity for us to look at
[2] what are we going to do for the new year, what are
[3] our opportunities for improvement for the new year.
[4] So on that note I wanted to bring up the
[5] topic about the check list for the inspectors. Bob
[6] has spotlighted on it just a moment ago. What I
[7] wanted to do was to share with you the documentation
[8] analysis that I have done about the ASME check list.
[9] Before I get into some key points I
[10] wanted to ask the board a few questions:
[11] What was the thought process for using
[12] the ASME check list? Do we have --
[13] MR. CAPUANI: I believe, if I can speak for
[14] the board, I believe it was a standard form for the
[15] State.
[16] MR. GREGORY: And I think a standard form that
[17] was available at no charge.
[18] MR. CAPUANI: Correct.
[19] MR. GREGORY: So that all inspectors could get
[20] this form and not have to pay for it, and then the
[21] one form would be filed with the State so they
[22] wouldn't have a whole lot of different odd things.
[23] MR. CAPUANI: Correct.
[24] MR. GREGORY: But I would defer to the paid

Page 20

[1] people here if that's what you are looking for.
[2] MS. YOUNG: Of the board members, how many of
[3] you did not have a chance to take a look at the check
[4] list forms themselves in their entirety? There are
[5] several forms out there. I just wanted to --
[6] CHAIRMAN CHRISTENSEN: That's something I'm
[7] not going to allow to be asked, Patti. I mean, you
[8] can bring up what you are trying to get across, but
[9] we are not going to ask the board what their decision
[10] was or anything. We have it all on print and just
[11] tell us what you are looking for please.
[12] MS. YOUNG: That's fine. All right.
[13] Jumping right into it, one of the key
[14] points is I wanted to revisit the validity of the
[15] form. The reason for that is, as we just heard from
[16] Dick, is that it was a form that was easy access, it
[17] is free, et cetera, but what concerns me is that on
[18] the form there is no reference to the State of
[19] Illinois at all. There is not even a spot to put the
[20] fire marshal's name, address and telephone number.
[21] So therefore, it's hard for somebody if they had a
[22] question to even know who to call.
[23] In addition to that, the form does not
[24] allow to put our license numbers on the form. It

Page 21

[1] does have a spot for the QEI number and also a spot
[2] for certifying organization.
[3] QEI number and certified organization to
[4] the average person means absolutely nothing. A
[5] license number is of a more critical number to
[6] recognize validity.
[7] I also am concerned because this is
[8] something ASME has provided as almost like a
[9] courtesy, as a guideline, and it is even stated in
[10] the inspection guide book, the A17.2 that the
[11] intention of it is to be an assistant tool to an AHJ,
[12] and that the intention is that one would be
[13] developing their own form.
[14] So I also wonder what was the
[15] proprietary direction that we had gone, if we had
[16] asked permission from ASME to quote, "use this as the
[17] official form" when there is nothing that says our
[18] state's name on it, and it only has ASME. So I do
[19] wonder about the liability.
[20] MR. CAPUANI: Chet Janus, he got permission
[21] from ASME.
[22] MS. YOUNG: Okay.
[23] MR. CAPUANI: And I also called ASME.
[24] MS. YOUNG: Thank you.

Page 22

[1] MR. CAPUANI: And my question to you, Patti.
[2] MS. YOUNG: Uh-huh.
[3] MR. CAPUANI: This letter went out June 18th.
[4] If you were so concerned about this, why are you
[5] waiting until the January 10th meeting and you are
[6] still not using the forms or any of your inspectors
[7] that I wrote this letter to. It was to start July
[8] 1st, 2007. This should have been brought up at that
[9] meeting or the next meeting, not six months later,
[10] not seven months later.
[11] MS. YOUNG: I agree with you, Bob. I do have
[12] to share some personal information with you. I was
[13] going under some things that -- I was kind of sick
[14] this summer so I didn't necessarily have a chance to
[15] dissect this in its entirety, and also, I work for
[16] many municipalities that have their own form and will
[17] be continuing to use their own form and so...
[18] MR. CAPUANI: Municipalities have to follow
[19] our standards. This is the form set for the state.
[20] It is voted on by the Elevator Review Board.
[21] MS. YOUNG: Well, then I need to understand
[22] Section 7 of the Municipality Act that it says, "In
[23] accordance with the Elevator Safety Act the
[24] administrative rules, with the exception of the

Page 23

[1] registration fee, the fees and procedures for
[2] applications, permits, inspection and enforcement
[3] under the local authority's program shall remain the
[4] jurisdiction of the local authority and such
[5] procedure shall take take precedent over the
[6] procedures adopted by the OSFM and the board."
[7] MR. CAPUANI: But I believe it also states
[8] that you need to follow our standards, correct? I
[9] don't have a copy with me.
[10] MR. FENNELL: I understand what she is saying.
[11] Let me take a look at it.
[12] MR. GREGORY: Um, across the country different
[13] states who are in somewhat similar situations as us
[14] have done different things, and they have adopted
[15] their own state forms. Whether that is good, bad or
[16] indifferent, you know, I'm not here to even comment
[17] that it is good, bad or indifferent, but I certainly
[18] notice from looking at the state forms from other
[19] states and the state -- I'm thinking of the State of
[20] Florida. By golly it says Florida on it, and it has
[21] got the Florida references and so on, et cetera.
[22] I can also tell you with absolute
[23] certainty that there are errors in the ASME forms
[24] because they are always a little bit behind. The

Page 24

[1] forms have to get figured out and made up and they
[2] end up a little bit behind the code, but we expect
[3] that the inspectors can figure that one out.
[4] I wouldn't be adverse to the idea that,
[5] you know, a little task group of maybe Patti and Chet
[6] or something like that work on this.
[7] We had to come up with some form in the
[8] past, okay. We didn't have enough time to develop
[9] our own form that said, State of Illinois, and Office
[10] of the State and Fire Marshal and all that stuff, but
[11] maybe a very tiny task force can work a few months on
[12] this and see if we want to come up with our own form
[13] and report back in a few months.
[14] I mean, it's -- the ASME form will
[15] change as the codes change. So, you know, we will
[16] end up getting different forms no matter what we do.
[17] So maybe we want to have our own, but I think we
[18] aren't going to decide that now.
[19] CHAIRMAN CHRISTENSEN: Well, we will
[20] appoint -- John.
[21] MR. FENNELL: No. Nothing.
[22] MR. GANIERE: I will agree with Dick. I
[23] think, you know, that's fine, but we do have an
[24] adopted form now, and that's what our inspectors

Page 25

[1] should be using until we change the form, period.
[2] CHAIRMAN CHRISTENSEN: I agree. I agree.
[3] Did you want to go on?
[4] MS. YOUNG: I do have a question for John
[5] Fennell.
[6] How will we be addressing the
[7] municipalities then since -- I'm sorry. I don't know
[8] your name.
[9] MR. GANIERE: Tom Ganiere.
[10] MS. YOUNG: -- Tom having said about using the
[11] current forms.
[12] MR. FENNEL: It is my opinion right now that
[13] the municipalities are required to use our form. I'm
[14] going to look at the municipal agreement and see if
[15] in fact what you are -- your contention is correct.
[16] I think, I believe that the overall agreement states
[17] that the municipality agrees to comply with our codes
[18] and standards. If they have different procedures
[19] that are not addressed by our codes and standards,
[20] that's fine, but they can't -- cannot go out and
[21] adopt their own codes and they cannot go out and
[22] adopt their own standards unless they are more
[23] restricted than ours. That's their only option.
[24] MS. YOUNG: Okay.

Page 26

[1] MR. FENNEL: So it is my interpretation as we
[2] sit here right now that the municipalities would have
[3] to use this form. What I have said is I will agree
[4] to look at it, and if I come up with a different
[5] opinion, I will so inform the board and you.
[6] MS. YOUNG: One last point that I would just
[7] like to make sure that we recognize is, we have with
[8] those ASME check lists the hydraulic and electric
[9] form.
[10] When I did this document analysis, 90
[11] percent of it is identical. There is only a handful
[12] of things that are different from this form and that
[13] form, and this is a great opportunity for us as a
[14] state, and I would believe that our state is very go
[15] green. Green, you know, is the thing that we are
[16] very interested in nowadays. We have an opportunity
[17] here as a state to continue promoting that in the
[18] sense that we can combine the two forms to do an
[19] instant paper reduction of 50 percent. Then we can
[20] take it even one step further and be able to reduce
[21] the two pages into one page. And what I have done
[22] here, I provided a sample for that that I would love
[23] to share with Bob and also Chet, and everything
[24] box-wise, content-wise, is captured in this one form

Page 27

[1] and added some extra things such as the place to
[2] capture the Illinois state license number, capture
[3] who is the person who has done the inspection,
[4] provide the validity for it, and provide history of
[5] the elevator. We all know elevators have their own
[6] personalities. So it is important to capture the
[7] history of that, the uniqueness, when the pressure
[8] test as, et cetera. So there are a lot of key things
[9] that the ASME check list is not capturing. So I
[10] would like to make sure that we do capture that to
[11] make it better for all the users, because we also
[12] have 11 groups of people, based on my analysis, that
[13] use this form, and it is important to use it as that
[14] communication, the vehicle of communication so that
[15] everybody understands what you need from it, what
[16] this person needs from it, et cetera.
[17] MR. WELLER: Mr. Chairman, do we have a motion
[18] now that this is going to go to sub-committee to --
[19] Can I make the motion, recognizing her passion and
[20] wanting to get something done, it seems to make sense
[21] to me.
[22] CHAIRMAN CHRISTENSEN: John has something to
[23] say, I can tell.
[24] MR. FENNEL: No.

Page 28

[1] CHAIRMAN CHRISTENSEN: He is holding his
[2] breath.
[3] MR. WELLER: Can we make a motion to the
[4] committee that we send this to a sub-committee
[5] designed to --
[6] CHAIRMAN CHRISTENSEN: I can send -- without a
[7] motion I can make --
[8] MR. WELLER: And bring it back to us in some
[9] kind of timely manner. Say, what, 90 days?
[10] CHAIRMAN CHRISTENSEN: But I also believe as a
[11] Chair, I believe all inspection companies should have
[12] been abiding by the letter.
[13] MR. GREGORY: That's a separate issue.
[14] MR. WELLER: We got somebody who is passionate
[15] about making this a better system, let's recognize
[16] it, and --
[17] MS. YOUNG: You are Kelly, right? Kelly, I
[18] have already done the work. I have it sitting in a
[19] Word file. All we got to do is tweak it.
[20] MR. CAPUANI: If the board approves, I would
[21] like to set up a meeting with Patti Young.
[22] MS. YOUNG: Love to.
[23] MS. CAPUANI: Say Chet and I and Jim Aubin
[24] and --

Page 29

[1] MR. GREGORY: And Mike Gibbs.
[2] MR. CAPUANI: I would like to set up the
[3] meeting with just Patti.
[4] MR. GREGORY: It would help to get another
[5] inspector's opinion.
[6] MR. CAPUANI: No. Not a sub-committee, just
[7] like to review with her.
[8] CHAIRMAN CHRISTENSEN: Well, we will have a
[9] sub-committee too.
[10] MR. WELLER: I would just like to acknowledge
[11] if we are going to do the sub-committee that she gets
[12] some kind of communication. I think that's a fair
[13] request considering it is her issue to bring it up.
[14] CHAIRMAN CHRISTENSEN: That's not a problem at
[15] all.
[16] MR. WELLER: Great.
[17] MR. GREGORY: I don't know whether you want to
[18] call it a sub-committee of the board or whether you
[19] just want to appoint a little task group to look into
[20] this specific issue.
[21] CHAIRMAN CHRISTENSEN: Yes. I don't know if
[22] we have the authority to take somebody from the
[23] outside public and put them on a task group or
[24] anything like that.

Page 30

[1] MR. FENNELL: We can.
[2] MR. GREGORY: I would like to suggest we have
[3] one inspector there. I do see Mike Gibbs over there.
[4] It is two different, radically different inspectors.
[5] He is ugly.
[6] MR. YOUNG: I take that as the good, bad and
[7] ugly.
[8] (Laughter)
[9] CHAIRMAN CHRISTENSEN: That's what we will do.
[10] Patti has brought this up. We will have Patti and
[11] the staff from elevator division work as a task force
[12] to come to some kind of resolve, but I do believe
[13] that the board's feeling is that you guys should have
[14] already been using what was given from July.
[15] MR. GREGORY: That's not an argument.
[16] MS. YOUNG: That's not an argument.
[17] MR. CAPUANI: It's an issue.
[18] CHAIRMAN CHRISTENSEN: It is an issue because
[19] they haven't been doing it.
[20] MR. GREGORY: Tell them to do it.
[21] MR. CAPUANI: We just did. We just did.
[22] MR. GREGORY: Just from a little historic
[23] perspective, years ago the inspectors guide was split
[24] into two pieces, electric and hydro, okay, and it was

Page 31

[1] that way for I don't know how many years. I don't
[2] know. I see another member.
[3] MS. YOUNG: Dick, here's the book.
[4] MR. GREGORY: I know now it has been combined
[5] back into one book, okay, so now combined into one
[6] book. It would not surprise me to find that in a few
[7] years a new check list will come out based on the one
[8] book.
[9] MS. YOUNG: Uh-hum.
[10] MR. GREGORY: It doesn't have to be two forms.
[11] MR. CAPUANI: Actually, ASME informed me that
[12] this year they will be changing the form. They are
[13] not sure when. Sometime this year.
[14] MR. GREGORY: We are never sure.
[15] MR. CAPUANI: Sometime this year.
[16] MR. GREGORY: They are working in this
[17] direction whether we do anything or not, but...
[18] MR. SWIENTON: I would like to talk about what
[19] Frank was talking about. Who wasn't using the right
[20] forms?
[21] CHAIRMAN CHRISTENSEN: There was a letter from
[22] Bob Capuani that stated on June 12th, 2007 Elevator
[23] Safety Board made a final decision on the forms to be
[24] used for all inspectors starting July 1st, 2007. The

Page 32

[1] standard form used for the Illinois State conveyance
[2] inspections will be ASME forms.
[3] MR. SWIENTON: So somebody is not using those
[4] forms or what?
[5] CHAIRMAN CHRISTENSEN: That's correct, the
[6] whole time.
[7] MR. CAPUANI: To make it easy, I put a link on
[8] our website.
[9] MR. SWIENTON: Are we talking about a
[10] violation of some sort? They are not using the right
[11] forms.
[12] CHAIRMAN CHRISTENSEN: Yes.
[13] MR. SWIENTON: Then we should address that.
[14] This is a violation.
[15] MR. GREGORY: What we should do is tell them
[16] to use the right forms.
[17] MR. SWIENTON: Is there a reason why their
[18] company wasn't using them, or they didn't feel like
[19] using them?
[20] CHAIRMAN CHRISTENSEN: Bob, did you tell them
[21] to use the form?
[22] MR. CAPUANI: Verbally. Not in writing, but
[23] verbally. These letters went out to every inspection
[24] company.

Page 33

[1] MR. SWIENTON: We are talking about one
[2] company here that didn't use the right forms?
[3] MR. CAPUANI: I believe so.
[4] MR. SWIENTON: They were told to use the right
[5] forms?
[6] MR. CAPUANI: Correct.
[7] MR. SWIENTON: They said, we are going to use
[8] ours or whatever. I think in addition that should be
[9] addressed. Violations should be addressed, whatever,
[10] however you want to handle it.
[11] MR. GREGORY: Send them a letter saying hence
[12] forward you are directed to use the proper forms,
[13] period.
[14] MR. CAPUANI: I will send them a copy of my
[15] letter dated June 18th.
[16] MR. GREGORY: No excuses.
[17] MR. SWIENTON: I think we ought to -- he told
[18] them to use it and they came right out and said, no,
[19] we are not going to use it; we are going to use ours.
[20] CHAIRMAN CHRISTENSEN: Do you think we should
[21] give them a warning letter?
[22] MR. SWIENTON: I believe so. It is a
[23] violation. It's a violation of the rules.
[24] CHAIRMAN CHRISTENSEN: Okay. Is there a

Page 34

[1] motion on it?
[2] MR. SWIENTON: I will make a motion that that
[3] warning letter be sent out. It should be an
[4] aggressive way of doing -- you know, doing stuff. So
[5] a warning letter will be the first part of doing it.
[6] CHAIRMAN CHRISTENSEN: Is there a second on
[7] that.
[8] MR. GILLES: Second.
[9] CHAIRMAN CHRISTENSEN: Any questions on it?
[10] Patti, I'm going -- even though it is
[11] the board, I'm going to allow it. You have a
[12] question.
[13] MR. GREGORY: Absolutely. Let her comment.
[14] MS. YOUNG: Fine, but I -- what I do want to
[15] ask you is, because it is two forms, it makes it very
[16] difficult from a connectivity -- the second page of
[17] the check list does not have any reference to the
[18] building's address, the elevator number. It doesn't
[19] indicate whether it passed or failed. So I would be
[20] asking you, if I'm going to use the look and feel of
[21] this, that you will allow me to make it into a
[22] one-page document, because I'm going to have to
[23] retype it anyways in order for me to produce my
[24] inspection reports because everything is pre-printed

Page 35

[1] for legibility in my office.
[2] MR. SWIENTON: Hang on. That has nothing to
[3] do with it.
[4] MR. FENNELL: Yes, it does. She is not out of
[5] order here.
[6] MR. SWIENTON: That is something to do with
[7] the warning letter?
[8] MR. FENNELL: Yes. It absolutely does.
[9] MR. SWIENTON: When I get the connection, let
[10] me know.
[11] CHAIRMAN CHRISTENSEN: Here. I want to ask --
[12] MR. GILLES: I'm a little confused myself.
[13] CHAIRMAN CHRISTENSEN: On the rest of the
[14] inspections out there by other inspection companies,
[15] are they doing the two pages? Are they doing one
[16] page?
[17] MR. CAPUANI: What happens, they send it out
[18] to a printing firm where it has three copies.
[19] CHAIRMAN CHRISTENSEN: Okay.
[20] MR. CAPUANI: They are using both, yes.
[21] MR. FENNELL: But they are using the two-page
[22] form. They didn't condense it to one page.
[23] CHAIRMAN CHRISTENSEN: So it is already being
[24] used, John?

Page 36

[1] MS. YOUNG: We use a carbonless form which is
[2] three-ply, and to have the two separate you have a
[3] total disconnect. So, therefore, if I'm handing you,
[4] Rod, two pieces of paper, the second page doesn't
[5] have the address. It is so easy for you to lose
[6] something. Even if you paper-clipped it or you
[7] stapled it, you know how easy it is for something to
[8] get lost, and imagine going into a complex that has
[9] 20 units in there. You are going to have 40 sheets
[10] of paper from the get-go.
[11] MR. WELLER: I get you. You are talking about
[12] a hardship. Let's do this: We have heard from the
[13] Chair that he is willing to appoint a task
[14] force/sub-committee.
[15] MS. YOUNG: I understand.
[16] MR. WELLER: Okay. Now, forward, because
[17] obviously we are talking about your firm, right,
[18] because I think --
[19] MS. YOUNG: I'm also talking on behalf of all
[20] the other inspection companies because I have another
[21] inspection company that uses a one-page form right
[22] now as well.
[23] MR. WELLER: How many firms are not following
[24] the policy that we have set?

Page 37

[1] MR. CAPUANI: As far as I know, one.
[2] MR. WELLER: Are we talking about her firm?
[3] MR. CAPUANI: Correct.
[4] MR. WELLER: Let's cut to the chase.
[5] MS. YOUNG: I would like to share with you
[6] there are at least two.
[7] MR. WELLER: All right. From now until we get
[8] a new form follow the board's direction. I know it
[9] is an inconvenience. We got a task force coming. We
[10] will try to address your concerns, but we are going
[11] to have to address an institution, not ad hoc. So
[12] does that do -- does that satisfy what you want us to
[13] do today?
[14] MS. YOUNG: No, because you have just took my
[15] whole world and threw it up in the air in terms of my
[16] whole production of how things are.
[17] CHAIRMAN CHRISTENSEN: Patti, hang on one
[18] second. I will give a recommendation to the board.
[19] To me, I don't see a problem if you want to make it
[20] one page, okay, and until we get the task force for
[21] this situation, if the board is okay with it, we
[22] don't have a problem with you going to one page,
[23] condensing it to one page.
[24] MS. YOUNG: Thank you.

Page 38

[1] CHAIRMAN CHRISTENSEN: If the board votes on
[2] it. It is just my opinion on it, but that shouldn't
[3] be a problem. We will move on from here and try to
[4] get this done and resolve it, okay?
[5] MS. YOUNG: Okay.
[6] CHAIRMAN CHRISTENSEN: So if somebody wants to
[7] make a motion to make it one page.
[8] MR. GREGORY: I move that we allow inspection
[9] companies to consolidate the ASME form to one page if
[10] they so desire.
[11] CHAIRMAN CHRISTENSEN: Is there a second?
[12] MR. GILLES: I second it.
[13] MR. CAPUANI: Are we voting on all inspection
[14] companies?
[15] MR. GREGORY: We are not going to do something
[16] for one company.
[17] MR. GILLES: Give everybody that option.
[18] CHAIRMAN CHRISTENSEN: It has been seconded.
[19] Any discussion on it?
[20] MR. GANIERE: Are we changing it for every
[21] inspection company?
[22] MR. GREGORY: Yes. We are not going to make
[23] it one guy can do it this way and the other guy
[24] can't.

Page 39

[1] MR. GANIERE: I guess it is going to need to
[2] be standardized when it comes down to the office so
[3] the information is the same from every inspector, the
[4] same place, so our guys looking at these forms aren't
[5] looking all over the place to find the same
[6] information. It has got to be the same for
[7] everybody. If it is two pages, it is two pages for
[8] everybody. If it is one page, it is one page for
[9] everybody. It can't be different for one inspection
[10] company to another inspection company.
[11] CHAIRMAN CHRISTENSEN: We are not making it
[12] mandatory. If somebody wants to use the two pages,
[13] it's fine too.
[14] MR. GANIERE: No. I'm against that. It has
[15] to be the same when it comes into the office from
[16] every inspection company. The information has to be
[17] in the same place so our people don't have to be
[18] looking at two different forms. I think that's
[19] ridiculous.
[20] MR. CAPUANI: Here's the problem we have.
[21] Other inspection companies, they have sent their
[22] forms out to printers, okay. So this is a big
[23] expense, all right. Now they have incurred this
[24] expense where they haven't so we can't -- it is not

Page 40

[1] fair to these other inspection companies.
[2] MR. GANIERE: Here's the point: Back in June
[3] we sent out a letter saying these are the forms to be
[4] used. So those are the forms to be used until we
[5] change them. I think it should be the same forms,
[6] standardized form coming into our office from
[7] everybody.
[8] CHAIRMAN CHRISTENSEN: Any more questions on
[9] it?
[10] MR. GREGORY: What information do you guys in
[11] the office take off of these forms? You do not
[12] recopy it or anything. You just, say uh-uh, here's
[13] the building and the address, and I don't know what
[14] happens to it.
[15] MR. CAPUANI: Our database, when we start
[16] receiving inspection forms, our database is copied
[17] off the ASME forms, our check list.
[18] MR. GREGORY: But you don't enter all of
[19] those.
[20] MR. CAPUANI: We will enter in the
[21] municipality does not have an agreement with the
[22] state. The inspectors will be sending their final --
[23] their inspection reports to us and the state will
[24] issue a certificate of operation.

Page 41

[1] MR. GREGORY: But if they got umpteen boxes
[2] checked, okay, you don't go then and enter, okay,
[3] okay, okay.
[4] MR. CAPUANI: We have that in our database
[5] right now.
[6] MR. GREGORY: You enter all that stuff back
[7] in?
[8] MR. CAPUANI: We haven't yet, but it is in our
[9] database.
[10] MR. GREGORY: Every time the rule gets
[11] changed, the ASME code and the code changes you have
[12] to change the database?
[13] MR. CAPUANI: Correct.
[14] MR. GREGORY: You are setting yourself up for
[15] a the lot of grief.
[16] MR. CAPUANI: Well, if the ASME form changes,
[17] I don't think they will be changed that dramatically.
[18] I don't think there will be additions.
[19] MR. SWIENTON: I think it sounds like we are
[20] making this a little more complicated than what it
[21] is. As far as I'm concerned, we had the one issue;
[22] we are going to send a letter of discipline or
[23] warning to the company. In the meantime, we also
[24] recognize, yes, the form has to be changed, okay, so

Page 42

[1] we stay with what we got until the form is changed.
[2] We got the task force. No change or anything. So
[3] what's another two, three months, whatever it takes?
[4] So just leave it at that. I don't know what the
[5] motion is.
[6] CHAIRMAN CHRISTENSEN: We are on the motion to
[7] change the form that has been --
[8] MR. GREGORY: Not to change it. To allow a
[9] different one.
[10] CHAIRMAN CHRISTENSEN: To allow to go to one
[11] page instead of two pages, and it was seconded,
[12] but...
[13] MR. SWIENTON: Now you got to vote on it.
[14] CHAIRMAN CHRISTENSEN: To me we are still on
[15] the question here, and I would have a problem
[16] because, like Bob said, somebody has already -- some
[17] inspectors have the two pages, and if we go to one --
[18] if you can't have it both ways, you can't have it at
[19] all.
[20] MR. SWIENTON: Keep it the way we have it
[21] until --
[22] CHAIRMAN CHRISTENSEN: All right. Is there
[23] any more questions?
[24] (No response)

Page 43

[1] We will just take a vote on it and take
[2] it from there.
[3] MR. GILLES: Can I hear the motion again?
[4] CHAIRMAN CHRISTENSEN: The motion is that we
[5] condense it. Patti would like --
[6] MR. GREGORY: Allow.
[7] CHAIRMAN CHRISTENSEN: Allow it to be
[8] condensed to one page, and that's the way it is, but
[9] then it came up under the question --
[10] MR. GILLES: Right. I'm clear now.
[11] CHAIRMAN CHRISTENSEN: -- some inspection
[12] companies had two-page forms printed already. So two
[13] or one page.
[14] All those in favor, say aye.
[15] MR. GREGORY: Aye.
[16] CHAIRMAN CHRISTENSEN: All those against?
[17] (Chorus of nayses.)
[18] Doesn't pass. So we stay with the two
[19] pages.
[20] Now we go back to sending out a warning
[21] letter To Thompson Inspection Company. Is that --
[22] MR. CAPUANI: Or to any inspection company
[23] that does not use the form.
[24] CHAIRMAN CHRISTENSEN: Do we have a motion on

Page 44

[1] that? I forgot.
[2] MR. GILLES: Yeah.
[3] MR. SWIENTON: I made the motion.
[4] CHAIRMAN CHRISTENSEN: We will go back to
[5] that. Is there any question on that?
[6] (No response)
[7] All those in favor, say aye.
[8] (Chorus of ayes)
[9] All these against?
[10] (No response)
[11] Ayes have it.
[12] MS. YOUNG: Thank you for your time.
[13] CHAIRMAN CHRISTENSEN: Okay.
[14] Any other public comment?
[15] MR. JANDORA: How are you doing? Rick
[16] Jandora, Otis Elevator Company.
[17] I'm here today because a customer of
[18] ours is building a bed tower for their hospital.
[19] Can't hear me?
[20] We have a customer who is building a bed
[21] tower for their hospital. Because the bed tower
[22] exceeds a certain height, they have to provide a life
[23] safety room, and this is in accordance with
[24] International Building Code 2006, which is what they

Page 45

[1] are manufacturing to or building to.
[2] IBC code requires that we provide an
[3] annunciator unit that allows a firefighter, in the
[4] event that he enters into a building, to see the
[5] status of the equipment. It is basically just one
[6] sentence of of the IBC code.
[7] We have received a conditional approval
[8] to install an elevator management system, which is
[9] basically a desk-top computer with a monitor screen
[10] that allows you to see the stacks of all the
[11] elevators in the building, their direction of travel,
[12] the floor that they are on, the position of the
[13] doors, as well as many other features that far exceed
[14] the requirements of IBC. We have received
[15] conditional approval and the condition is as long as
[16] it is okay with the Elevator Review Board they will
[17] allow us to install this.
[18] So I'm here today to request that you
[19] approve the installation of an elevator management
[20] system, which is a desk-top computer with a monitor
[21] system, providing all the requirements that IBC 2006
[22] is requesting as acceptable.
[23] MR. CAPUANI: Where will this be located? Say
[24] I walk into the lobby, where will this screen be

Page 46

[1] located?
[2] MR. JANDORA: They are building a special
[3] room. So there is a room for all the life safety
[4] equipment. It is the life safety room where you
[5] would normally have all the information you would
[6] want to see regarding smokes in the building or
[7] sprinklers in the building, and then the other
[8] related systems such as mechanical, and I don't know
[9] all the other systems that would be in there, but
[10] everything that International Building Code requires
[11] for high-rise buildings will be in this room.
[12] We are one portion of that. They would
[13] like in addition to just the bed tower to add the
[14] whole facility on this screen. So we are adding, you
[15] know, up to 29 units onto this monitoring system to
[16] satisfy that.
[17] MR. GREGORY: Do you have any input from the
[18] Illinois Department of Public Health?
[19] MR. JANDORA: I do not have any input other
[20] than we have provided the same features at
[21] Northwestern Community Hospital here in downtown
[22] Chicago, and --
[23] MR. GREGORY: Northwestern Community Hospital
[24] is out there. Northwestern Memorial Hospital is over

Page 47

[1] here.
[2] MR. JANDORA: Northwestern downtown campus.
[3] MR. GREGORY: Okay.
[4] MR. JANDORA: As well as Rush Hospital here in
[5] the west side of Chicago. That satisfies this
[6] requirement. IDPH has been involved with both
[7] projects. Has not taken issue with what we had
[8] provided.
[9] MR. GREGORY: So the question is, will your
[10] elevator management system, those are the words you
[11] used, will that contain the information required in
[12] the International Building Code?
[13] MR. JANDORA: It will.
[14] MR. GREGORY: I don't see a problem with this.
[15] It is underneath -- it is under IDPH and I'm familiar
[16] with the Northwestern Memorial one because I have
[17] seen that. IDPH, no matter what the city of Chicago
[18] wants, and we are in Chicago, it is IDPH who holds
[19] the string as it were.
[20] MR. GANIERE: This life safety room, is that
[21] also where the fire alarm panel annunciator is also?
[22] MR. JANDORA: Yes.
[23] MR. GANIERE: I don't have a problem with it
[24] if it is in the same place.

Page 48

[1] MR. SWIENTON: On the screen -- it will have
[2] everything on the screen? They don't have to press
[3] buttons, go to another screen or move -- You know, I
[4] would like to think firemen are smart, but
[5] sometimes --
[6] MR. JANDORA: We have the ability, and this
[7] will give you the idea of what it will look like, to
[8] select through multiple screens. We can have it set
[9] up that it is set on a certain screen such as a plan
[10] view such as you are seeing here. We can set it up
[11] that it is in a section view like this. In order to
[12] provide all the elevators that we need to show we are
[13] going to have to do something like this(indicating).
[14] So we have the ability to do that, but
[15] there are several screens that you can toggle through
[16] to seek additional information.
[17] MR. FENNELL: Will there be like some
[18] instructions if we have to switch from screen to
[19] screen for firemen?
[20] MR. JANDORA: Well, we can absolutely provide
[21] a screen or some sort of placard or something like
[22] that adjacent to it so people know how to use it, but
[23] I think the intent is something you can see at the
[24] bottom of the page in a plan view format so that all

Page 49

[1] the elevators in the building can be seen at one
[2] time.
[3] MR. FENNELL: Two questions. What is the
[4] back-up for the computer? Where is the computer
[5] powered from in the electrical system?
[6] MR. JANDORA: The computer is powered from a
[7] 110-volt supply. We can back it up with the UBS
[8] for --
[9] MR. FENNELL: For how long?
[10] MR. JANDORA: and I'm sure --
[11] MR. FENNELL: I think we are looking here at
[12] NAPF-70. We are looking at 60 hours back-up, all
[13] right?
[14] MR. JANDORA: Well, if my approval is provided
[15] that it is connected to an emergency power source.
[16] MR. FENNELL: Let me go to the second
[17] question. Have you got approval from the fire
[18] department to put in this installation?
[19] MR. JANDORA: The fire department referred us
[20] to Johnson Inspection Services.
[21] MR. FENNELL: I think I would recommend to the
[22] Chair that we have a letter from the fire department
[23] approving the installation and committing to adequate
[24] emergency power back-up for the computer. Dick

Page 50

[1] Gregory doesn't think we are going to do that.
[2] MR. GREGORY: It is pretty typical in outlying
[3] jurisdictions outside of Chicago that if you ask the
[4] fire department what -- you know, what you should
[5] have here, the fire chief there says, we use whoever.
[6] In this case since we are picking on Thompson --
[7] MR. JANDORA: No. We are discussing fire
[8] alarm annunciation here.
[9] MR. GREGORY: For elevators though.
[10] MR. FENNELL: But everything is in here.
[11] MR. GREGORY: This is just for elevators.
[12] MR. FENNELL: Excuse me. Everything is in the
[13] emergency room.
[14] MR. GREGORY: Right.
[15] MR. FENNELL: Therefore, everything is
[16] approved by the fire department. I don't know about
[17] our fire department, but any one I have ever dealt
[18] with approved or disapproved or approved with
[19] conditions. My recommendation is that the board get
[20] a letter from the fire department approving the
[21] installation. I have some real concerns about it.
[22] MR. SWIENTON: Yeah.
[23] MR. FENNELL: Firefighters and fire inspectors
[24] and a code enforcement officer.

Page 51

[1] MR. SWIENTON: I would like to --
[2] CHAIRMAN CHRISTENSEN: Is there any motion
[3] here to accept this or not accept it?
[4] MR. SWIENTON: I move that we get that letter
[5] from the local fire department saying that they agree
[6] with it.
[7] MR. GILLES: His recommendation.
[8] CHAIRMAN CHRISTENSEN: Motion made off of John
[9] Fennell's recommendation that they get approval from
[10] that fire department in that jurisdiction.
[11] MR. SWIENTON: Right.
[12] MR. GREGORY: Could I add to your motion and
[13] that is, approving that we also then approve?
[14] MR. FENNELL: We will consider it once we see
[15] the approval.
[16] MR. GREGORY: Okay. Just delay the game
[17] again.
[18] MR. FENNELL: No. I'm not doing it automatic.
[19] I'm not recommending an automatic approval.
[20] MR. GREGORY: I understand. I'm wondering why
[21] if the local fire department says it is okay why do
[22] they then need to bring it back in front of us again.
[23] MR. WELLER: It seems to -- it seems to make
[24] sense to me.

Page 52

[1] MR. FENNELL: Okay. Is the board going to see
[2] the approval, or are they just going to do it?
[3] MR. GREGORY: We would have to see it.
[4] MR. FENNELL: So that would be at the next
[5] meeting?
[6] MR. GREGORY: So that would be at the February
[7] meeting, implied consent.
[8] CHAIRMAN CHRISTENSEN: So at the February
[9] meeting when we see the letter we will give our
[10] approval on it; is that correct?
[11] MR. SWIENTON: Just because they have the
[12] letter doesn't mean -- like he said, doesn't mean we
[13] are automatically going to approve it. Chances are
[14] we will, you know.
[15] CHAIRMAN CHRISTENSEN: Do you have that?
[16] MR. JANDORA: I'm a little confused. Do I
[17] have an approval provided that --
[18] MR. GREGORY: The motion made was that if the
[19] fire department approves this, then you bring a
[20] letter to us. We will then undoubtedly use that on
[21] the basis to approve it, but right now we are not
[22] doing anything.
[23] MR. JANDORA: Okay.
[24] MR. GREGORY: So the motion is, go talk to

Page 53

[1] that fire department, and if the fire department
[2] can't make a decision, because I have run into those,
[3] then I would say you appeal to IDPH. They hold the
[4] biggest string in this whole deal, and that's why
[5] they approved that stuff at Northwestern Memorial and
[6] Rush and so on. You know, IDPH is over home rule
[7] so...

[8] CHAIRMAN CHRISTENSEN: Okay. There has been a
[9] motion made.

[10] MR. GILLES: I will second his motion.

[11] CHAIRMAN CHRISTENSEN: Is there any questions?
[12] (No response)

[13] All those in favor, say aye.
[14] (Chorus of ayes.)

[15] MR. WELLER: I just have a quick question.
[16] First off, what Chet is saying down here is this is
[17] just one. So any time these situations come up or
[18] happen, the local fire department or the fire
[19] departments are going to have to bring it or approve
[20] it and it is going to have to be here before we take
[21] these kind of actions in the future, right?

[22] CHAIRMAN CHRISTENSEN: Yes.

[23] MR. WELLER: Second off, does that cost you
[24] any time or money because we are putting it off

Page 54

[1] potentially another month?

[2] MR. JANDORA: It could. Right now the bed
[3] tower is under construction. It is the optimal time
[4] to run conduit through the building, to gain access
[5] to all the hoistways.

[6] If I could get this information to say
[7] Bob -- what would be ideal for me is conditional
[8] approval. If I could obtain approval from the Joliet
[9] Fire Department and get that to Bob knowing that I
[10] have approval from you really would help us out.

[11] MR. WELLER: I would like to amend the motion
[12] to accept that. I think that seems to make -- we are
[13] going to approve it anyway. Why just not expedite it
[14] for the contractor.

[15] CHAIRMAN CHRISTENSEN: There has been an
[16] amendment. Is there a second to the amendment?

[17] MR. GREGORY: I will second it.

[18] CHAIRMAN CHRISTENSEN: Any questions on the
[19] amendment?
[20] (No response)

[21] All those in favor, say aye.
[22] (Chorus of ayes.)

[23] All those against?
[24] (No response)

Page 55

[1] Okay. So...

[2] MR. JANDORA: Thank you. Thank you for your
[3] time.

[4] MR. CAPUANI: Let me just clarify. When I
[5] receive a letter from the Joliet Fire Department
[6] approving this, I will send a letter out to Otis
[7] Elevator. I just want to make it clear.

[8] MS. YOUNG: Could you cc Thompson Elevator on
[9] that letter because we would be involved?

[10] CHAIRMAN CHRISTENSEN: Sure.

[11] MS. YOUNG: Thank you.

[12] MR. JANDORA: That's --

[13] CHAIRMAN CHRISTENSEN: Even though the
[14] amendment was passed, we will go off the original
[15] motion. All those in favor with the original motion
[16] and with the amendment say aye.
[17] (Chorus of ayes)

[18] All those against?
[19] (No response)

[20] Ayes have it.
[21] Public comment?

[22] MR. PLASS: Thank you very much. My name is
[23] Don Plass, Village of Hoffman Estates. I really only
[24] have two quick questions.

Page 56

[1] One is, Director Capuani indicated there
[2] is like I think 146 municipalities that have been
[3] contacted to be with OSFM or be their own program.
[4] There is over 1300 municipalities that are
[5] incorporated in the State of Illinois. Now, I was
[6] just wondering how you were contacting the rest of
[7] the municipalities. I deal with a lot of code groups
[8] throughout the State of Illinois and I know that
[9] Southern Illinois is really far behind and doesn't
[10] know about this yet.

[11] MR. CAPUANI: Actually, counting on the
[12] elevator companies, which is, when they go out to the
[13] job, okay, they are telling them, the conveyance
[14] owners, it is their responsibility. If the village
[15] doesn't approve our municipality agreement -- I mean,
[16] the word has been out there for a year. We did a
[17] press release, newspaper release. Letters have been
[18] sent out to fire stations and municipalities. Chet
[19] has been at numerous conferences in the southern part
[20] of the state. He was just at one yesterday.

[21] MR. PLASS: I am very much involved with
[22] different code groups and I get a lot of questions
[23] about it, and I know in Southern Illinois a lot of
[24] inspectors out there is actually the building

Page 57

[1] official that for years has gone out and done the
[2] inspection on the elevator and today you can't do
[3] that. So I just would like to get a little bit
[4] more -- maybe more information onto them.
[5] MR. CAPUANI: Well, to be truthful, they won't
[6] be receiving certificates of operation down there
[7] unless we receive the inspection report. Trust me,
[8] the word is out there. The word is out there. I get
[9] numerous calls every day, "We just heard about this."
[10] MR. PLASS: Yes. I get a lot of those calls
[11] myself.
[12] The second question I have is that I'm
[13] on two different Illinois State committees, and I
[14] meet here teleconferencing back and forth to
[15] Springfield as opposed to driving to Springfield, and
[16] I was just wondering if there is a way we can do a
[17] teleconference call between Springfield and here as
[18] opposed to driving down to Springfield and having to
[19] meet down there.
[20] CHAIRMAN CHRISTENSEN: It has already been
[21] motioned and we accepted some of the Springfield
[22] dates. So we are not going to change that now.
[23] MR. FENNELL: I think the problem is, first of
[24] all, getting the teleconference room here in the

Page 58

[1] Thompson Center and in Springfield. The last time we
[2] tried it they were booked for a year.
[3] So we had a really hard time. We will
[4] check into it.
[5] MR. PLASS: I appreciate it. It is a long
[6] drive for a couple-hour meeting.
[7] MR. FENNELL: Really? No.
[8] MR. PLASS: It takes me as long to drive down
[9] there as it takes to go to the meeting.
[10] Okay. Well, I thank you very much for
[11] today again.
[12] MR. FENNELL: Yes. We will look into it.
[13] MR. JANDORA: This is David McColl. It's a
[14] variance request, Otis Elevators.
[15] CHAIRMAN CHRISTENSEN: The one I see here is
[16] John Thompson, Sr.
[17] Patti, does John want to speak?
[18] MR. THOMPSON: The only thing I would speak
[19] about is that L-E-D and the push button because there
[20] is some misunderstanding in the industry. Half of
[21] the companies and 89 or 90 percent of the fixture
[22] companies aren't providing the fire hat at the first
[23] floor, which is the way I read the code. That's the
[24] only visual signal that is given on that next page,

Page 59

[1] on Page 100, and now you are saying that the L-E-D
[2] light is an acceptable means, but what do we tell all
[3] the fixture companies and the elevator companies that
[4] have provided this? Only problem is they have
[5] purchased all this equipment with this already. Do
[6] we tell them to take it out?
[7] CHAIRMAN CHRISTENSEN: I will let Dick Gregory
[8] speak on this.
[9] MR. GREGORY: That specific requirement in the
[10] code requires an indicator. It does not say that it
[11] has to be an L-E-D or has to be a fire hat. So if
[12] you provide an indicator that's an L-E-D, if you
[13] choose to provide a fire hat, that's an indicator.
[14] That meets the code. I mean, well --
[15] MR. THOMPSON: In the code book the only
[16] visual, the only visual thing is the hat on the next
[17] page.
[18] MR. CAPUANI: Which Phase 2 does refer to that
[19] hat. Phase 1 doesn't.
[20] MR. THOMPSON: Phase 2 does say about the hat.
[21] Phase 2 also says that the buzzer is supposed to ring
[22] when that goes off, but then it says on Phase 1 that
[23] there has to be a visual signal, and the only visual
[24] signal in the code book is the hat. It doesn't say

Page 60

[1] anything about an L-E-D. It says a visual signal.
[2] MR. GREGORY: It says, "All fire recall
[3] switches shall be provided with an illuminated visual
[4] signal to indicate whether Phase 1 emergency recall
[5] operation is in effect." It doesn't say what that
[6] illuminated visual signal has to be. Later on it --
[7] MR. THOMPSON: But the code is the other --
[8] MR. GREGORY: But that is a specific
[9] requirement for a specific indicator in the car, and
[10] when we wanted the hat, we defined we wanted the
[11] fireman's hat. I mean, it is very --
[12] MR. THOMPSON: It doesn't say fireman's hat.
[13] It says, visual illuminated signal, and the second
[14] one in the code book is on the next page, and I'm
[15] just going by what the companies are producing.
[16] Innovation, Adams, all these companies are producing
[17] this fixture and the elevator companies are buying
[18] it.
[19] Why would they even manufacture it or
[20] install it if they didn't think it was that visual
[21] signal?
[22] MR. GREGORY: Visual signal could be a big
[23] neon sign.
[24] MR. THOMPSON: That's true. I agree.

Page 61

[1] MR. GREGORY: It says visual signal. That's
[2] what it says. When the code wants the fireman's hat,
[3] it specifically refers to figure 227316(h). When it
[4] wants it, it refers to it. If it just says visual
[5] signal, it is a visual signal. We are not trying to
[6] tell you what. Maybe the code will change some day,
[7] I don't know, but right now it just says a visual
[8] signal. It doesn't --
[9] Now, if somebody wants to put in a
[10] fireman's hat signal, that's fine. That meets the
[11] code. If they want to put in an L-E-D, that's fine.
[12] That meets the code. If they want to put a big sign
[13] that they took off the wall that used to say Schlitz
[14] Beer, they changed it to Fire Service in neon, well,
[15] it's weird, but it would meet the code.
[16] MR. THOMPSON: In my review of the code and
[17] what I see is coming out by the manufacturers, they
[18] have little, tiny L-E-D light right next to the
[19] switch. That doesn't meet the intent of the code,
[20] but if you feel it does, I could care less. I'm not
[21] the fireman going in there trying to figure it out.
[22] These guys are the firemen that are
[23] sitting at this table who have to go figure it out or
[24] their line companies have to go figure it out. I'm

Page 62

[1] trying to go -- and the code word is the safety of
[2] the elevator and the people that are going to be
[3] using it, but if you want that little, tiny red
[4] light, then I will tell all the other companies they
[5] can do it too.
[6] They don't have to produce it. I will
[7] tell all the other companies, the fixture companies
[8] they don't have to go to the expense which they --
[9] MR. CAPUANI: Well, wait a minute, John.
[10] MR. THOMPSON: If they feel that is the
[11] correct interpretation.
[12] CHAIRMAN CHRISTENSEN: John, thank you for
[13] your comment, and the board has already decided on
[14] this, and you can use either/or.
[15] So any more public comment?
[16] MR. BUDMATS: Nick Budmats, Jeffrey Elevator.
[17] I have a question. Those rules,
[18] or the new proposed rules or amended rules, is this
[19] the appropriate form?
[20] MR. FENNEL: I would prefer that you would
[21] submit your comments in writing to the proposed rule.
[22] MR. BUDMATS: It is actually a question for
[23] the board about the interpretation of the rule, not
[24] necessarily a disagreement with the rule.

Page 63

[1] MR. FENNEL: I'm not saying disagreement, but
[2] a question, if you would submit it in writing please.
[3] CHAIRMAN CHRISTENSEN: As others have done.
[4] MR. FENNEL: Thank you.
[5] I need to have a record.
[6] CHAIRMAN CHRISTENSEN: Is there any other
[7] public comment?
[8] (No response)
[9] We will adjourn the meeting. Motion to
[10] adjourn?
[11] MR. GILLES: I make a motion to adjourn.
[12] MR. JIRIK: Second.
[13] CHAIRMAN CHRISTENSEN: All those in favor, say
[14] aye.
[15] (Chorus of ayes)
[16] (WHEREUPON, the meeting
[17] was
[18] adjourned.)
[19] Now we are going to go to -- open it up
[20] to the variances and appeals. There are no appeals
[21] so we will be opening it up to the variances.
[22] MR. JANDORA: Rick Jandora with Otis Elevator.
[23] I am here to request a blanket variance for our
[24] alternative suspension means, coated steel belt, for

Page 64

[1] our Gen2 elevators. I have brought with me today
[2] David McColl who is the manager for Codes and
[3] Standards for Otis Elevator Company. He will explain
[4] the coated steel belt and its application.
[5] (Documents tendered to the
[6] Board)
[7] MR. McCOLL: Are we ready?
[8] MR. FENNEL: Can we take five minutes?
[9] CHAIRMAN CHRISTENSEN: Five-minute break.
[10] (WHEREUPON, a short recess
[11] was had.)
[12] CHAIRMAN CHRISTENSEN: Okay. We are going to
[13] start the board meeting.
[14] Go ahead.
[15] MR. McCOLL: Thank you, Mr. Chairman and thank
[16] you board members for giving me the opportunity to
[17] speak to you today.
[18] My name is David McColl. I'm with Otis'
[19] Worldwide Engineering Group which is based in
[20] Farmington, Connecticut, and I'm manager of Codes and
[21] Standards for North America for Otis.
[22] What I would like to speak to you about
[23] today, as Rick introduced, I'm here to talk about our
[24] Gen2 elevator which is a machine room lift elevator

Page 65

[1] which uses some innovative, new suspension means. A
[2] device called a coated steel belt, and I understand
[3] that you have heard of this before so I hope I don't
[4] bore you with some repetitive information, but I just
[5] think I should go over a little bit of the background
[6] on the Gen2 and then we will talk about the belts
[7] specifically and how we monitor the belts and make
[8] sure that they are still viable.
[9] So I have given you two hand-outs. The
[10] first hand-out looks like this(indicating), and it is
[11] a summary of presentation that I usually do, you
[12] know, up on a screen with a projector. So I
[13] apologize that some of the pictures are kind of small
[14] and dark, and for those ones that I think that are
[15] really critical I have brought along some larger
[16] color versions of them, and I will pass those out
[17] when I get to that point so you have a better idea of
[18] what I'm talking about.
[19] This format didn't lend itself to doing
[20] a power point presentation so we will try to go
[21] through the paper, and you will see on the first page
[22] here at the bottom I have listed an agenda there for
[23] you.
[24] As I said, I will just do an overview.

Page 66

[1] We will talk about the belts, device called pulse,
[2] which monitors the belts, and I will also let you
[3] know what's happening with the code pertaining to
[4] suspension means.
[5] Moving on to the next page, the Gen2
[6] elevator has been a very successful product
[7] introduction for Otis, and I don't want to do a sales
[8] pitch here today. I just want to talk in technical
[9] terms, but there has been over 100,000 units sold
[10] world-wide. There have been over 4600 units in North
[11] America. We have had the first elevators running now
[12] about seven years. The product really has been
[13] developed for about 10 years now, and we have been
[14] doing a lot of monitoring of their performance and
[15] reliability and it has proven to be a very safe and
[16] reliable system.
[17] At the bottom of Page 2 there is a
[18] cut-away diagram of an elevator hoistway, and some of
[19] you may be familiar with this already, but the Gen2
[20] elevator has the machine room at the top of the
[21] hoistway, within the hoistway. There is no separate
[22] machine room. It is mounted in a steel support
[23] structure at the top of the hoistway along with the
[24] governor, and the controller can be remotely located.

Page 67

[1] Usually it is located adjacent to the hoistway in a
[2] small control room or even what some people call a
[3] closet. And the belts, it's hard -- perhaps hard to
[4] see in this cut-away diagram, but the belts are
[5] suspended down from the machine to the car and the
[6] counterweight.
[7] Going on to Page 3, to talk about the
[8] coated steel belts specifically, what are they?
[9] Well, they are really just a rope that has been
[10] unraveled and flattened out, and I have some samples
[11] here. I will just pass these along. The belt is a
[12] rope that has cords in it. A typical wire rope, as
[13] you know, is in a round shape. It has cords wrapped
[14] around a core and in the case of the coated steel
[15] belts, those cords have been unwound from the core,
[16] laid in a flat configuration and then encapsulated in
[17] polyurethane, and this way we maintain the strength
[18] of a steel wire rope. It is still a steel wire rope,
[19] and the polyurethane helps us increase the traction
[20] available.
[21] The steel is zinc plated to minimize
[22] corrosion. The polyurethane is optimized for
[23] durability and traction, and the steel wires are high
[24] tensile, stronger than conventional ropes. Each belt

Page 68

[1] contains 12 cords and each cord contains seven
[2] strands and each strand contains seven wires. So it
[3] is a total of 588 high-tensile grade steel wires in
[4] each belt.
[5] There are currently two sizes of the
[6] belt. The one I passed out is what we call the 64
[7] killanuten(phonetic) belt. It is 60 millimeters
[8] wide, and there is a smaller version for the lighter
[9] duties, which is half the size of that belt, and
[10] literally, to make the smaller belt, they just
[11] literally cut that belt in half. So it is really the
[12] same belt.
[13] What are the benefits of going to a
[14] belt? Well, it gives you more flexibility. You
[15] can -- It is hard to tell on a short piece like that,
[16] but if you had a longer piece, you would see it is
[17] more flexible than a conventional steel wire rope.
[18] There is less noise and vibration. It doesn't
[19] require any lubrication, and that's very
[20] environmentally friendly. We are getting rid of all
[21] the lubrication requirements for suspension means.
[22] So quite an improvement there.
[23] It lasts longer than conventional ropes,
[24] and it is light weight, which means you have less

Page 69

[1] sheave shaft load on the machine and consequently you
[2] can reduce the machine size, another environmental
[3] saving because you can use less energy.
[4] Moving on to Page 4, as I said, a belt
[5] is much more flexible than a round wire rope, and
[6] that is really a fundamental advantage. So as you
[7] get that increased flexibility you can bend the belt
[8] more than a conventional steel wire rope, and that
[9] means you can use a smaller diameter sheave or pulley
[10] on the machine, and there is a code requirement which
[11] requires a certain relationship between the diameter
[12] of the sheave and the diameter of the cords in the
[13] belt. We maintain that diameter relationship, but
[14] because the cord -- now you are looking at an
[15] individual cord rather than a complete rope. We can
[16] shrink down the whole machine sheave. This allows us
[17] to shrink the whole machine itself, and that gives us
[18] the possibility now of mounting it in the hoistway
[19] rather than having to have a separate machine room.
[20] With a smaller machine you get the
[21] energy savings that I mentioned. It can be up to 40
[22] percent less energy used, and with the smaller size,
[23] of course it is quieter and you get longer life out
[24] of it.

Page 70

[1] Now, the belts have been tested very
[2] vigorously. Otis is quite conservative, and with
[3] this new technology we wanted to make sure that we
[4] were absolutely safe with this product before we
[5] introduced it to the marketplace.
[6] So we have done extensive testing both
[7] in our quality assurance center in Connecticut and at
[8] various other engineering centers worldwide. We have
[9] tested it at various temperatures, generally over the
[10] range of minus four degrees Fahrenheit to 140 degrees
[11] Fahrenheit. We have tested it for durability,
[12] traction, the affects of damage and stretch. We have
[13] gone through high cycle fatigue processes and
[14] subjected it to vibration as well.
[15] The conditions that we have tested for
[16] go well beyond the normal usage and we have also
[17] tested it to many different foreign objects,
[18] different lubricants, grease, dirt, ultraviolet light
[19] and graphite.
[20] Going on to Page 5, this included
[21] accelerated testing going on eight plus years now,
[22] probably really nine years. We have used smaller
[23] diameter rope bends or sheaves to try and accelerate
[24] the stresses and many reverse bends. Fire testing,

Page 71

[1] tracking tests. There is a whole list in there. I
[2] won't read them all, but very extensive, and at the
[3] bottom here at Page 5 there is a diagram of the
[4] machine that we use and we have these machines lined
[5] up in our quality assurance center in Connecticut
[6] testing these belts 24/7, non stop. What we found is
[7] that after a 20-year life the residual strength of a
[8] belt is usually about 76 percent of its original
[9] breaking strength, and if we test it to failure, we
[10] find that the belt should last about five million
[11] cycles or typically around 33 years.
[12] Moving on to Page 6, we have done
[13] extensive high temperature tests as I mentioned. We
[14] burned the belts. We have melted the belts. We have
[15] tried everything to try and damage them and subject
[16] them to what will happen if the cords themselves are
[17] now bare because the polyurethane has melted off. So
[18] we put them up to 570 degrees Fahrenheit. What will
[19] happen at that point is the polyurethane will melt
[20] away from the cord. But we find that we have
[21] maintained traction. The cord, the belts will stop
[22] and hold the elevator even without the polyurethane.
[23] So there is no danger to the public if they -- I
[24] don't think anybody in the public will be riding an

Page 72

[1] elevator that is at 570 degrees, but if there was
[2] somehow somebody in there and there was a high
[3] temperature at the top of the hoistway and they got
[4] on an elevator at the bottom, the elevator is not
[5] going to move and the belts will not fail.
[6] So we do maintain a stable traction
[7] behavior, and we do provide enough traction to
[8] decelerate and stop a fully-loaded car.
[9] Now, what criteria have we come up with
[10] for inspecting the belts? This was a new area that
[11] had to be developed because the conventional methods
[12] of inspecting ropes don't apply to belts. You can't
[13] see the cords now with their encapsulation, and the
[14] traditional method of inspecting ropes has always
[15] been a visual inspection.
[16] We still do visual inspections. We
[17] check for damage every year, or that's what we are
[18] recommending, and we have come up with some methods
[19] to check for internal integrity, and you can use a
[20] couple of different methods, either a magnetic flux
[21] leak measurement, which is an established technology
[22] that has been around for years. It is used in the
[23] ski lift industry, and we did develop a system to do
[24] magnetic flux leakage testing initially, and what I

Page 73

[1] want to focus more on though today is what we call
[2] our pulse system, which is a continuous monitoring
[3] system, and that has been developed and introduced
[4] more recently.
[5] Before I go on to talk about Pulse, I
[6] will just send around another hand-out here. If you
[7] can take a look and just pass it along. I just want
[8] to show you quickly what can happen to the belts.
[9] These pictures are from testing that we have done
[10] ourselves. They are not from job sites. Nothing
[11] like this has happened on job sites, but just want to
[12] show you how we can inspect the belts visually and
[13] which it's done, as I said, on a recommended annual
[14] basis.
[15] The first picture is just a typical
[16] belt. It has a good appearance, smooth, uniform
[17] surface, no rusting or erosion, no nicks or wear
[18] spots on the polyurethane and the samples I handed
[19] out should correspond to that. That's what you
[20] should see with a good belt.
[21] Next picture is an example of what
[22] happens when you get some polishing of the
[23] polyurethane. You get shiny or polished areas, and
[24] this is an indication that the belt is getting a

Page 74

[1] little more wear than it should and it should be
[2] monitored, but it is not -- it is not an issue in
[3] terms of need for replacement or safety or traction
[4] issues.
[5] On Page 8, or the third picture I handed
[6] out there is an example of exposed wires. This is
[7] where the actual, the cords are actually sticking out
[8] from the polyurethane, and when that happens, we
[9] would shut down the car immediately and replace the
[10] belts.
[11] Also, in the next picture you see
[12] exposed wires, and that's the same condition. The
[13] belt should be replaced immediately. If any of the
[14] strands or actual wires are sticking through the
[15] polyurethane, and this could happen if there was
[16] damage to the polyurethane, then we suggest immediate
[17] replacement.
[18] On Page 9 you see another picture, and
[19] this shows cord imprints. This is also severe wear,
[20] and again, the belt should get replaced, and last
[21] picture is an example of rouging or rusting, and
[22] that's where you get actual rust particles from the
[23] strands coming out through the grooves in the
[24] polyurethane and sticking in the grooves, and again,

Page 75

[1] that's a call for a replacement of the belts.
[2] Those are the kinds of things then that
[3] you would see on your visual inspections, and in
[4] fact, some of these things can be monitored
[5] automatically, but generally they are more detectable
[6] in a visual examination.
[7] At this point then I would like to talk
[8] about the system we are using for continuous
[9] monitoring, and it is a system we call Pulse. I will
[10] pass it around. This is the device that actually
[11] does it. This monitors all of the belts at once. It
[12] is mounted at the top of the hoistway, and I have
[13] some pictures there that show you that. The belts
[14] come up under here(indicating), and I don't know if
[15] somebody has a screwdriver or something. We can take
[16] this apart.
[17] CHAIRMAN CHRISTENSEN: We have the picture of
[18] it on the back page.
[19] MR. McCOLL: And the belts come into a
[20] shorting bar. There is some pins in here and the
[21] belt goes in there. It shorts out a pair at a time
[22] and this is mounted in here and it comes into the
[23] monitoring unit(indicating.) So let me pass that
[24] around.

Page 76

[1] MR. JANDORA: Do you guys want me to open it
[2] up?
[3] MR. McCOLL: If you could, please. If you
[4] could do it quickly.
[5] So we introduced the coated steel belts
[6] in 1999 in Europe and in 2003 here in the U.S., and
[7] as I mentioned earlier with the steel cords embedded
[8] in polyurethane we knew we needed a new method of
[9] inspecting the belts because you couldn't see the
[10] ropes anymore. So we introduced initially a magnetic
[11] flux leakage tool which measures one belt at a time.
[12] Yes, sir. Please feel free to ask any
[13] questions that you might have.
[14] MR. CAPUANI: These are mounted on every
[15] installation?
[16] MR. McCOLL: Yes.
[17] The magnetic flux leakage or MFL system
[18] is based on an existing technology. As I said, it
[19] has been used in the ski lift industry for many
[20] years. It is a non-proprietary technology and can be
[21] used by anyone to monitor the belts. It is
[22] cumbersome in that you need to shut down the elevator
[23] and monitor the belts, you know, one at a time, and,
[24] you know, just like the traditional inspection method

Page 77

[1] of looking at ropes, but we wanted to try and make
[2] the Gen2 more of a safe elevator by eliminating the
[3] need as much as possible to even go into the hoistway
[4] or on top of the car. So this method allows
[5] monitoring of the cord integrity without anybody
[6] having to go into the hoistway at all.
[7] MR. CAPUANI: Can I ask a question?
[8] MR. McCOLL: Yes. Go ahead.
[9] MR. CAPUANI: Will the CSB shut down if it
[10] recognizes there is a fault in the system?
[11] MR. McCOLL: Yes. I will elaborate on that in
[12] a minute.
[13] MR. CAPUANI: Okay.
[14] MR. McCOLL: So the system is a continuous
[15] monitoring method. You know, that gives you peace of
[16] mind that you know your system is under continuous
[17] monitoring. You get advanced notice. Actually what
[18] it does is that it monitors the resistance of the
[19] cord in the belts and it does them a pair at a time,
[20] and it can track the resistance on a continuous basis
[21] from the start of the installation right up through
[22] the entire life of the belt.
[23] And it can generate reports. It will
[24] first generate what is called an alert and then it

Page 78

[1] will move onto an alarm setting if that's not
[2] addressed initially, and it can -- if we have remote
[3] monitoring on the elevator, then it will send a
[4] report through remote monitoring right to our
[5] dispatching center and they will send a mechanic to
[6] look at it. All automatically. No human
[7] intervention required.
[8] There are some other benefits listed
[9] there on the bottom of Page 10. There are no user or
[10] user adjustable or serviceable components in the
[11] system. It can't be tinkered with in the field. If
[12] anybody attempts to open it up and tamper with it at
[13] all, it will shut down the elevator.
[14] There is nothing to be done with it in
[15] the field at all. Once you do what we call a learn
[16] operation when the elevator is installed it knows the
[17] resistance of all of the cords and it doesn't matter
[18] what the temperature is. All of the settings are
[19] normalized to a temperature of 25 degrees Celsius,
[20] and all readings from then on are normalized to that
[21] value and it compares the resistance continuously.
[22] Going on to Page 11, there is a picture
[23] of the system. Actually you have better pictures in
[24] the other hand-out that I gave you, the color

Page 79

[1] brochure on Pulse, and of course you can look at the
[2] actual unit itself for a better idea.
[3] So when you get an alert, it generates a
[4] message to our remote monitoring system, and you see
[5] there are L-E-Ds in the center of the board, and the
[6] lids, you can see those L-E-Ds there and they are
[7] identified one to seven.
[8] So you get certain L-E-Ds lighting up or
[9] flashing, it will tell you what the problems are. If
[10] you get as much as a 17 percent increase in
[11] resistance in the cord pair, you will get an alert,
[12] and that means that you should schedule replacement
[13] of the belts. It doesn't mean that you need to shut
[14] the elevator down or do anything immediately. It is
[15] just an advanced warning, you know, that you should
[16] order some belts and schedule the job to go in and
[17] replace them in the near future.
[18] As the resistance continues to change
[19] due to wear, the system will then move to an alarm
[20] mode, and it will automatically take the elevator to
[21] the nearest floor and let the passengers off and it
[22] will shut down. It won't accept any more calls. The
[23] Door Open button would remain functional if somebody
[24] is standing in the elevator, and it will do this in

Page 80

[1] response to a 22 percent increase in resistance.
[2] As the cords wear and as, you know, you
[3] get small breaks in wires or shrinkage in the
[4] diameter, you will get an increase in the resistance
[5] of the cords, and that's what we are monitoring at
[6] all times.
[7] CHAIRMAN CHRISTENSEN: Let me ask you a
[8] question on the cord. The cable, if something is
[9] wrong with it, do you replace the one or do you
[10] replace them all?
[11] MR. McCOLL: We always replace all belts, even
[12] if there is only a problem with one.
[13] CHAIRMAN CHRISTENSEN: Okay.
[14] MR. JANUS: The publication for all
[15] non-standard steel cable, three-inch steel cable,
[16] A17.6, will not be published. Where is the average
[17] inspector getting the criteria to inspect these hoist
[18] systems if he doesn't have any ability to get to
[19] Otis, to get their tools to test? How does he do the
[20] inspections without the training or without the
[21] manual?
[22] MR. McCOLL: Yeah. The A17.6 will actually be
[23] published.
[24] MR. JANUS: When?

Page 81

[1] MR. McCOLL: It is delayed.
[2] MR. JANUS: It is delayed because --
[3] MR. McCOLL: It is delayed because the aramid
[4] ropes actually have --
[5] MR. JANUS: At this point in time how does the
[6] inspector -- My inspector --
[7] MR. FENNELL: Chet, Chet, he was just
[8] answering your question.
[9] MR. McCOLL: The ropes don't need to be
[10] inspected by an inspector more than just visually on
[11] an annual basis. There is nothing an inspector can
[12] do.
[13] The only other thing he would do is look
[14] at these L-E-Ds that are on the front of this, and if
[15] they are flashing, then he would ask the maintenance
[16] mechanic to explain what the issue is and correct it.
[17] That's all that can be done. Depending on what the
[18] read-out on the L-E-Ds is, if it is in alarm mode, it
[19] needs to be replaced, all the belts need to be
[20] replaced. It is that simple.
[21] What we anticipate is there probably
[22] will not be any need for replacement for a minimum of
[23] 10 years after installation, and what we are finding
[24] is a typical life will be 20 to 30 years.

Page 82

[1] CHAIRMAN CHRISTENSEN: I have another question
[2] for you. I mean, it just came up. I understand
[3] about it, this Pulse system checking for the belts,
[4] but what checks the Pulse system?
[5] MR. McCOLL: It has automatic diagnostic
[6] equipment built into it.
[7] CHAIRMAN CHRISTENSEN: Any way for it to go
[8] bad?
[9] MR. McCOLL: Yes. It can fault. If it has a
[10] fault it will again display a certain combination on
[11] the L-E-Ds, or if it just konks out completely, a
[12] message will be sent to the controller, and if it is
[13] on remote monitoring, it will inform us
[14] automatically. If it is not on remote monitoring, it
[15] will indicate so on the controller itself. So at the
[16] next inspection it will say that the pulse unit is
[17] faulty. All you need to do is replace the pulse
[18] unit. There is no, as I said earlier, there is no
[19] serviceable parts.
[20] And in order to maintain the initial
[21] resistance values from when the job was installed,
[22] they are on an E-prom chip. You just take out the
[23] old chip and put it in the new pulse unit and you
[24] retain the old values. If there is something with

Page 83

[1] the E-prom, that it faults and you have lost your
[2] resistance values, you have to do a new learn run and
[3] now you know what your resistance is again.
[4] MR. SWIENTON: Is there any kind of memory in
[5] that and you can get a history of what's going on?
[6] MR. McCOLL: Yes. The E-prom contains the
[7] initial --
[8] MR. SWIENTON: How far back?
[9] MR. McCOLL: From Day One.
[10] CHAIRMAN CHRISTENSEN: I have a couple more
[11] questions for you as we are going through it.
[12] MR. McCOLL: Go ahead.
[13] CHAIRMAN CHRISTENSEN: Probably the questions
[14] we should have asked when this Isis(Phonetic) thing
[15] came up, but what kind of problems have you been
[16] seeing on these belts throughout the country or
[17] internationally?
[18] MR. McCOLL: Um, if you look at those pictures
[19] I passed around, they are right there. Those are
[20] typical of what you might see. Most typical is
[21] scuffing of the polyurethane. That doesn't affect
[22] traction. It doesn't mean the belts got no strength
[23] anymore. The strength is all in the steel wire
[24] cords, not in the polyurethane.

Page 84

[1] CHAIRMAN CHRISTENSEN: You haven't seen a belt
[2] break or you haven't seen loose traction?
[3] MR. McCOLL: No. We have had cases where that
[4] we have spun the sheave by accident like on, you
[5] know, before the elevator is turned over and we have
[6] spun it to the point where it melted away the
[7] polyurethane, but did not affect the integrity of the
[8] cord. But the most common wear you see is scuffing
[9] of the polyurethane and erosion.
[10] CHAIRMAN CHRISTENSEN: Other states that have
[11] licensing, has Otis Elevator brought that to other
[12] states and have they approved it?
[13] MR. McCOLL: Yes. Most jurisdictions in North
[14] America and around the world have already approved
[15] this.
[16] CHAIRMAN CHRISTENSEN: Okay. But where in the
[17] United States have they approved it where there is
[18] licensing in that state?
[19] MR. McCOLL: Well, I can get you a specific
[20] list if you would like. I don't have that off the
[21] top of my head.
[22] CHAIRMAN CHRISTENSEN: Yes. I would like
[23] that.
[24] MR. McCOLL: Yes. Most jurisdictions have

Page 85

[1] accepted this already.
[2] MR. WELLER: Can we go through the nuts and
[3] bolts first? Has this been submitted in writing with
[4] the check? So that is all done?
[5] MR. JANDORA: It is right here.
[6] MR. FENNEL: So this is the initial
[7] submission.
[8] MR. CAPUANI: He sent an e-mail. I do have
[9] that. I kept that e-mail. He didn't send a copy to
[10] me in the mail.
[11] MR. WELLER: The housekeeping is out of the
[12] way.
[13] There is a lot of us on this committee
[14] that aren't elevator people.
[15] MR. McCOLL: Right.
[16] MR. WELLER: But are becoming one pretty
[17] quickly.
[18] (Laughter)
[19] Here's the -- I have ultimate faith in
[20] Otis and Thyssen and all of the manufacturers out
[21] there. I think you guys are not going to put
[22] something out that can't withstand the marketplace.
[23] What my concern is, A, how come ASME or A17 hasn't
[24] already approved this and how long before you guys

Page 86

[1] expect this, giving the way the process works, to be
[2] approved?
[3] MR. McCOLL: Okay. I'm actually getting to
[4] that in the next few pages.
[5] MR. WELLER: Jump to it. Just tell me.
[6] MR. McCOLL: Jump to it, okay. First of all,
[7] it takes a long time for changes to go through the
[8] codes committee and get published. When we started
[9] working on the machine room lifts, the elevator
[10] requirements and just the ability to have the machine
[11] in the hoistway was -- that was not permitted in the
[12] code. It took eight years for the committee to
[13] change the code to allow a machine in the hoistway.
[14] MR. WELLER: So your initial statement was
[15] this lift has been in operation for seven years.
[16] MR. McCOLL: In Europe. It started in Europe
[17] first.
[18] MR. WELLER: So you didn't submit it to ASME
[19] right when you first developed it?
[20] MR. McCOLL: Yes.
[21] MR. WELLER: Where are you in that process?
[22] MR. McCOLL: Well, the machine room lift
[23] elevator is in the code.
[24] MR. WELLER: It is.

Page 87

[1] MR. McCOLL: The belts are also in a new
[2] standard called A17.6, which was approved by the A17
[3] standards committee last May. It then went through a
[4] public review process at ANSI. That's a commentary
[5] period where anybody, you know, any member of the
[6] public can submit comments.
[7] Before the ANSI comment period was over,
[8] we had an incident in Seattle. Not we, Thyssen had
[9] an incident in Seattle where they had a failure of
[10] their aramid ropes and complete parting of three
[11] ropes, and the elevator and the car and the
[12] counterweight ended up in the pit.
[13] MR. GREGORY: The car sat on the safety.
[14] MR. JIRIK: Not totally true, but go ahead.
[15] MR. McCOLL: Anyway, as a result of that
[16] incident, a number of public comments came in to ANSI
[17] which then were forwarded to the ASME committee in
[18] November.
[19] MR. WELLER: Just recently in November?
[20] MR. McCOLL: Yes.
[21] MR. WELLER: Okay.
[22] MR. McCOLL: The incident in Seattle occurred
[23] in October. I forget the exact date. The ANSI
[24] period was ending sometime in November. There were I

Page 88

[1] think 18 comments that were submitted, which is very
[2] unusual, unusually high. That caused the A17
[3] standards committee to immediately hold the A17.6
[4] standard. It couldn't go forward from that point.
[5] MR. WELLER: So let me ask you this: When are
[6] they going to meet again on this?
[7] MR. McCOLL: Next week.
[8] MR. WELLER: Why don't we just wait and see
[9] what they say next week? It can be a moot point.
[10] MR. McCOLL: I can tell you exactly what is
[11] going to happen already.
[12] MR. WELLER: Okay.
[13] MR. McCOLL: There is a sub-committee within
[14] A17, the mechanical design committee, which was
[15] responsible for the ASME standard, the A17.6
[16] standard, and has been for many years, all of their
[17] rope requirements. They put forward a proposal to
[18] take A17.6, pull out the aramid rope requirement and
[19] then let it go forward with the balance of the
[20] requirements. So...
[21] MR. WELLER: That would include your --
[22] MR. McCOLL: Including the coated steel belts
[23] and also including new, smaller diameter ropes that
[24] some other manufacturers are using which currently

Page 89

[1] aren't permitted.
[2] So that proposal has been approved at
[3] the mechanical design committee. It is going forward
[4] next week to the standards committee, the main
[5] committee, which I am a member of and Dick is a
[6] member of, and we will be asked to approve having
[7] that go forward like that, and in fact, there is what
[8] we call a letter balance out right now. We can
[9] approve it by mail.
[10] If that goes forward, if it is approved,
[11] then we will go back through the public review
[12] process, because now we will have a revised A17.6
[13] coming out without a Part 2 for aramid, and it will
[14] go through the ANSI process and through the
[15] publishing process, and I think you are looking at
[16] about a year from now at the earliest you would see
[17] that new standard published.
[18] MR. WELLER: So one year?
[19] MR. McCOLL: At least a year.
[20] MR. GREGORY: It is longer than that because
[21] when A17.6 publishes, concurrently there will have to
[22] be a new A17.1, because all the references will come
[23] out wrong. So it cannot possibly be before the A17.1
[24] which -- you are on that committee, which would be

Page 90

[1] done sometime in spring of 2009.
[2] MR. McCOLL: Well, we have until probably the
[3] end of May, and the changes in A17.1 have also been
[4] done by the mechanical design committee and are also
[5] being balloted right now along with A17.6. We have
[6] until the end of May to approve the changes in A17.1
[7] in order to meet a publishing date of a year from
[8] now. If we don't meet the end of May, then it will
[9] be another year. It will be early 2010.
[10] MR. WELLER: I just want to make one comment.
[11] First off, Dick, what is your opinion of this? Do
[12] you feel this is a credible hoisting system or
[13] lifting system that is to a level that we should be
[14] looking at?
[15] MR. GREGORY: As far as strength and having --
[16] it is still relying on steel wire rope, okay. We
[17] today rely on steel wire rope. The only difference
[18] between today and this is that the steel wire rope is
[19] coded with polyurethane, but it is still steel wire
[20] rope. My only problem with the entire system from
[21] the very beginning, they have, you know, and I will
[22] agree with Frank here, I wish I had invented this
[23] thing right here because I would be a rich man. We
[24] would be rich together.

Page 91

[1] CHAIRMAN CHRISTENSEN: Yes, we would have
[2] been.
[3] MR. GREGORY: Is the inspection. People are
[4] doing elevator inspections once a year, okay. So you
[5] are -- except in Chicago where we are three years
[6] behind. So you get an inspector out there once a
[7] year to look at a standard steel wire rope and
[8] inspect it. This gadget here is the, you know,
[9] quote, "cat's meow" because this is looking at every
[10] minute, not 100 percent -- it has to cycle because it
[11] reads two cords at a time. There has to be a stepped
[12] process, okay. And so it has the amazing advantage
[13] of looking at this every minute, which I don't --
[14] there is no way we could do that with steel wire rope
[15] unless we were -- with conventional steel wire rope,
[16] unless we were to take all the cords, coat them all
[17] with polyurethane or some insulating material and
[18] then make them into a steel wire rope. Then we can
[19] do that, but so I mean this is really an
[20] interesting -- this should be a huge factor of safety
[21] improvement.
[22] Now, that said, I will add another
[23] thing. People say, and they say this in the
[24] committee, and you know that about 40 percent of my

Page 92

[1] work is accidents, okay. So the manufacturers were
[2] meeting and somebody asked me, well, you know, what's
[3] my experience in steel wire ropes breaking. So I
[4] e-mailed them photographs, which, since it is in
[5] litigation right now I'm not going to discuss it, but
[6] all five half-inch diameter steel wire ropes on one
[7] elevator broke at the same time, okay. This
[8] happened. And it happens to be a case I'm working on
[9] so I'm not going to discuss the case, but I sent them
[10] pictures of that. I said I had a case a couple years
[11] ago when on a special purpose personal elevator that
[12] only has two wire ropes, both steel wire ropes broke
[13] at the same time, okay, and the elevator fell and the
[14] guy was killed.
[15] There was a case here in the City of
[16] Chicago about 12 or 13 years ago what used to be
[17] called Grant Hospital, now called Lincoln Park
[18] Hospital where I believe it was six steel wire ropes
[19] on one gearless machine broke at the same time, okay.
[20] Steel wire ropes, conventional ropes. The car fell,
[21] the safety grabbed the rails. Of course the
[22] counterweight went to China, but to me it is a big
[23] advantage that you got some method of getting more
[24] continuous monitoring because the inspections just,

Page 93

[1] you know...

[2] MR. WELLER: So you answered my question.

[3] First off, you reaffirmed that I had faith in the

[4] industry to come up with an elevator that is safe. I

[5] can't speak for the rest of the board, but my concern

[6] is not whether this elevator is better than whatever,

[7] it is the blanket variance. We have done it once.

[8] We made an error. We shouldn't -- in my opinion we

[9] shouldn't have granted a blanket variance because

[10] what we are saying is even if ASME doesn't agree with

[11] this, you can still use this elevator, and I don't

[12] want to put myself in that situation.

[13] So unless you can prove to me this is an

[14] extreme hardship between now and a year from now when

[15] hopefully this thing gets approved, keep bringing

[16] these up. I think unless something changes between

[17] now and then you will always have my support to vote

[18] for the variances, but I can't support you in a

[19] blanket variance. So I apologize, but that's where

[20] I'm at as a board member, and, you know, I can --

[21] MR. McCOLL: Keep in mind that this already

[22] has been approved by the A17 standards committee. It

[23] was only --

[24] MR. WELLER: Then you wouldn't need a

Page 94

[1] variance.

[2] MR. McCOLL: This is only due to an incident

[3] involving another technology that is holding it up.

[4] MR. WELLER: I got it, but it's just that --

[5] MR. JANDORA: What will happen is we will have

[6] to come here every month and get approval for the

[7] same reason.

[8] MR. WELLER: And you should have reasonable

[9] assurance that each time you come in front of us,

[10] unless something happens, that you should be granted

[11] that. I will support you in that, but to grant it

[12] repeatedly -- go ahead.

[13] MR. GANIERE: I think if everybody recalls, I

[14] think I'm the only one that voted against that

[15] blanket variance before. The purpose of a variance

[16] is a one-time request. It is not a blanket, and, you

[17] know, I agree with everything that Kelly said, that

[18] this all looks like -- it all looks safer and it

[19] should be approved, but when you grant a blanket

[20] variance, you are in defacto changing the rules. We

[21] can't do that. We have to go through the proper

[22] procedure to change the rules.

[23] What I'm saying is, variances are a

[24] one-time basis. They will be granted on the merits

Page 95

[1] of that one-time submission, and then maybe we need

[2] to look at changing the rules to conform to this, but

[3] I can't vote for a blanket variance.

[4] MR. McCOLL: What is the difference between

[5] approving on a blanket basis as we go forward with

[6] all our Gen2 units and approving, you know, 50 units

[7] per month?

[8] MR. WELLER: I will tell you exactly what it

[9] is. We voted on something -- because we are not

[10] elevator people we voted on something that we thought

[11] was a safe system, and in between the time of us

[12] voting on it and now that system proved to be not

[13] safe and it is getting recalled. Now we got a

[14] blanket variance out there telling these people they

[15] can put this elevator in, and how do we pull that

[16] back?

[17] MR. GREGORY: Excuse me. They do not have a

[18] blanket variance to install those elevators.

[19] MR. WELLER: I hope not. I thought we did.

[20] MR. FENNELL: We approved the system.

[21] MR. GREGORY: Only for that that existed.

[22] MR. WELLER: See, there is some confusion on

[23] that motion.

[24] MR. GREGORY: Well, there should be no

Page 96

[1] confusion. What Thyssenkrupp requested was variance

[2] for that because it had already been granted

[3] variances and it was installed, and the specific

[4] question was asked of John Koshak of Thyssenkrupp who

[5] was standing over on that side at the time, what

[6] about future units. And he said any future units

[7] will be requested on a case-by-case basis, and that's

[8] what --

[9] MR. WELLER: That's not clear.

[10] MR. GREGORY: That is absolutely clear. They

[11] have not come back here, and I don't think they will

[12] ever come back, but that's besides the point. They

[13] do not have a blanket variance.

[14] MR. WELLER: So we didn't do a blanket

[15] variance?

[16] MR GREGORY: We did not. Absolutely.

[17] MR. GILLES: We did it for Kone.

[18] MR. GREGORY: We did it for Kone.

[19] MR. WELLER: Somebody we did it for.

[20] MR. GREGORY: We did it for Kone.

[21] MR. GILLES: I voted against it because it was

[22] a blanket variance.

[23] MR. WELLER: What were we thinking? You

[24] should have hit me in the head.

Page 97

[1] MR. GILLES: You were too far away.
[2] (Laughter)
[3] MR. FENNELL: The long and short of it is, the
[4] way the rule currently sits right now there is no
[5] provision for a blanket variance. I take the rap for
[6] that. I missed it. There is no provision for
[7] blanket variance. We have to do site by site by
[8] site.
[9] CHAIRMAN CHRISTENSEN: So there won't be a
[10] vote on a blanket variance. We can allow them to do
[11] what they are doing right now?
[12] MR. FENNELL: If we know what they are asking
[13] for, yes, we can allow.
[14] MR. GANIERE: Which project are they asking
[15] for?
[16] MR. McCOLL: Well, I believe we have that
[17] list --
[18] MR. JANDORA: Yes.
[19] MR. McCOLL: -- of the current projects, if
[20] that's the way the board is going to move --
[21] MR. FENNELL: That's the way it is going to
[22] have to move right now until we can make the changes
[23] in the administrative rules.
[24] MR. GANIERE: Each project needs its own

Page 98

[1] variance. If you give us a list, that's fine and we
[2] can do that, but each one is going to require its own
[3] variance, I believe its own vote on the variance, and
[4] its own fee.
[5] You can't give us a list of 50 and say
[6] that's covered under this variance. That's my view.
[7] MR. GREGORY: The meetings are going to get
[8] long.
[9] MR. JANDORA: I asked that question a few
[10] months back and what was explained to me at the time
[11] was, bring in a list. A list at that time would
[12] count as one variance. Whatever would be on my form
[13] would be acceptable, whether it is five projects, ten
[14] projects.
[15] MR. GANIERE: Who said that?
[16] MR. CAPUANI: I believe the board agreed to
[17] that at the time.
[18] MR. FENNELL: We'll go back and look at the
[19] minutes.
[20] MR. WELLER: If we told them that, then this
[21] one flies, but as you can see, we are kind of trying
[22] to -- we are a work in progress, but if we told you
[23] something, then we should be held accountable to make
[24] that right, but in the future don't expect us to do

Page 99

[1] that.
[2] MR. JANDORA: That's fine.
[3] MR. WELLER: Okay? And we will just have to
[4] go back to the minutes, and if the minutes say that
[5] we did that, then we will do it.
[6] MR. JANDORA: There is a couple of issues this
[7] creates for us. Um, first of all, this is our only
[8] product that we sell for most cases six-story
[9] buildings up to thirty-story buildings. This is all
[10] we have, and we sell just in the Chicagoland area
[11] probably 80 of these a year.
[12] So this is the only product offering
[13] that we have. I mean, we are the world's largest
[14] manufacturer. You have given our competitor, one of
[15] our main competitors a significant advantage
[16] commercially in that they can go to our customers,
[17] our general contractors that we deal with and say,
[18] Look, you got a problem with Otis; they need to get a
[19] variance in order for, you know, this to be
[20] acceptable, otherwise they can't install it on this
[21] building.
[22] CHAIRMAN CHRISTENSEN: I don't know if you
[23] heard, but John says we don't have a right as a board
[24] to give a blanket variance. So we are going to have

Page 100

[1] to pull that back and they won't have that advantage.
[2] MR. WELLER: That's a fair request of us.
[3] MR. JANDORA: And that would be acceptable.
[4] MR. FENNELL: I think that's appropriate.
[5] MR. JANDORA: Right now we are at a
[6] disadvantage of what has been done.
[7] MR. GANIERE: Put it on the agenda.
[8] MR. WELLER: We don't want to be more
[9] favorable to one company over another. That's a fair
[10] request. I want you to know if we are supporting
[11] this and there is some evidence -- I mean, I don't
[12] want to disrupt your business. We gave you a
[13] variance on this type of elevator. Every one of them
[14] you bring to us unless something changes in the
[15] industry, I think you have a reasonable expectation
[16] that we are going to continue to grant it to you.
[17] MR. JANDORA: Okay.
[18] MR. WELLER: But it needs to be one by one.
[19] MR. McCOLL: That's why I came today. It was
[20] my understanding that a variance, a blanket variance
[21] had been granted for technology covered by A17.6, and
[22] our technology is also under A17.6.
[23] MR. FENNELL: That's what you understood
[24] except we are erred.

Page 101

[1] MR. McCOLL: Okay. So that changes the whole
[2] nature of the presentation and --
[3] MR. WELLER: The presentation is great. It's
[4] a great elevator. I believe in you guys.
[5] MR. McCOLL: We think it is a tremendous
[6] improvement in safety. As Dick is saying, we are
[7] monitoring every single minute a pair of the cords,
[8] and we know what is happening with those cords from
[9] the life of the -- for the life of the elevator.
[10] CHAIRMAN CHRISTENSEN: I suppose we will have
[11] to look back in the minutes to see if we gave --
[12] where all they have to do is get one variance for all
[13] the equipment they got, but after this we are not
[14] going to do that. Now, for each job you have --
[15] MR. GREGORY: Can't we do it in groups? The
[16] meetings are going to last all day or two days if we
[17] go --
[18] MR. CAPUANI: I think he is just going to
[19] present 10 variances.
[20] MR. GILLES: It can be submitted, but they
[21] will just be individual variances.
[22] MR. MR. GANIERE: Yeah. I don't think it will
[23] be that long.
[24] MR. FENNELL: If it is all the same system, we

Page 102

[1] don't have to hear a professional presentation on the
[2] same thing over and over and over again.
[3] MR. WELLER: We want to collect the money. We
[4] want \$200 for each one. Let's get right to the
[5] chase.
[6] CHAIRMAN CHRISTENSEN: So we do have an
[7] understanding right now. So what we need right now
[8] under the variance is a motion to accept that list
[9] that he has got right now, if it is okay with the
[10] minutes that it shows we can.
[11] MR. FENNELL: We can accept the list and if
[12] there is an issue with this you can send them a
[13] letter.
[14] CHAIRMAN CHRISTENSEN: So is there a motion?
[15] MR. GREGORY: I move we accept this list,
[16] grant a variance for these specific jobs.
[17] CHAIRMAN CHRISTENSEN: Okay. Is there a
[18] second?
[19] MR. WELLER: Second.
[20] CHAIRMAN CHRISTENSEN: Is there any question?
[21] (No response)
[22] All those in favor, say aye.
[23] (Chorus of ayes)
[24] All those against?

Page 103

[1] (No response)
[2] Ayes have it.
[3] MR. CAPUANI: I have a question. Not on that.
[4] I need now to put a letter out to Kone?
[5] MR. FENNELL: Well, no, because we have to
[6] consider that on the agenda at the next board
[7] meeting.
[8] MR. GREGORY: So you should send a letter to
[9] Kone that it will be on the agenda.
[10] MR. FENNELL: Absolutely. They need to be
[11] informed that that system is going to be on the
[12] agenda.
[13] CHAIRMAN CHRISTENSEN: Is there any other
[14] variances?
[15] MR. JANDORA: No. After you are done I have
[16] one question.
[17] MR. McCOLL: I guess it is a moot point going
[18] through the rest of this. So I want to thank you. I
[19] thank you for your time and consideration.
[20] MR. GREGORY: Well, do you want to just go
[21] through this? You don't want to go through this
[22] every time. So let's finish and go through this.
[23] MR. WELLER: I think we have already been
[24] through it. You know, you guys don't have to tell us

Page 104

[1] how to build the elevator. We just need to have
[2] confidence in the firm and I have a tremendous amount
[3] of confidence in the industry. You are the one who
[4] is going to take the heat if this elevator goes belly
[5] up and someone gets hurt. It is you who is going to
[6] pay. All we have to do is believe in what you are
[7] telling us.
[8] MR. McCOLL: And that's why we have done the
[9] extensive testing. We have to have confidence
[10] ourselves.
[11] MR. WELLER: If something changes --
[12] MR. McCOLL: We are not going to try to
[13] jeopardize a 150-year reputation.
[14] CHAIRMAN CHRISTENSEN: Rick, you wanted to say
[15] something.
[16] MR. JANDORA: I had one question. We are
[17] applying for variances. Obviously we have some
[18] confirmation of what we provided you. So when we
[19] apply for our permits and when we send it on to
[20] Thompson or to Frank, how do I get some information
[21] back from you?
[22] MR. FENNELL: We have to respond to you in
[23] writing with regard to the variances. Within 30 days
[24] we have to respond to you that a variance was granted

Page 105

[1] or denied.
[2] MR. JANDORA: Okay.
[3] MR. FENNELL: So a letter will be coming from
[4] our office.
[5] MR. JANDORA: Okay. So we apply for
[6] variances. Project variances or each elevator
[7] variance?
[8] MR. CAPUANI: Each elevator.
[9] MR. JANDORA: Each elevator will need a
[10] variance.
[11] MR. GREGORY: Buildings got two elevators.
[12] MR. JIRIK: I think it would be project.
[13] MR. GREGORY: Project.
[14] MR. FENNELL: Each conveyance.
[15] MR. CAPUANI: The rules say each conveyance.
[16] MR. JANDORA: So each conveyance then will be
[17] a \$200 variance application in order to be approved.
[18] Once we submit that to you, on a monthly basis I will
[19] get confirmation from you?
[20] MR. CAPUANI: Yes. Once the board votes, yes.
[21] MR. JANDORA: Once the variance is granted, I
[22] can turn around and use that with my permit
[23] application when I send it to Thompson?
[24] MR. CAPUANI: Right. Right.

Page 106

[1] MR. JANUS: One of the previous board members,
[2] when Mr. Bob Shepard was here from your Connecticut
[3] office, he assured me, because I have a lot of
[4] inspectors who are third-party inspectors who have
[5] never seen Gen2, a training for inspectors will be
[6] available. How would they go about finding that
[7] information? How would they go about getting that
[8] training?
[9] MR. McCOLL: There are a couple of ways. We
[10] are cooperating with NAESA to help NAESA provide
[11] training for all members of NAESA.
[12] MR. GREGORY: Or even non-members.
[13] MR. McCOLL: Non-members can take advantage of
[14] it as well.
[15] Secondly, we have an inspectors guide
[16] for how to do inspections on a Gen2.
[17] MR. JANUS: I need the inspector guide.
[18] MR. McCOLL: We will give that to any
[19] inspector that needs it.
[20] MR. JANUS: Is there any type of a format
[21] outside of the Gen2 inspectors guideline that really
[22] hits home on cable inspection? Since the suspension
[23] system guidelines are not published, it would help
[24] the inspector exclusively on a suspension system.

Page 107

[1] MR. CAPUANI: I think he covered that because
[2] they are self-inspected.
[3] MR. JANUS: Only to a certain extent, right,
[4] Dick?
[5] MR. McCOLL: It is a visual inspection only.
[6] I mean, if you see any damage to the belt --
[7] MR. JANUS: So will they have access,
[8] something to use as a guideline to say this is bad?
[9] MR. McCOLL: If they have any question at all
[10] they should ask us and we will verify the integrity
[11] of the belt.
[12] MR. JANUS: Okay.
[13] CHAIRMAN CHRISTENSEN: Thank you.
[14] MR. McCOLL: Thanks again.
[15] MR. GREGORY: Have we voted on this?
[16] MR. FENNELL: Yes, we did. Yes, we did.
[17] MR. JANDORA: I'm tendering a list of projects
[18] with a check.
[19] That's it. Thank you for everybody's
[20] time.
[21] CHAIRMAN CHRISTENSEN: Are there any other
[22] variances?
[23] (No response)
[24] CHAIRMAN CHRISTENSEN: Well, we are going to

Page 108

[1] close the meeting now.
[2] MR. GREGORY: So moved.
[3] CHAIRMAN CHRISTENSEN: There is a motion to
[4] adjourn to a closed meeting.
[5] MR. CAPUANI: Can I ask one question please?
[6] We just voted on this variance, right. If I find it
[7] in the minutes or we find it in the minutes --
[8] MR. FENNELL: Yes.
[9] MR. CAPUANI: Okay. He is handing me a
[10] variance form with numerous conveyances, but a check
[11] for one variance.
[12] MR. FENNELL: If it is in the minutes, this is
[13] fine.
[14] MR. CAPUANI: Okay.
[15] MR. FENNELL: If it is not in the minutes as
[16] an approved motion, we will send a letter along with
[17] a copy of the minutes.
[18] MR. JANDORA: Okay. The only thing I would
[19] ask is that our last variance application as well as
[20] Kone's and Thyssen's is one \$200 check.
[21] MR. FENNELL: I understand. I understand.
[22] MR. WELLER: We are starting to figure this
[23] out.
[24] MR. FENNELL: I'm agreeing with you.

Page 109

[1] MR. JANDORA: That's okay. I just --
[2] CHAIRMAN CHRISTENSEN: There has been a motion
[3] to adjourn. Is there a second?
[4] MR. GREGORY: Second. Oh, no. I moved to go
[5] into a closed meeting.
[6] CHAIRMAN CHRISTENSEN: All right.
[7] MR. FENNELL: There needs to be a motion to
[8] adjourn to a closed meeting for the purpose of
[9] considering the complaint against inspectors, and
[10] that's the only thing that can be discussed in this
[11] closed meeting. So that's the -- that would be -- I
[12] would ask somebody to make that motion.
[13] MR. GREGORY: I make that motion.
[14] MR. GILLES: Second.
[15] CHAIRMAN CHRISTENSEN: Okay. There is a
[16] second, okay. Any questions on it?
[17] (No response)
[18] All those in favor, say aye.
[19] (Chorus of ayes)
[20] All those against?
[21] (No response)
[22] Ayes have it.
[23] MS. YOUNG: After the closed meeting
[24] concludes, will you be coming back --

Page 110

[1] CHAIRMAN CHRISTENSEN: Yes.
[2] MS. YOUNG: And it will be considered an open
[3] meeting and then you will have a formal, "the end."
[4] MR. FENNELL: We have to come back to an open
[5] meeting in order to make any decision, and then we
[6] have to -- then we will formally adjourn the meeting.
[7] MS. YOUNG: So whatever decision you make in
[8] the closed meeting --
[9] MR. FENNELL: We don't make any decision in
[10] the closed meeting.
[11] MS. YOUNG: The meeting, whatever, is the next
[12] step?
[13] MR. FENNELL: Correct.
[14] MR. GREGORY: Will it be immediately
[15] thereafter?
[16] MR. FENNELL: It will be immediately
[17] thereafter the closed meeting.
[18] (Open meeting temporarily
[19] adjourned.)
[20] (WHEREUPON, the following
[21] proceedings were had after
[22] a closed meeting was
[23] held.)
[24]

Page 111

[1] CHAIRMAN CHRISTENSEN: Okay. Back to the
[2] subject at hand, a disciplinary action. Is there a
[3] motion?
[4] Dick Gregory.
[5] MR. GREGORY: The board has decided that the
[6] administrator should decide whether disciplinary
[7] action should be taken against two inspectors.
[8] CHAIRMAN CHRISTENSEN: Okay. Is there a
[9] second?
[10] MR. MASON: Second.
[11] CHAIRMAN CHRISTENSEN: Ken Mason seconded.
[12] On the question, any questions?
[13] MR. FENNELL: It's a roll call.
[14] CHAIRMAN CHRISTENSEN: Is it?
[15] MR. FENNELL: Yes.
[16] CHAIRMAN CHRISTENSEN: Okay. We will take a
[17] roll call vote. I will start with -- Dick made the
[18] motion. Tom?
[19] MR. JIRIK: Aye.
[20] CHAIRMAN CHRISTENSEN: Rod?
[21] MR. GILLES: Aye.
[22] CHAIRMAN CHRISTENSEN: You probably should say
[23] your name.
[24] MR. MASON: Ken Mason, aye.

Page 112

[1] MR. HERTSBERG: Mark Hertsberg, aye.
[2] MR. WELLER: Kelly Weller, aye.
[3] CHAIRMAN CHRISTENSEN: Frank Christensen, aye.
[4] MR. GREGORY: Dick Gregory, aye.
[5] CHAIRMAN CHRISTENSEN: That's it. Do we have
[6] a motion to adjourn?
[7] MR. GREGORY: I move the board adjourn.
[8] CHAIRMAN CHRISTENSEN: Is there a second?
[9] MR. GILLES: Seconded.
[10] CHAIRMAN CHRISTENSEN: All those in favor, say
[11] aye.
[12] (Chorus of ayes)
[13] Ayes have it.
[14] (Which were all the
[15] proceedings had at this
[16] time on the above entitled
[17] cause.)
[18]
[19]
[20]
[21]
[22]
[23]
[24]

[1] STATE OF ILLINOIS)
[2] COUNTY OF C O O K) SS:
[3]
[4] KATHLEEN T. MUHNE, being first duly
[5] sworn, on oath says that she is a Certified Shorthand
[6] Reporter doing business in the City of Chicago,
[7] County of Cook and State of Illinois;
[8] That she reported in shorthand the
[9] proceedings had at the meeting of the above-entitled
[10] cause;
[11] And that the foregoing is a true and
[12] correct transcript of her shorthand notes so taken as
[13] aforesaid and contains all the proceedings had at
[14] said meeting.
[15] -----
[16] KATHLEEN T. MUHNE, C.S.R.
[17]
[18] SUBSCRIBED AND SWORN TO
[19] Before me this _____,
[20] day of _____, A.D.
[21] 2008.
[22] -----
[23] NOTARY PUBLIC
[24]

	4600 66:10	accepted 57:21;85:1 access 20:16;54:4;107:7 accident 84:4 accidents 92:1 accordance 22:23;44:23 According 14:10;15:14 accountable 98:23 acknowledge 29:10 across 20:8;23:12 act 14:3;22:22,23 action 111:2,7 actions 53:21 actual 74:7,14,22;79:2 actually 17:18;56:24;62:22;74:7; 75:10;80:22;81:4;86:3;31:11;56:11; 77:17;78:23 ad 37:11 Adams 60:16 add 46:13;51:12;91:22 added 27:1 adding 46:14 addition 20:23;33:8;46:13 additional 48:16 additions 3:19;4:7;8:23;41:18 address 18:17;20:20;32:13;34:18; 36:5;37:10,11;40:13 addressed 25:19;33:9,9;78:2 addressing 18:18;25:6 adequate 49:23 adjacent 48:22;67:1 adjourn 63:9,10,11;108:4;109:3,8; 110:6;112:6,7 adjourned 63:18;110:19 adjustable 78:10 administrative 22:24;97:23 administrator 111:6;4:16 adopt 25:21,22 adopted 23:6,14;24:24 advanced 77:17;79:15 advantage 69:6;91:12;92:23; 99:15;100:1;106:13 adverse 24:4 affect 83:21;84:7 affects 10:24;70:12 again 43:3;51:17,22;58:11;74:20, 24;82:10;83:3;88:6;102:2;107:14 against 4:11;9:4;13:21;15:8;39:14; 43:16;44:9;54:23;55:18;94:14; 96:21;102:24;109:9,20;111:7 agenda 5:2;65:22;100:7;103:6,9, 12 aggressive 34:4 ago 19:6;30:23;92:11,16 agree 22:11;24:22;25:2,2;26:3; 51:5;60:24;90:22;93:10;94:17 agreeable 7:13 agreed 98:16 agreeing 108:24 agreement 25:14,16;40:21;56:15 agrees 25:17 ahead 3:22;64:14;77:8;83:12; 87:14;94:12 AHJ 21:11	air 37:15 alarm 47:21;50:8;78:1;79:19;81:18 alert 77:24;79:3,11 alerting 14:3 allegations 6:5 Allegiance 3:3,5 allow 20:7,24;34:11,21;38:8;42:8, 10;45:17;86:13;97:10,13;43:6,7 allowing 14:10 allows 45:3,10;69:16;77:4 almost 21:8 along 13:4;65:15;66:23;67:11;73:7; 90:5;108:16 alternative 63:24 always 18:16;23:24;72:14;80:11; 93:17 amazing 91:12 amend 11:12;54:11 amended 62:18 amending 5:23 amendment 54:16,16,19;55:14,16 America 64:21;66:11;84:14 amount 104:2 analysis 19:8;26:10;27:12 annual 73:13;81:11 annunciation 50:8 annunciator 45:3;47:21 ANSI 87:4,7,16,23;89:14 answered 93:2 anticipate 81:21 anymore 76:10;83:23 anyways 34:23 apart 75:16 apologize 65:13;93:19 appeal 53:3 appeals 7:8;9:11;63:20,20 appearance 73:16 application 64:4;105:17,23;108:19 applications 23:2 apply 72:12;104:19;105:5 applying 104:17 appoint 24:20;29:19;36:13 appreciate 58:5 apprentices 4:19 appropriate 62:19;100:4 approval 45:7,15;49:14,17;51:9, 15,19;52:2,10,17;54:8,8,10;94:6 approve 45:19;51:13;52:13,21; 53:19;54:13;56:15;89:6,9;90:6 approved 15:11;50:16,18,18;53:5; 84:12,14,17;85:24;86:2;87:2;89:2, 10;93:15,22;94:19;95:20;105:17; 108:16 approves 28:20;52:19 approving 49:23;50:20;51:13;55:6; 95:5,6 approximately 4:20 April 5:5 aramid 81:3;87:10;88:18;89:13 area 5:7;9:18;72:10;99:10 areas 73:23 argument 30:15,16 around 67:14;71:11;72:22;73:6;
\$	5		
\$200 102:4;105:17;108:20	5 70:20;71:3 50 26:19;95:6;98:5 570 71:18;72:1 585 4:19 588 68:3		
1	6		
1 59:19,22;60:4 1,612 4:19 10 66:13;78:9;81:23;101:19 100 59:1;91:10 100,000 66:9 10th 22:5 11 27:12;78:22 110-volt 49:7 11th 10:17,18;11:12,19 12 68:1;92:16 12th 7:1;31:22 13 92:16 1300 56:4 14,488 4:19 140 70:10 146 56:2 14th 12:5 150-year 104:13 15th 5:13 17 79:10 18 6:14;88:1 18th 6:21;22:3;33:15 1999 76:6 1st 6:23;22:8;31:24	6 71:12 60 49:12;68:7 64 68:6		
	7		
	7 22:22 71 4:21 74 4:18 75 4:21 76 71:8		
	8		
	8 74:5 8:30 12:24;13:1,10 80 99:11 89 58:21		
	9		
2	9 4:18;74:18 9:30 6:16;10:13,15;12:16;13:10 90 26:10;28:9;58:21 9-1-1 14:4 94 4:18 9th 10:23;11:12		
2 59:18,20,21;66:17;89:13 2.27.3.1.5 14:11 2:00 6:17,18 20 6:14;36:9;81:24 2000 4:20 2003 76:6 2006 44:24;45:21 2007 3:7;22:8;31:22,24 2008 9:14 2009 90:1 2010 90:9 20-year 71:7 22 6:15;80:1 227316h 61:3 24/7 71:6 25 78:19 27th 3:7 29 46:15	A		
	A17 5:2;11:19;85:23;87:2;88:2,14; 93:22 A17.1 89:22,23;90:3,6 A17.2 21:10 A17.3 15:15;17:1,9 A17.6 80:16,22;87:2;88:3,15,18; 89:12,21;90:5;100:21,22 abiding 28:12 ability 48:6,14;80:18;86:10 able 26:20 above 112:16 absolute 23:22 absolutely 21:4;35:8;48:20;70:4; 96:10;34:13;96:16;103:10 accelerate 70:23 accelerated 70:21 accept 3:10,14,15,16;10:2;11:21; 12:4;51:3,3;54:12;79:22;102:8,11, 15 acceptable 45:22;59:2;98:13; 99:20;100:3		
	3		
3 67:7 30 81:24;104:23 33 71:11			
	4		
4 69:4 40 36:9;69:21;91:24			

<p>75:10,24;83:19;84:14;105:22 ASME 6:24;14:11;15:15;19:8,12; 21:8,16,18,21,23;23:23;24:14;26:8; 27:9;31:11;32:2;38:9;40:17;41:11, 16;85:23;86:18;87:17;88:15;93:10 assistant 21:11 Association 10:20 assurance 70:7;71:5;94:9 assured 106:3 attempts 78:12 Aubin 6:8;28:23 August 11:21;12:4;13:8 authority 23:4;29:22 authority's 23:3 automatic 14:3;51:18,19;82:5 automatically 52:13;75:5;78:6; 79:20;82:14 available 11:17;19:17;67:20;106:6 average 21:4;80:16 away 71:20;84:6;97:1 aye 4:9;9:2;13:19;15:6;43:14;44:7; 53:13;54:21;55:16;63:14;102:22; 109:18;111:24;112:1,2,3,4,11, 43:15;111:19,21 eyes 4:10;9:3;13:20;15:7;44:8; 53:14;54:22;55:17;63:15;102:23; 109:19;112:12;4:13;9:6;13:23; 15:10;44:11;55:20;103:2;109:22; 112:13</p>	<p>70:1;71:6,14,14,21;72:5,10,12;73:8, 12;74:10;75:1,11,13,19;76:5,9,21, 23;77:19;79:13,16;80:11;81:19; 82:3;83:16,22;87:1;88:22 bend 69:7 bends 70:23,24 benefits 68:13;78:8 besides 96:12 better 27:11;28:15;65:17;78:23; 79:2;93:6 beyond 70:16 big 39:22;60:22;61:12;92:22 biggest 53:4 bills 4:4 bit 23:24;24:2;57:3;65:5 blanket 63:23;93:7,9,19;94:15,16, 19;95:3,5,14,18;96:13,14,22;97:5,7, 10;99:24;100:20 board 3:6;5:24;6:2;7:1,3,10,13,20; 8:6,9,10;9:24;11:4;14:15;15:19; 17:17;18:3,18,23;19:10,14;20:2,9; 23:6;26:5;28:20;29:18;34:11;37:18, 21;38:1;50:19;52:1;62:13,23;64:13, 16;79:5;93:5,20;97:20;98:16;99:23; 103:6;105:20;106:1;111:5;112:7; 22:20;31:23;45:16;64:6 board's 14:1;30:13;37:8 Bob 4:16;5:10;6:4;9:13;13:24;19:5; 22:11;26:23;31:22;32:20;42:16; 54:7,9;106:2 bolts 85:3 BonnerPhonetic 5:12 book 21:10;31:3,5,6,8;59:15,24; 60:14 booked 58:2 bore 65:4 both 12:21;35:20;42:18;47:6;70:6; 92:12 bottom 48:24;65:22;66:17;71:3; 72:4;78:9 boxes 41:1 box-wise 26:24 break 64:9;84:2 breaking 71:9;92:3 breaks 80:3 breath 28:2 briefcase 10:18 bring 5:23;15:19;17:21;19:4;20:8; 28:8;29:13;51:22;52:19;53:19; 98:11;100:14 bringing 17:11;93:15 brochure 79:1 broke 92:7,12,19 brought 22:8;30:10;64:1;65:15; 84:11 Budmats 62:16,16,22 build 104:1 building 6:13;14:8;40:13;44:18,20; 45:1,4,11;46:2,6,7;49:1;54:4;56:24; 99:21;44:24;46:10;47:12 buildings 8:11;46:11;99:9,9 building's 34:18 Buildings 105:11</p>	<p>built 82:6 bulb 14:20 burned 71:14 business 4:14;9:9,12;13:24;100:12 button 58:19;79:23 buttons 48:3 buying 60:17 buzzer 59:21</p>	<p>Celsius 78:19 center 70:7;71:5;78:5;79:5;58:1 centers 70:8 certain 44:22;48:9;69:11;79:8; 82:10;107:3 certainly 23:17 certainty 23:23 certificate 40:24 certificates 57:6 certified 21:3 certifying 21:2 cetera 20:17;23:21;27:8,16 Chair 17:12;28:11;36:13;49:22 Chairman 27:17;64:15;3:1,9,13, 17,19;4:2,6,11,23;5:9,17;6:3;7:2,7; 8:17,21;10:3,6;11:4,7,11,20,24; 12:3,8,10,13,16,20;13:6,13,16;14:5, 16;15:3,12,22;16:5,14;17:19,24; 18:2,9;20:6;24:19;25:2;27:22;28:1, 6,10;29:8,14,21;30:9,18;31:21;32:5, 12,20;33:20,24;34:6,9;35:11,13,19, 23;37:17;38:1,6,11,18;39:11;40:8; 42:6,10,14,22;43:4,7,11,16,24;44:4, 13;51:2,8;52:8,15;53:8,11,22;54:15, 18;55:10,13;57:20;58:15;59:7; 62:12;63:3,6,13;64:9,12;75:17;80:7, 13;82:1,7;83:10,13;84:1,10,16,22; 91:1;97:9;99:22;101:10;102:6,14, 17,20;103:13;104:14;107:13,21,24; 108:3;109:2,6,15;110:1,11;111:1,8,11, 14,16,20,22;112:3,5,8,10 Chair's 17:20 chance 3:6;20:3;22:14 Chances 52:13 change 8:3;11:13,15;12:13,21; 24:15,15;25:1;40:5;41:12;42:2,7,8; 57:22;61:6;79:18;86:13;94:22 changed 41:11,17,24;42:1;61:14 changes 41:11,16;86:7;90:3,6; 93:16;97:22;100:14;101:1;104:11 changing 31:12;38:20;94:20;95:2 charge 19:17 chase 37:4;102:5 check 19:5,8,12;20:3;26:8;27:9; 31:7;34:17;40:17;58:4;72:17,19; 85:4;107:18;108:10,20 checked 41:2 checking 82:3 checks 82:4 Chet 21:20;24:5;26:23;28:23;53:16; 56:18;81:7,7 Chicago 9:19;10:11,11,13,14,15; 13:10;46:22;47:5,17,18;50:3;91:5; 92:16 Chicagoland 99:10 chief 50:5 China 92:22 chip 82:22,23 choose 59:13 chorus 4:10;7:14;9:3;13:20;15:7; 43:17;44:8;53:14;54:22;55:17; 63:15;102:23;109:19;112:12 Christensen 112:3;3:1,9,13,17,19;</p>
<p style="text-align: center;">B</p> <p>back 17:16,21;24:13;28:8;31:5; 41:6;43:20;44:4;49:7;51:22;57:14; 75:18;83:8;89:11;95:16;96:11,12; 98:10,18;99:4;100:1;101:11;104:21; 109:24;110:4;40:2;111:1 background 65:5 back-up 49:4,12,24 bad 18:19;23:15,17;30:6;82:8; 107:8 balance 88:19;89:8 balloted 90:5 Baltimore 5:6 bar 75:20 bare 71:17 based 27:12;31:7;64:19;76:18 basically 45:5,9 basis 52:21;73:14;77:20;81:11; 94:24;95:5;96:7;105:18 becoming 85:16 bed 44:18,20,21;46:13;54:2 Beer 61:14 beginning 90:21 behalf 36:19 behavior 72:7 behind 10:18;23:24;24:2;56:9;91:6 belly 104:4 belt 63:24;64:4;65:2;67:11,24;68:4, 6,7,9,10,11,12,14;69:4,7,13;71:8, 10;73:16,20,24;74:13,20;75:21; 76:11;77:22;84:1;107:6,11 belts 65:6,7;66:1,2;67:3,4,8,15;</p>	<p style="text-align: center;">C</p> <p>cable 80:8,15,15;106:22 call 3:2;20:22;29:18;57:17;67:2; 68:6;73:1;75:1,9;78:15;89:8;111:13, 17 called 21:23;65:2;66:1;77:24;87:2; 92:17,17 calls 14:7;15:16;57:9,10;79:22 came 33:18;43:9;82:2;83:15;87:16; 100:19 campus 47:2 can 7:19;8:6;10:10,13;11:16,20; 17:14,17;19:13;20:8;23:22;24:3,11; 26:18,19;27:23;28:6,7;30:1;38:23; 48:8,10,15,20,23;49:1,7;57:16;62:5, 14;66:24;68:15;69:2,3,7,9,15,21; 72:19;73:7,8,12;75:4,15;76:20; 77:20,23;78:2;79:1,6;81:11,17;82:9; 83:5;84:19;87:6;88:9,10;89:8;91:18; 93:11,13,20;95:15;97:10,13,22; 98:2,21;99:16;101:20;102:10,11,12; 105:22;106:13;109:10;12:16;18:8, 17;27:19;28:3;43:3;64:8;77:7;85:2; 108:5 cancel 11:24 capture 27:2,2,6,10 captured 26:24 capturing 27:9 Capuani 4:16;9:13;31:22;56:1; 4:17;5:11,15;6:7;7:6;9:14;11:15; 12:6,18;14:1,6;15:11,13;16:3,7,11, 17,21;17:2,7,10,23;18:1,17,21; 19:13,18,23;21:20,23;22:1,3,18; 23:7;28:20,23;29:2,6;30:17,21; 31:11,15;32:7,22;33:3,6,14;35:17, 20;37:1,3;38:13;39:20;40:15,20; 41:4,8,13,16;43:22;45:23;55:4; 56:11;57:5;59:18;62:9;76:14;77:7,9, 13;85:8;98:16;101:18;103:3;105:8, 15,20,24;107:1;108:5,9,14 car 15:18;16:8,13;17:3;60:9;67:5; 72:8;74:9;77:4;87:11,13;92:20 carbonless 36:1 care 61:20 cars 6:15;14:9 case 50:6;67:14;92:8,9,10,15 case-by-case 96:7 cases 84:3;99:8 category 8:13 cat's 91:9 cause 112:17 caused 88:2 cc 55:8</p>	<p>cable 80:8,15,15;106:22 call 3:2;20:22;29:18;57:17;67:2; 68:6;73:1;75:1,9;78:15;89:8;111:13, 17 called 21:23;65:2;66:1;77:24;87:2; 92:17,17 calls 14:7;15:16;57:9,10;79:22 came 33:18;43:9;82:2;83:15;87:16; 100:19 campus 47:2 can 7:19;8:6;10:10,13;11:16,20; 17:14,17;19:13;20:8;23:22;24:3,11; 26:18,19;27:23;28:6,7;30:1;38:23; 48:8,10,15,20,23;49:1,7;57:16;62:5, 14;66:24;68:15;69:2,3,7,9,15,21; 72:19;73:7,8,12;75:4,15;76:20; 77:20,23;78:2;79:1,6;81:11,17;82:9; 83:5;84:19;87:6;88:9,10;89:8;91:18; 93:11,13,20;95:15;97:10,13,22; 98:2,21;99:16;101:20;102:10,11,12; 105:22;106:13;109:10;12:16;18:8, 17;27:19;28:3;43:3;64:8;77:7;85:2; 108:5 cancel 11:24 capture 27:2,2,6,10 captured 26:24 capturing 27:9 Capuani 4:16;9:13;31:22;56:1; 4:17;5:11,15;6:7;7:6;9:14;11:15; 12:6,18;14:1,6;15:11,13;16:3,7,11, 17,21;17:2,7,10,23;18:1,17,21; 19:13,18,23;21:20,23;22:1,3,18; 23:7;28:20,23;29:2,6;30:17,21; 31:11,15;32:7,22;33:3,6,14;35:17, 20;37:1,3;38:13;39:20;40:15,20; 41:4,8,13,16;43:22;45:23;55:4; 56:11;57:5;59:18;62:9;76:14;77:7,9, 13;85:8;98:16;101:18;103:3;105:8, 15,20,24;107:1;108:5,9,14 car 15:18;16:8,13;17:3;60:9;67:5; 72:8;74:9;77:4;87:11,13;92:20 carbonless 36:1 care 61:20 cars 6:15;14:9 case 50:6;67:14;92:8,9,10,15 case-by-case 96:7 cases 84:3;99:8 category 8:13 cat's 91:9 cause 112:17 caused 88:2 cc 55:8</p>	<p>cable 80:8,15,15;106:22 call 3:2;20:22;29:18;57:17;67:2; 68:6;73:1;75:1,9;78:15;89:8;111:13, 17 called 21:23;65:2;66:1;77:24;87:2; 92:17,17 calls 14:7;15:16;57:9,10;79:22 came 33:18;43:9;82:2;83:15;87:16; 100:19 campus 47:2 can 7:19;8:6;10:10,13;11:16,20; 17:14,17;19:13;20:8;23:22;24:3,11; 26:18,19;27:23;28:6,7;30:1;38:23; 48:8,10,15,20,23;49:1,7;57:16;62:5, 14;66:24;68:15;69:2,3,7,9,15,21; 72:19;73:7,8,12;75:4,15;76:20; 77:20,23;78:2;79:1,6;81:11,17;82:9; 83:5;84:19;87:6;88:9,10;89:8;91:18; 93:11,13,20;95:15;97:10,13,22; 98:2,21;99:16;101:20;102:10,11,12; 105:22;106:13;109:10;12:16;18:8, 17;27:19;28:3;43:3;64:8;77:7;85:2; 108:5 cancel 11:24 capture 27:2,2,6,10 captured 26:24 capturing 27:9 Capuani 4:16;9:13;31:22;56:1; 4:17;5:11,15;6:7;7:6;9:14;11:15; 12:6,18;14:1,6;15:11,13;16:3,7,11, 17,21;17:2,7,10,23;18:1,17,21; 19:13,18,23;21:20,23;22:1,3,18; 23:7;28:20,23;29:2,6;30:17,21; 31:11,15;32:7,22;33:3,6,14;35:17, 20;37:1,3;38:13;39:20;40:15,20; 41:4,8,13,16;43:22;45:23;55:4; 56:11;57:5;59:18;62:9;76:14;77:7,9, 13;85:8;98:16;101:18;103:3;105:8, 15,20,24;107:1;108:5,9,14 car 15:18;16:8,13;17:3;60:9;67:5; 72:8;74:9;77:4;87:11,13;92:20 carbonless 36:1 care 61:20 cars 6:15;14:9 case 50:6;67:14;92:8,9,10,15 case-by-case 96:7 cases 84:3;99:8 category 8:13 cat's 91:9 cause 112:17 caused 88:2 cc 55:8</p>

<p>4:2,6,11,23;5:9,17;6:3;7:2,7;8:17,21;10:3,6;11:4,7,11,20,24;12:3,8,10,13,16,20;13:6,13,16;14:5,16;15:3,12,22;16:5,14;17:19,24;18:2,9;20:6;24:19;25:2;27:22;28:1,6,10;29:8,14,21;30:9,18;31:21;32:5,12,20;33:20,24;34:6,9;35:11,13,19,23;37:17;38:1,6,11,18;39:11;40:8;42:6,10,14,22;43:4,7,11,16,24;44:4,13;51:2,8;52:8,15;53:8,11,22;54:15,18;55:10,13;57:20;58:15;59:7;62:12;63:3,6,13;64:9,12;75:17;80:7,13;82:1,7;83:10,13;84:1,10,16,22;91:1;97:9;99:22;101:10;102:6,14,17,20;103:13;104:14;107:13,21,24;108:3;109:2,6,15;110:1;111:1,8,11,14,16,20,22;112:3,5,8,10 city 47:17;92:15 clarify 14:15;55:4 clear 43:10;55:7;96:9,10 close 108:1 closed 7:10;108:4;109:5,8,11,23;110:8,10,17,22 closet 67:3 coat 91:16 coated 63:24;64:4;65:2;67:8,14;76:5;88:22 code 8:1;14:11,19;15:1;16:4,15;17:8,15;24:2;41:11,11;45:2,6;50:24;56:7,22;58:23;59:10,14,15,24;60:7,14;61:2,6,11,12,15,16,19;62:1;66:3;69:10;86:12,13,23;44:24;46:10;47:12 coded 90:19 codes 24:15;25:17,19,21;86:8;64:2,20 collect 102:3 color 65:16;78:24 combination 82:10 combine 26:18 combined 31:4,5 coming 37:9;40:6;61:17;74:23;89:13;105:3;109:24 comment 7:9;9:10;17:22;18:2,6;23:16;34:13;44:14;55:21;62:13,15;63:7;87:7;90:10 commentary 87:4 comments 5:20,22;62:21;87:6,16;88:1 commercially 99:16 committee 5:3,5;14:22;28:4;85:13;86:8,12;87:3,17;88:3,14;89:3,4,5,24;90:4;91:24;93:22 committees 57:13 committing 49:23 common 84:8 communication 27:14,14;29:12 Community 46:21,23 companies 14:10;28:11;35:14;36:20;38:9,14;39:21;40:1;43:12;56:12;58:21,22;59:3,3;60:15,16,17;61:24;62:4,7,7 company 32:18,24;33:2;36:21;</p>	<p>38:16,21;39:10,10,16;41:23;43:22;100:9;43:21;44:16;64:3 compares 78:21 competitor 99:14 competitors 99:15 complaint 109:9 complaints 9:17 complete 69:15;87:10 completely 82:11 complex 36:8 complicated 41:20 comply 25:17 components 78:10 computer 45:9,20;49:4,4,6,24 concern 85:23;93:5 concerned 21:7;22:4;41:21 concerns 20:17;37:10;50:21 concludes 109:24 concurrently 89:21 condense 35:22;43:5 condensed 43:8 condensing 37:23 condition 45:15;74:12 conditional 45:7,15;54:7 conditions 50:19;70:15 condominiums 8:12 conduit 54:4 conferences 56:19 confidence 104:2,3,9 configuration 67:16 confirmation 104:18;105:19 conform 95:2 confused 35:12;52:16 confusion 95:22;96:1 connected 49:15 Connecticut 64:20;70:7;71:5;106:2 connection 35:9 connectivity 34:16 consent 52:7 consequently 69:1 conservative 70:2 consider 51:14;103:6 consideration 103:19 considered 110:2 considering 29:13;109:9 consolidate 38:9 construction 54:3 contact 15:15,18,21;16:13;17:4 contacted 56:3 contacting 56:6 contain 47:11 contains 68:1,1,2;83:6 contention 25:15 content-wise 26:24 continue 26:17;100:16 continues 79:18 continuing 22:17 continuous 73:2;75:8;77:14,16,20;92:24 continuously 78:21 contractor 8:7;54:14 contractors 4:18,18;99:17;10:20 control 67:2</p>	<p>controller 66:24;82:12,15 conventional 67:24;68:17,23;69:8;72:11;91:15;92:20 conveyance 6:9;9:20;32:1;56:13;105:14,15,16;6:24 conveyances 4:19;6:10,14;8:1,5,11,12,14;108:10 cooperating 106:10 copied 40:16 copies 35:18 copy 16:8;23:9;33:14;85:9;108:17 cord 68:1;69:14,15;71:20,21;74:19;77:5,19;79:11;80:8;84:8 cords 67:12,13,15;68:1;69:12;71:16;72:13;74:7;76:7;78:17;80:2,5;83:24;91:11,16;101:7,8 core 67:14,15 correction 3:12 corrections 3:20;4:6;8:24 correspond 73:19 corrosion 67:22 cost 53:23 count 98:12 counterweight 67:6;87:12;92:22 counting 56:11 country 23:12;83:16 couple 72:20;83:10;92:10;99:6;106:9 couple-hour 58:6 course 69:23;79:1;92:21 courtesy 21:9 cover 8:1 covered 98:6;100:21;107:1 creates 99:7 credible 90:12 criteria 72:9;80:17 critical 21:5;65:15 CSB 77:9 cumbersome 76:22 current 25:11;97:19 currently 68:5;88:24;97:4 customer 44:17,20 customers 99:16 cut 37:4;68:11 cut-away 66:18;67:4 cycle 70:13;91:10 cycles 71:11</p>	<p>dealt 50:17 decelerate 72:8 decide 24:18;111:6 decided 62:13;111:5 decision 17:13,20;20:9;31:23;53:2;110:5,7,9 defacto 94:20 defer 19:24 define 7:21 defined 60:10 degrees 70:10,10;71:18;72:1;78:19 delay 51:16 delayed 81:1,2,3 denied 105:1 department 49:18,19,22;50:4,16,17,20;51:5,10,21;52:19;53:1,1,18;46:18;54:9;55:5 departments 53:19 Depending 81:17 design 88:14;89:3;90:4 designed 28:5 desire 38:10 desk-top 45:9,20 detectable 75:5 develop 24:8;72:23 developed 66:13;72:11;73:3;86:19 developing 21:13 device 14:4;65:2;66:1;75:10 diagnostic 82:5 diagram 66:18;67:4;71:3 dialing 14:4 diameter 69:9,11,12,13;70:23;80:4;88:23;92:6 Dick 3:22,23;4:24;14:16;20:16;24:22;31:3;49:24;59:7;89:5;90:11;101:6;107:4;111:4,17;112:4 difference 90:17;95:4 different 7:5,12,19;11:7;19:22;23:12,14;24:16;25:18;26:4,12;30:4,4;39:9,18;42:9;56:22;57:13;70:17,18;72:20 difficult 34:16 directed 33:12 direction 21:15;31:17;37:8;45:11 Director 4:15;56:1 dirt 70:18 disadvantage 100:6 disagreement 62:24;63:1 disciplinary 111:2,6 discipline 41:22 disconnect 36:3 discuss 92:5,9 discussed 109:10 discussing 50:7 discussion 38:19 disk 5:13,15 dispatching 78:5 display 82:10 disproved 50:18 disrupt 100:12 dissect 22:15 division 30:11</p>
D			
<p>damage 70:12;71:15;72:17;74:16;107:6 danger 71:23 dark 65:14 database 40:15,16;41:4,9,12 date 87:23;90:7 dated 33:15 dates 9:22;11:13,15,16,21;12:4;57:22 David 58:13;64:2,18 day 57:9;61:6;101:16;83:9 days 28:9;101:16;104:23 deal 53:4;56:7;99:17</p>			

<p>document 26:10;34:22 documentation 19:7 Documents 64:5 Don 55:23 done 17:23;19:8;23:14;26:21;27:3, 20;28:18;38:4;57:1;63:3;70:6;71:12; 73:9,13;78:14;81:17;85:4;90:1,4; 93:7;100:6;103:15;104:8;17:24 door 7:10;79:23 doors 45:13 Douglas 3:24;4:4 down 9:18,23;12:22;39:2;53:16; 57:6,18,19;58:8;67:5;69:16;74:9; 76:22;77:9;78:13;79:14,22 downtown 46:21;47:2 dramatically 41:17 drive 10:13,14;58:6,8 driving 57:15,18 due 79:19;94:2 durability 67:23;70:11 duties 68:9</p>	<p>engineer 6:13,16 engineering 70:8;64:19 enough 24:8;72:7 enter 4:20;40:18,20;41:2,6 enters 45:4 entire 77:22;90:20 entirety 20:4;22:15 entitled 112:16 environmental 69:2 environmentally 68:20 E-prom 82:22;83:1,6 equipment 45:5;46:4;59:5;82:6; 101:13 erosion 73:17;84:9 erred 100:24 error 93:8 errors 23:23 established 72:21 Estates 55:23 et 20:17;23:21;27:8,16 Europe 76:6;86:16,16 evaluating 5:21 even 9:7;10:10;16:22;20:19,22; 21:9;23:16;26:20;34:10;60:19;67:2; 71:22;77:3;80:11;93:10;106:12; 36:6;55:13 event 45:4 everybody 18:14,23;27:15;38:17; 39:7,8,9;40:7;94:13 everybody's 107:19 evidence 100:11 exact 87:23 exactly 14:19;88:10;95:8;12:12 examination 75:6 example 73:21;74:6,21 exceed 45:13 exceeds 44:22 except 91:5;100:24 exception 7:24;22:24 exclusively 106:24 Excuse 50:12;95:17 excuses 33:16 exist 6:6,11 existed 95:21 existing 17:6;76:18 exit 15:18;16:3,8,16,23;17:5 exits 15:14,16,21;16:1,13 expect 24:2;86:1;98:24 expectation 100:15 expedite 54:13 expense 39:23,24;62:8 experience 92:3 explain 64:3;81:16 explained 98:10 exposed 74:6,12 extensive 70:6;71:2,13;104:9 extent 107:3 extra 27:1 extreme 93:14</p>	<p>fact 25:15;75:4;89:7 factor 91:20 Fahrenheit 70:10,11;71:18 fail 72:5 failed 34:19 failure 71:9;87:9 fair 29:12;40:1;100:2,9 faith 85:19;93:3 familiar 47:15;66:19 far 37:1;41:21;45:13;56:9;83:8; 90:15;97:1 Farmington 64:20 fatigue 70:13 fault 77:10;82:9,10 faults 83:1 faulty 82:17 favor 4:9;9:2;13:19;15:6;43:14; 44:7;53:13;54:21;55:15;63:13; 102:22;109:18;112:10 favorable 100:9 features 45:13;46:20 February 6:2;17:13,21;52:6,8 fee 23:1;98:4 feel 15:20;32:18;34:20;61:20;62:10; 76:12;90:12 feeling 30:13 fees 23:1 fell 92:13,20 FENNEL 27:24 Fennell 5:17;7:17;16:14;25:5;5:19; 7:18;16:15,18;17:12;23:10;24:21; 25:12;26:1;30:1;35:4,8,21;48:17; 49:3,9,11,16,21;50:10,12,15,23; 51:14,18;52:1,4;57:23;58:7,12; 62:20;63:1,4;64:8;81:7;85:6;95:20; 97:3,12,21;98:18;100:4,23;101:24; 102:11;103:5,10;104:22;105:3,14; 107:16;108:8,12,15,21,24;109:7; 110:4,9,13,16;111:13,15 Fennell's 51:9 few 19:10;24:11,13;31:6;86:4;98:9 field 78:11,15 figure 24:3;61:3,21,23,24;108:22 figured 24:1 file 6:7,8;28:19 filed 19:21 final 31:23;40:22 find 31:6;39:5;71:10,20;108:6,7 finding 81:23;106:6 fine 20:12;24:23;25:20;39:13;61:10, 11;98:1;99:2;108:13;34:14 finish 103:22 fire 14:11;20:20;47:21;49:17,19,22; 50:4,5,7,16,17,20,23;51:5,10,21; 52:19;53:1,1,18,18;56:18;58:22; 59:11,13;60:2;24:10;54:9;55:5; 61:14;70:24 firefighter 45:3 Firefighters 50:23 fireman 14:8;61:21 fireman's 14:23;60:11,12;61:2,10 firemen 48:4,19;61:22 firm 35:18;36:17;37:2;104:2</p>	<p>firms 36:23 first 5:20;12:1;18:8;34:5;57:23; 58:22;65:10,21;66:11;73:15;77:24; 85:3;86:17,19;99:7;3:13;18:14; 53:16;86:6;90:11;93:3 five 64:8;71:10;92:6;98:13 Five-minute 64:9 fixture 58:21;59:3;60:17;62:7 flashing 79:9;81:15 flat 67:16 flattened 67:10 flexibility 68:14;69:7 flexible 68:17;69:5 flies 98:21 floor 45:12;58:23;79:21 floors 6:15 Florida 23:20,20,21 flux 72:20,24;76:11,17 focus 73:1 follow 22:18;23:8;37:8 following 36:23;110:20 force 24:11;30:11;37:9,20;42:2 force/sub-committee 36:14 foreign 70:17 forget 87:23 forgot 44:1 form 6:23;19:14,16,20,21;20:15,16, 18,23,24;21:13,17;22:16,17,19; 24:7,9,12,14,24;25:1,13;26:3,9,12, 13,24;27:13;31:12;32:1,21;35:22; 36:1,21;37:8;38:9;40:6;41:16,24; 42:1,7;43:23;62:19;98:12;108:10 formal 110:3 formally 110:6 format 48:24;65:19;106:20 forms 6:17,20,24;20:4,5;22:6; 23:15,18,23;24:1,16;25:11;26:18; 31:10,20,23;32:2,4,11,16;33:2,5,12; 34:15;39:4,18,22;40:3,4,5,11,16,17; 43:12 forth 57:14 forward 33:12;36:16;88:4,17,19; 89:3,7,10;95:5 forwarded 87:17 found 6:8;71:6 four 5:20;6:10;9:16,22;70:10 Frank 31:19;90:22;104:20;112:3 free 20:17;76:12 friendly 68:20 front 6:1;51:22;81:14;94:9 full 6:5 fully-loaded 72:8 functional 79:23 fundamental 69:6 further 26:20 future 53:21;79:17;96:6,6;98:24</p>
<p>E</p>	<p>F</p>	<p>G</p>	<p>gadget 91:8 gain 54:4 game 51:16 Ganiere 25:9;24:22;25:9;38:20;</p>
<p>earlier 76:7;82:18 earliest 89:16 early 90:9 easy 20:16;32:7;36:5,7 effect 60:5 eight 70:21;86:12 either 72:20 either/or 62:14 elaborate 77:11 electric 26:8;30:24 electrical 15:15,18,21;16:13,16; 17:4;49:5 elevator 8:1,14;17:6;27:5;30:11; 34:18;45:8,19;47:10;56:12;57:2; 59:3;60:17;62:2;64:24,24;66:6,18, 20;71:22;72:1,4,4;76:22;77:2;78:3, 13,16;79:14,20,24;84:5;85:14;86:9, 23;87:11;91:4;92:7,11,13;93:4,6,11; 95:10,15;100:13;101:4,9;104:1,4; 105:6,8,9;4:14;10:20;18:10;22:20, 23;31:22;44:16;45:16;55:7,8;62:16; 63:22;64:3;84:11 elevators 27:5;45:11;48:12;49:1; 50:9,11;64:1;66:11;95:18;105:11; 58:14 eliminating 77:2 e-mail 5:11;85:8,9 e-mailed 92:4 embedded 76:7 emergency 15:14,16,17,21;16:1,1, 3,8,12,23;17:5;49:15,24;50:13;60:4 encapsulated 67:16 encapsulation 72:13 end 24:2,16;90:3,6,8;110:3 ended 87:12 ending 87:24 ends 5:21 energy 69:3,21,22 enforcement 23:2;50:24</p>	<p>facility 46:14</p>	<p>firefighter 45:3 Firefighters 50:23 fireman 14:8;61:21 fireman's 14:23;60:11,12;61:2,10 firemen 48:4,19;61:22 firm 35:18;36:17;37:2;104:2</p>	<p>gadgets 91:8 gain 54:4 game 51:16 Ganiere 25:9;24:22;25:9;38:20;</p>

<p>39:1,14;40:2;47:20,23;94:13;97:14, 24;98:15;100:7;101:22 gave 78:24;100:12;101:11 gearless 92:19 Gen2 64:1,24;65:6;66:5,19;77:2; 95:6;106:5,16,21 general 99:17 generally 70:9;75:5 generate 77:23,24 generates 79:3 Gentlemen 18:15 get-go 36:10 gets 29:11;41:10;93:15;104:5 Gibbs 29:1;30:3 Gilles 8:21,16;10:1;11:14,23;12:2, 12,24;13:2,11;15:2;34:8;35:12; 38:12,17;43:3,10;44:2;51:7;53:10; 63:11;96:17,21;97:1;101:20;109:14; 111:21;112:9 given 30:14;58:24;65:9;99:14 gives 68:14;69:17;77:15 giving 64:16;86:1 goes 5:24;59:22;75:21;89:10;104:4 golly 23:20 good 23:15,17;30:6;73:16,20 governor 66:24 grabbed 92:21 grade 68:3 grant 94:11,19;100:16;102:16; 92:17 granted 93:9;94:10,24;96:2; 100:21;104:24;105:21 graphite 70:19 grease 70:18 great 26:13;101:3,4;29:16 green 26:15,15 Gregory 3:23;4:1,5,24;8:20;50:1; 59:7;111:4;112:4;3:8,11,23;4:4;5:1, 14;8:10,20;10:10;11:18,22;12:15, 22;13:1,4,12;14:18;15:24;16:10,19, 24;17:6,8;19:16,19,24;23:12;28:13; 29:1,4,17;30:2,15,20,22;31:4,10,14, 16;32:15;33:11,16;34:13;38:8,15, 22;40:10,18;41:1,6,10,14;42:8;43:6, 15;46:17,23;47:3,9,14;50:2,9,11,14; 51:12,16,20;52:3,6,18,24;54:17; 59:9;60:2,8,22;61:1;87:13;89:20; 90:15;91:3;95:17,21,24;96:10,16, 18,20;98:7;101:15;102:15;103:8,20; 105:11,13;106:12;107:15;108:2; 109:4,13;110:14;111:5;112:4,7 grief 41:15 grooves 74:23,24 group 24:5;29:19,23;64:19 groups 27:12;56:7,22;101:15 guess 10:17;39:1;103:17 guide 21:10;30:23;106:15,17 guideline 21:9;106:21;107:8 guidelines 106:23 guy 4:3;13:4;38:23,23;92:14 guys 30:13;39:4;40:10;61:22;76:1; 85:21,24;101:4;103:24</p>	<p style="text-align: center;">H</p> <p>habit 18:19 half 68:9,11;58:20 half-inch 92:6 hand 14:2;111:2 handed 9:14;73:18;74:5 handful 26:11 handing 36:3;108:9 handle 33:10 hand-out 65:10;73:6;78:24 hand-outs 65:9 hang 37:17;35:2 happen 5:3;11:2;53:18;71:16,19; 73:8;74:15;88:11;94:5 happened 73:11;92:8 happening 66:3;101:8 happens 35:17;40:14;73:22;74:8; 92:8;94:10 Happy 18:14 hard 20:21;58:3;67:3,3;68:15 hardship 36:12;93:14 hat 14:13,14,21,23;58:22;59:11,13, 16,19,20,24;60:10,11,12;61:2,10 hazard 15:20 head 84:21;96:24 Health 46:18 hear 7:8;43:3;44:19;102:1 heard 20:15;36:12;57:9;65:3;99:23 heat 104:4 height 44:22 held 98:23;110:23 help 29:4;54:10;106:10,23 helps 67:19 hence 33:11 hereindicating 75:14 here's 31:3;40:12;16:8;39:20;40:2; 85:19 Hertsberg 112:1;10:9;11:6,9;12:9; 13:3;112:1 high 67:23;70:13;71:13;72:2;88:2 high-rise 46:11 high-tensile 68:3 historic 30:22 history 27:4,7;83:5 hit 96:24 hits 106:22 hoc 37:11 Hoffman 55:23 hoist 80:17 hoisting 90:12 hoistway 66:18,21,21,23;67:1; 69:18;72:3;75:12;77:3,6;86:11,13 hoistways 54:5 hold 53:3;71:22;88:3 holding 28:1;94:3 holds 47:18 holiday 11:1 home 53:6;106:22 hope 65:3;95:19 hopefully 93:15 hospital 44:18,21;46:21,23,24;</p>	<p>47:4;92:17,18 hotel 7:21;8:4 hours 49:12 housekeeping 85:11 huge 91:20 human 78:6 hurt 104:5 hydraulic 26:8 hydraulics 6:15;16:10,20 hydro 30:24</p> <p style="text-align: center;">I</p> <p>IBC 45:2,6,14,21 idea 24:4;48:7;65:17;79:2 ideal 54:7 identical 26:11 identified 79:7 IDPH 47:6,15,17,18;53:3,6 Illinois 6:23;20:19;24:9;27:2;32:1; 46:18;56:5,8,9,23;57:13 illuminated 14:12,20;60:3,6,13 imagine 36:8 immediate 74:16 immediately 74:9,13;79:14;88:3; 110:14,16 implied 52:7 important 11:1;27:6,13 imprints 74:19 improvement 19:3;68:22;91:21; 101:6 incident 87:8,9,16,22;94:2 include 88:21 included 70:20 including 88:23,22 inconvenience 37:9 incorporated 56:5 increase 67:19;79:10;80:1,4 increased 69:7 incurred 39:23 indicate 34:19;60:4;82:15 indicated 56:1 indication 73:24 indicator 59:10,12,13;60:9 indifferent 23:16,17 individual 69:15;101:21 industry 58:20;72:23;76:19;93:4; 100:15;104:3 inform 26:5;82:13 information 14:1;22:12;39:3,6,16; 40:10;46:5;47:11;48:16;54:6;57:4; 65:4;104:20;106:7 informed 31:11;103:11 initial 82:20;83:7;85:6;86:14 initially 72:24;76:10;78:2 Innovation 60:16 innovative 65:1 input 5:4;46:17,19 inside 8:2 inspect 73:12;80:17;91:8 inspected 6:10,14;8:9;81:10 inspecting 72:10,12,14;76:9 inspection 6:17;21:10;23:2;27:3;</p>	<p>28:11;32:23;34:24;35:14;36:20,21; 38:8,13,21;39:9,10,16,21;40:1,16, 23;43:11,22;57:2,7;72:15;76:24; 82:16;91:3;106:22;107:5;18:11; 43:21;49:20 inspections 6:6;32:2;35:14;72:16; 75:3;80:20;91:4;92:24;106:16;6:24 inspector 6:5,10,14;30:3;39:3; 80:17;81:6,6,10,11;91:6;106:17,19, 24 inspectors 4:18;6:19,22;7:4;14:9; 15:17;16:11;17:2;19:5,19;22:6;24:3, 24;30:4,23;31:24;40:22;42:17; 50:23;56:24;106:4,4,5,15,21;109:9; 111:7 inspector's 29:5 install 45:8,17;60:20;95:18;99:20 installation 45:19;49:18,23;50:21; 76:15;77:21;81:23 installed 78:16;82:21;96:3 instant 26:19 instead 42:11 institution 37:11 instructions 48:18 insulating 91:17 integrity 72:19;77:5;84:7;107:10 intended 8:1 intent 4:22;48:23;61:19 intention 21:11,12 interested 26:16 interesting 91:20 internal 72:19 International 44:24;46:10;47:12 internationally 83:17 interpret 14:15,18,24 interpretation 26:1;62:11,23 intervention 78:7 into 14:8;19:9;20:13;26:21;29:19; 30:24;31:5,5;34:21;36:8;39:15;40:6; 45:4,24;53:2;58:4,12;75:19,22;77:3, 6;82:6;91:18;109:5 introduced 64:23;70:5;73:3;76:5, 10 introduction 66:7 invented 90:22 involved 10:21;47:6;55:9;56:21 involving 94:3 IsisPhonetic 83:14 issue 28:13;29:13,20;30:17,18; 40:24;41:21;47:7;74:2;81:16;102:12 issues 74:4;99:6</p> <p style="text-align: center;">J</p> <p>Jandora 44:16;63:22;44:15;46:2, 19;47:2,4,13,22;48:6,20;49:6,10,14, 19;50:7;52:16,23;54:2;55:2,12; 58:13;63:22;76:1;85:5;94:5;97:18; 98:9;99:2,6;100:3,5,17;103:15; 104:16;105:2,5,9,16,21;107:17; 108:18;109:1 January 5:13;22:5 Janus 21:20;80:14,24;81:2,5;</p>
--	---	--	---

<p>106:1,17,20;107:3,7,12 Jeffrey 62:16 jeopardize 104:13 Jewish 11:1,2,5 Jim 6:8;28:23 JIRIK 10:5;13:15;63:12;87:14; 105:12;111:19 job 56:13;73:10,11;79:16;82:21; 101:14 jobs 7:5;102:16 John 5:17;7:16;16:14;18:7;24:20; 25:4;27:22;35:24;51:8;58:16,17; 62:9,12;96:4;99:23 Johnson 49:20 Joliet 54:8;55:5 July 6:22;22:7;30:14;31:24 Jump 86:5,6 Jumping 20:13 June 5:8;6:21;7:1;22:3;31:22; 33:15;40:2 jurisdiction 23:4;51:10 jurisdictions 50:3;84:13,24</p>	<p>L-E-Ds 79:5,6,8;81:14,18;82:11 left 6:17;10:17 legibility 35:1 lend 65:19 less 10:21;61:20;68:18,24;69:3,22 letter 6:9,12,21;22:3,7;28:12;31:21; 33:11,15,21;34:3,5;35:7;40:3;41:22; 43:21;49:22;50:20;51:4;52:9,12,20; 55:5,6,9;89:8;102:13;103:4,8;105:3; 108:16 letters 4:22;32:23;56:17 level 90:13 liability 21:19 license 20:24;21:5;27:2 licensed 6:22;8:6,6,8 licensing 84:11,18 lids 79:6 life 44:22;46:3,4;47:20;69:23;71:7; 77:22;81:24;101:9,9 lift 8:15;64:24;72:23;76:19;86:15,22 lifting 90:13 lifts 86:9 light 14:20;59:2;61:18;62:4;68:24; 70:18 lighter 68:8 lighting 79:8 likely 10:21 limited 4:18;8:7,8 Lincoln 92:17 line 61:24 lined 71:4 link 32:7 list 19:5,8,12;20:4;27:9;31:7;34:17; 40:17;71:1;84:20;97:17;98:1,5,11, 11;102:8,11,15;107:17 listed 65:22;78:8 lists 26:8 literally 68:10,11 litigation 92:5 little 23:24;24:2,5;29:19;30:22; 35:12;41:20;52:16;57:3;61:18;62:3; 65:5;74:1 load 69:1 lobby 45:24 local 23:3,4;51:5,21;53:18 located 45:23;46:1;66:24;67:1 long 45:15;49:9;58:5,8;85:24;86:7; 97:3;98:8;101:23 longer 68:16,23;69:23;89:20 look 5:22,23;19:1;20:3;23:11;25:14; 26:4;29:19;34:20;48:7;58:12;73:7; 78:6;79:1;81:13;83:18;91:7;95:2; 98:18;101:11;99:18 looking 20:1,11;23:18;39:4,5,18; 49:11,12;69:14;77:1;89:15;90:14; 91:9,13 looks 65:10;94:18,18 loose 84:2 lose 36:5 lost 36:8;83:1 lot 9:17,19;14:6;15:16;19:22;27:8; 41:15;56:7,22,23;57:10;66:14; 85:13;106:3</p>	<p>love 26:22;28:22 lubricants 70:18 lubrication 68:19,21</p>	<p>9:10;10:17,19,22,23;11:19;12:4,6; 17:13,21;22:5,9,9;28:21;29:3;52:5, 7,9;58:6,9;63:9,16;64:13;92:2; 103:7;108:1,4;109:5,8,11,23;110:3, 5,6,8,10,11,17,18,22</p>
<p style="text-align: center;">K</p>	<p>lighter 68:8 lighting 79:8 likely 10:21 limited 4:18;8:7,8 Lincoln 92:17 line 61:24 lined 71:4 link 32:7 list 19:5,8,12;20:4;27:9;31:7;34:17; 40:17;71:1;84:20;97:17;98:1,5,11, 11;102:8,11,15;107:17 listed 65:22;78:8 lists 26:8 literally 68:10,11 litigation 92:5 little 23:24;24:2,5;29:19;30:22; 35:12;41:20;52:16;57:3;61:18;62:3; 65:5;74:1 load 69:1 lobby 45:24 local 23:3,4;51:5,21;53:18 located 45:23;46:1;66:24;67:1 long 45:15;49:9;58:5,8;85:24;86:7; 97:3;98:8;101:23 longer 68:16,23;69:23;89:20 look 5:22,23;19:1;20:3;23:11;25:14; 26:4;29:19;34:20;48:7;58:12;73:7; 78:6;79:1;81:13;83:18;91:7;95:2; 98:18;101:11;99:18 looking 20:1,11;23:18;39:4,5,18; 49:11,12;69:14;77:1;89:15;90:14; 91:9,13 looks 65:10;94:18,18 loose 84:2 lose 36:5 lost 36:8;83:1 lot 9:17,19;14:6;15:16;19:22;27:8; 41:15;56:7,22,23;57:10;66:14; 85:13;106:3</p>	<p style="text-align: center;">M</p>	<p>meetings 9:16,19,23;10:11,12; 12:21;98:7;101:16 meets 59:14;61:10,12 melt 71:19 melted 71:14,17;84:6 member 31:2;87:5;89:5,6;93:20 members 7:10;20:2;64:16;106:1, 11 Memorial 46:24;47:16;53:5 memory 83:4 mentioned 69:21;71:13;76:7 meow 91:9 merits 94:24 message 79:4;82:12 method 72:14;76:8,24;77:4,15; 92:23 methods 72:11,18,20 MFL 76:17 might 76:13;83:20 Mike 29:1;30:3 millimeters 68:7 million 71:10 mind 77:16;93:21 minimize 67:21 minimum 81:22 minus 70:10 minute 18:12;62:9;77:12;91:10,13; 101:7 minutes 3:7,10,14,15,16,24;64:8; 98:19;99:4,4;101:11;102:10;108:7, 7,12,15,17 missed 97:6 misunderstanding 58:20 mode 79:20;81:18 moment 18:16;19:6 Monday 4:17 money 4:5;53:24;102:3 monitor 45:9,20;65:7;76:21,23 monitored 74:2;75:4 monitoring 46:15;66:14;73:2;75:9, 23;77:5,15,17;78:3,4;79:4;80:5; 82:13,14;92:24;101:7 monitors 66:2;75:11;77:18 month 54:1;94:6;95:7 monthly 105:18 months 22:9,10;24:11,13;42:3; 98:10 moot 88:9;103:17 more 7:23;13:16;21:5;25:22;40:8; 41:20;42:23;57:4,4;62:15;68:14,17; 69:5,8;73:1,4;74:1;75:5;77:2;79:22; 81:10;83:10;92:23;100:8 most 84:8;99:8;83:20;84:13,24 motion 3:10,14,15;8:17;10:1,4,5; 12:1,10;13:7,14;15:3;27:17,19;28:3, 7;34:1,2;38:7;42:5,6;43:3,4,24;44:3; 51:2,12;52:18,24;53:9,10;54:11; 55:15,15;63:11;95:23;102:8,14;</p>
<p style="text-align: center;">K</p> <p>keep 13:7,8;93:15;42:20;93:21 Kelly 28:17,17;94:17;112:2 Ken 111:11,24 kept 85:9 key 19:9;20:13;27:8 keys 6:16 killanutenphonetic 68:7 killed 92:14 kind 22:13;28:9;29:12;30:12;53:21; 65:13;83:4,15;98:21 kinds 75:2 Kippur 10:24 knew 76:8 knowing 54:9 knows 78:16 Kone 96:17,18,20;103:4,9 Kone's 108:20 konks 82:11 Koshak 96:4</p>	<p style="text-align: center;">L</p>	<p>machine 64:24;66:20,22;67:5;69:1, 2,10,16,17,19,20;71:4;86:9,10,13, 22;92:19 machines 71:4 magnetic 72:20,24;76:10,17 mail 85:10;89:9 main 89:4;99:15 maintain 67:17;69:13;72:6;82:20 maintained 71:21 maintenance 5:4;81:15 makes 34:15 making 28:15;39:11;41:20 man 90:23 management 45:8,19;47:10 manager 64:2,20 mandatory 39:12 manner 28:9 manual 80:21 manufacture 60:19 manufacturer 99:14 manufacturers 61:17;85:20;88:24; 92:1 manufacturing 45:1 many 20:2;22:16;31:1;36:23;45:13; 70:17,24;76:19;88:16 Mark 112:1 marketplace 70:5;85:22 Marshal 24:10 marshal's 20:20 Mason 111:11,24;3:18;111:10,24 material 91:17 matter 11:3;24:16;47:17;78:17 may 66:19;87:3;90:3,6,8 maybe 24:5,11,17;57:4;95:1;61:6 McCull 58:13;64:2,18,7,15;75:19; 76:3,16;77:8,11,14;80:11,22;81:1,3, 9;82:5,9;83:6,9,12,18;84:3,13,19, 24;85:15;86:3,6,16,20,22;87:1,15, 20,22;88:7,10,13,22;89:19;90:2; 93:21;94:2;95:4;97:16,19;100:19; 101:1,5;103:17;104:8,12;106:9,13, 18;107:5,9,14 mean 11:18;20:7;24:14;52:12,12; 56:15;59:14;60:11;79:13;82:2; 83:22;91:19;99:13;100:11;107:6 means 10:20;21:4;59:2;63:24;65:1; 66:4;68:21,24;69:9;79:12 meant 14:22 meantime 41:23 measurement 72:21 measures 76:11 mechanic 8:8;78:5;81:16 mechanical 46:8;88:14;89:3;90:4 mechanics 4:19;5:10 meet 57:14,19;61:15,19;88:6;90:7, 8 meeting 3:2;5:2,5;6:2;7:1,8,10;</p>	
<p style="text-align: center;">L</p> <p>Ladies 18:15 laid 67:16 larger 65:15 largest 99:13 last 12:7;26:6;58:1;71:10;74:20; 87:3;101:16;108:19 lasts 68:23 later 22:9,10;60:6 Laughter 30:8;85:18;97:2 leak 72:21 leakage 72:24;76:11,17 learn 78:15;83:2 least 37:6;89:19 leave 42:4 L-E-D 14:10,20;15:11;58:19;59:1, 11,12;60:1;61:11,18</p>	<p>light 14:20;59:2;61:18;62:4;68:24; 70:18 lighter 68:8 lighting 79:8 likely 10:21 limited 4:18;8:7,8 Lincoln 92:17 line 61:24 lined 71:4 link 32:7 list 19:5,8,12;20:4;27:9;31:7;34:17; 40:17;71:1;84:20;97:17;98:1,5,11, 11;102:8,11,15;107:17 listed 65:22;78:8 lists 26:8 literally 68:10,11 litigation 92:5 little 23:24;24:2,5;29:19;30:22; 35:12;41:20;52:16;57:3;61:18;62:3; 65:5;74:1 load 69:1 lobby 45:24 local 23:3,4;51:5,21;53:18 located 45:23;46:1;66:24;67:1 long 45:15;49:9;58:5,8;85:24;86:7; 97:3;98:8;101:23 longer 68:16,23;69:23;89:20 look 5:22,23;19:1;20:3;23:11;25:14; 26:4;29:19;34:20;48:7;58:12;73:7; 78:6;79:1;81:13;83:18;91:7;95:2; 98:18;101:11;99:18 looking 20:1,11;23:18;39:4,5,18; 49:11,12;69:14;77:1;89:15;90:14; 91:9,13 looks 65:10;94:18,18 loose 84:2 lose 36:5 lost 36:8;83:1 lot 9:17,19;14:6;15:16;19:22;27:8; 41:15;56:7,22,23;57:10;66:14; 85:13;106:3</p>	<p>machine 64:24;66:20,22;67:5;69:1, 2,10,16,17,19,20;71:4;86:9,10,13, 22;92:19 machines 71:4 magnetic 72:20,24;76:10,17 mail 85:10;89:9 main 89:4;99:15 maintain 67:17;69:13;72:6;82:20 maintained 71:21 maintenance 5:4;81:15 makes 34:15 making 28:15;39:11;41:20 man 90:23 management 45:8,19;47:10 manager 64:2,20 mandatory 39:12 manner 28:9 manual 80:21 manufacture 60:19 manufacturer 99:14 manufacturers 61:17;85:20;88:24; 92:1 manufacturing 45:1 many 20:2;22:16;31:1;36:23;45:13; 70:17,24;76:19;88:16 Mark 112:1 marketplace 70:5;85:22 Marshal 24:10 marshal's 20:20 Mason 111:11,24;3:18;111:10,24 material 91:17 matter 11:3;24:16;47:17;78:17 may 66:19;87:3;90:3,6,8 maybe 24:5,11,17;57:4;95:1;61:6 McCull 58:13;64:2,18,7,15;75:19; 76:3,16;77:8,11,14;80:11,22;81:1,3, 9;82:5,9;83:6,9,12,18;84:3,13,19, 24;85:15;86:3,6,16,20,22;87:1,15, 20,22;88:7,10,13,22;89:19;90:2; 93:21;94:2;95:4;97:16,19;100:19; 101:1,5;103:17;104:8,12;106:9,13, 18;107:5,9,14 mean 11:18;20:7;24:14;52:12,12; 56:15;59:14;60:11;79:13;82:2; 83:22;91:19;99:13;100:11;107:6 means 10:20;21:4;59:2;63:24;65:1; 66:4;68:21,24;69:9;79:12 meant 14:22 meantime 41:23 measurement 72:21 measures 76:11 mechanic 8:8;78:5;81:16 mechanical 46:8;88:14;89:3;90:4 mechanics 4:19;5:10 meet 57:14,19;61:15,19;88:6;90:7, 8 meeting 3:2;5:2,5;6:2;7:1,8,10;</p>	

<p>108:3,16;109:2,7,12,13;111:3,18; 112:6;51:8;63:9 motioned 57:21 mounted 66:22;75:12,22;76:14 mounting 69:18 move 3:16;8:10;14:18,24;38:3,8; 48:3;51:4;72:5;78:1;79:19;97:20,22; 102:15;112:7 moved 8:20;108:2;109:4 Moving 4:14;7:15;66:5;69:4;71:12 much 55:22;56:21;58:10;69:5;77:3; 79:10 multiple 48:8;7:16 municipal 25:14 municipalities 4:21;22:16;25:7,13; 26:2;56:2,4,7,18;22:18 municipality 9:20;25:17;40:21; 56:15;22:22 myself 12:24;15:20;35:12;57:11; 93:12</p>	<p>normally 46:5 North 64:21;66:10;84:13 Northwestern 46:21,23,24;47:2, 16;53:5 note 19:4 notes 10:17 notice 5:20,24;23:18;77:17 November 3:7;87:18,19,24 nowadays 26:16 number 20:20;21:1,3,5,5;27:2; 34:18;87:16 numbers 20:24 numerous 56:19;57:9;108:10 nuts 85:2</p>	<p>38:2;90:11;93:8 opinions 9:21 opportunities 19:3 opportunity 18:23;19:1;26:13,16; 64:16 opposed 57:15,18 optimal 54:3 optimized 67:22 option 25:23;38:17 order 3:2;34:23;35:5;48:11;79:16; 82:20;90:7;99:19;105:17;110:5 organization 21:2,3 original 13:7;55:14,15;71:8 OSFM 23:6;56:3 others 63:3 otherwise 99:20 Otis 4:23;44:16;55:6;58:14;63:22; 64:3,21;66:7;70:2;80:19;84:11; 85:20;99:18 Otis' 64:18 ought 33:17 ours 25:23;33:8,19;44:18 ourselves 73:10;104:10 out 6:8,16,21;9:14;10:11;12:1;14:2; 20:5;22:3;24:1,3;25:20,21;31:7; 32:23;33:18;34:3;35:4,14,17;39:22; 40:3;43:20;46:24;54:10;55:6;56:12, 16,18,24;57:1,8,8;59:6;61:17,21,23, 24;65:16;67:10;68:6;69:23;73:19; 74:6,7,23;75:21;82:11,22;85:11,20, 22;88:18;89:8,13,23;91:6;95:14; 103:4;108:23 outlying 50:2 outside 29:23;50:3;106:21 over 3:6;7:11;23:5;30:3;39:5;46:24; 53:6;56:4;65:5;66:9,10;70:9;84:5; 87:7;96:5;100:9;102:2,2,2 overall 25:16 overview 65:24 own 21:13;22:16,17;23:15;24:9,12, 17;25:21,22;27:5;56:3;97:24;98:2,3, 4 owner 6:9;7:23;8:2 owners 9:20;56:14;7:16</p>	<p>parts 82:19 pass 43:18;65:16;67:11;73:7;75:10, 23 passed 34:19;55:14;68:6;83:19 passengers 79:21 passion 27:19 passionate 28:14 past 19:1;24:8 Patti 5:12;18:7,10,17;20:7;22:1; 24:5;28:21;29:3;30:10,10;34:10; 37:17;43:5;58:17 pay 19:20;104:6 peace 77:15 people 10:11;12:22;20:1;27:12; 39:17;48:22;62:2;67:2;85:14;95:10, 14;91:3,23 Peoria 10:15 per 95:7 percent 26:11,19;58:21;69:22;71:8; 79:10;80:1;91:10,24 performance 66:14 perhaps 67:3 period 5:21;25:1;33:13;87:5,7,24 permission 21:16,20 permit 105:22 permits 23:2;104:19 permitted 86:11;89:1 permutations 7:19 person 21:4;27:3,16 personal 22:12;92:11 personalities 27:6 perspective 30:23 pertaining 66:3 phase 14:7,9,14;59:18,19,20,21, 22;60:4 phone 14:7 photographs 92:4 picking 50:6 picture 73:15,21;74:5,11,18,21; 75:17;78:22 pictures 65:13;73:9;75:13;78:23; 83:18;92:10 piece 68:15,16 pieces 30:24;36:4 pins 75:20 pit 87:12 pitch 66:8 placard 48:21 place 3:23;27:1;39:4,5,17;47:24 plan 48:9,24 Plass 55:23,22;56:21;57:10;58:5,8 plated 67:21 please 18:8,18;20:11;63:2;76:3; 108:5;76:12 Pledge 3:3,4 plus 70:21 point 26:6;40:2;65:17,20;71:19; 75:7;81:5;84:6;88:4,9;96:12;103:17 points 19:9;20:14 policy 36:24 polished 73:23 polishing 73:22 polyurethane 67:17,19,22;71:17,</p>
<p>N</p>	<p>O</p>	<p>P</p>	
<p>NAC 5:12 NAESA 106:10,10,11 name 20:20;21:18;25:8;55:22; 64:18;111:23 NAPF-70 49:12 National 10:19 nature 101:2 nayes 43:17 near 79:17 nearest 79:21 necessarily 22:14;62:24 need 11:7;14:14;17:15,16;18:13; 22:21;23:8;27:15;39:1;48:12;51:22; 63:5;74:3;76:22;77:3;79:13;81:9,19, 22;82:17;93:24;95:1;99:18;102:7; 103:4,10;104:1;105:9;106:17 needed 76:8 needs 27:16;81:19;97:24;100:18; 106:19;109:7 neon 60:23;61:14 new 5:12;9:9;13:24;18:15,22;19:2, 3;31:7;37:8;62:18;65:1;70:3;72:10; 76:8;82:23;83:2;87:1;88:23;89:17, 22;9:12;18:14 newspaper 56:17 next 5:2,21;6:4;9:8;12:6;22:9;52:4; 58:24;59:16;60:14;61:18;66:5; 74:11;82:16;86:4;88:9;89:4;103:6; 110:11;4:23;15:14;73:21;88:7 Nick 62:16 nicks 73:17 nine 70:22 noise 68:18 non 71:6 None 18:5 non-members 106:12,13 non-proprietary 76:20 non-standard 80:15 normal 70:16 normalized 78:19,20</p>	<p>objects 70:17 obtain 54:8 obviously 36:17;104:17 occupied 7:22,16 occurred 18:24;87:22 o'clock 6:18 October 10:23;11:12;87:23 odd 19:22 off 9:13;18:14;40:11,17;51:8;53:16, 23,24;55:14;59:22;61:13;71:17; 79:21;84:20;90:11;93:3 offering 99:12 office 35:1;39:2,15;40:6,11;105:4; 106:3;24:9 officer 50:24 official 21:17;57:1 old 4:14;82:23,24 once 51:14;75:11;91:4,6;93:7; 78:15;105:18,20,21 one 7:23;8:21;12:1;14:7,9;15:14; 18:12;19:21;20:13;21:12;24:3; 26:20,21,24;30:3;31:5,5,7;33:1; 35:15,22;37:1,17,20,22,23;38:7,9, 16,23;39:8,8,9;41:21;42:9,10,17; 43:8,13;45:5;46:12;47:16;49:1; 50:17;53:17;56:20;58:15;60:14; 68:6;76:11,23;79:7;80:9,12;85:16; 89:18;90:10;92:6,19;94:14;98:2,12, 21;99:14;100:9,13,18,18;101:12; 102:4;103:16;104:3,16;108:5,11,20; 26:6;56:1;83:9;106:1 one-page 34:22;36:21 ones 65:14 one-time 94:16,24;95:1 only 21:18;25:23;26:11;55:23; 58:18,24;59:15,16,23;80:12;81:13; 90:17,20;92:12;93:23;94:2,14;99:7, 12;107:5;108:18;109:10;59:4;95:21; 107:3 onto 46:15;57:4;78:1 open 18:5;63:19;76:1;78:12;110:2, 4;79:23;110:18 opening 63:21 operation 14:8;40:24;57:6;60:5; 78:16;86:15 opinion 17:17;25:12;26:5;29:5;</p>	<p>page 26:21;34:16;35:16,22;36:4; 37:20,22,23;38:7,9;39:8,8;42:11; 43:8,13;48:24;58:24;59:17;60:14; 65:21;66:5;75:18;59:1;66:17;67:7; 69:4;70:20;71:3,12;74:5,18;78:9,22 pages 26:21;35:15;39:7,7,12; 42:11,17;43:19;86:4 paid 19:24 pair 75:21;77:19;79:11;101:7 panel 47:21 paper 13:9;26:19;36:4,10;65:21 paper-clipped 36:6 Park 92:17 part 34:5;56:19;89:13 particles 74:22 parting 87:10</p>	

<p>19,22;73:18,23;74:8,15,16,24;76:8; 83:21,24;84:7,9;90:19;91:17 portion 46:12 position 45:12 possibility 69:18 possible 77:3 possibly 89:23 postpone 17:13 potentially 54:1 power 49:15,24;65:20 powered 49:5,6 precedent 23:5 prefer 11:9;62:20 pre-printed 34:24 present 10:22;18:13;101:19 presentation 65:11,20;101:2,3; 102:1 press 48:2;56:17 pressure 27:7 pretty 50:2;85:16 previous 106:1 print 20:10 printed 43:12 printers 39:22 printing 35:18 private 7:22,24 probably 6:1;9:9;70:22;81:21;90:2; 99:11;111:22;83:13 problem 12:17;17:15;29:14;37:19, 22;38:3;39:20;42:15;47:14,23; 57:23;59:4;80:12;90:20;99:18 problems 79:9;83:15 procedure 23:5;94:22 procedures 23:1,6;25:18 proceedings 110:21;112:15 process 19:11;86:1,21;87:4;89:12, 14,15;91:12 processes 70:13 produce 34:23;62:6 producing 60:15,16 product 66:6,12;70:4;99:8,12 production 37:16 professional 102:1 program 23:3;56:3;4:15 progress 98:22;4:15 prohibits 14:3 project 97:14,24;105:12,6,13 projector 65:12 projects 47:7;97:19;98:13,14; 107:17 promoting 26:17 proper 33:12;94:21 Properties 7:16 proposal 5:18;88:17;89:2 proposed 5:19;62:18,21 proprietary 21:15 prove 93:13 proved 95:12 proven 66:15 provide 27:4,4;44:22;45:2;48:12, 20;59:12,13;72:7;106:10 provided 14:12;21:8;26:22;46:20; 47:8;49:14;52:17;59:4;60:3;104:18</p>	<p>providing 45:21;58:22 provision 97:5,6 public 7:9;9:10;14:2;17:22;18:6,18; 29:23;44:14;62:15;63:7;71:23,24; 87:4,6,16;89:11;46:18;55:21 publication 80:14 published 80:16,23;86:8;89:17; 106:23 publishes 89:21 publishing 89:15;90:7 pull 88:18;95:15;100:1 pulley 69:9 pulse 66:1;73:2;82:16,17,23;73:5; 75:9;79:1;82:3,4 purchased 59:5 purpose 92:11;94:15;109:8 push 58:19 put 9:22;17:3,4;20:19,24;29:23; 32:7;49:18;61:9,11,12;71:18;82:23; 85:21;88:17;93:12;95:15;103:4; 100:7 putting 53:24</p> <p style="text-align: center;">Q</p> <p>QEI 21:1,3 quality 70:7;71:5 quick 53:15;55:24 quickly 73:8;76:4;85:17 quieter 69:23 quite 68:22;70:2 quote 21:16;91:9</p> <p style="text-align: center;">R</p> <p>radically 30:4 rails 92:21 range 70:10 rap 97:5 rather 69:15,19 read 3:6;58:23;71:2 readings 78:20 read-out 81:18 reads 91:11 ready 64:7 reaffirmed 93:3 real 17:14;50:21 really 15:23;54:10;55:23;56:9;58:3; 65:15;66:12;67:9;68:11;69:6;70:22; 91:19;106:21;58:7 reason 9:16;20:15;32:17;94:7 reasonable 94:8;100:15 recall 14:11;60:2,4 recalled 95:13 recalls 94:13 receive 55:5;57:7 received 5:19;6:9,12;45:7,14 receiving 40:16;57:6 recently 73:4;87:19 recess 64:10 recited 3:5 recognize 21:6;26:7;28:15;41:24 recognizes 77:10</p>	<p>recognizing 27:19 recommend 49:21 recommendation 7:3,20;8:9; 37:18;50:19;51:7,9 recommended 73:13 recommending 51:19;72:18 recopy 40:12 record 63:5 red 62:3 reduce 26:20;69:2 reduction 26:19 refer 14:13,14;16:7,21;59:18 reference 20:18;34:17 references 5:13,16;23:21;89:22 referred 49:19 refers 61:3,4 reflect 18:16,24 regard 104:23 regarding 46:6 regards 16:24 registered 8:13 registration 23:1 related 46:8 relationship 69:11,13 release 56:17,17 reliability 66:15 reliable 66:16 religion 11:2 rely 90:17 relying 90:16 remain 23:3;79:23 remote 78:2,4;79:4;82:13,14 remotely 66:24 repair 5:4 repeatedly 94:12 repetitive 65:4 replace 74:9;79:17;80:9,10,11; 82:17 replaced 74:13,20;81:19,20 replacement 5:5;74:3,17;75:1; 79:12;81:22 report 4:24;5:1;6:5;24:13;57:7;78:4; 4:15;7:15 reports 34:24;40:23;77:23 reputation 104:13 request 29:13;45:18;58:14;63:23; 94:16;100:2,10 requested 96:1,7 requesting 45:22 require 8:10;16:15;17:18;68:19; 98:2 required 8:13;25:13;47:11;78:7 requirement 47:6;59:9;60:9;69:10; 88:18 requirements 45:14,21;68:21; 86:10;88:17,20 requires 45:2;46:10;59:10;69:11 research 17:16,16 residence 7:22,24 residences 8:2 residual 71:7 resistance 77:18,20;78:17,21; 79:11,18;80:1,4;82:21;83:2,3</p>	<p>resolve 30:12;38:4 respond 5:22;104:22,24 response 3:21;4:8,12;9:1,5;13:18, 22;15:5,9;18:4;42:24;44:6,10;53:12; 54:20,24;55:19;63:8;80:1;102:21; 103:1;107:23;109:17,21 responsibility 56:14 responsible 88:15 rest 35:13;56:6;93:5;103:18 restricted 25:23 result 87:15 retain 82:24 retype 34:23 reverse 70:24 review 29:7;61:16;87:4;89:11; 22:20;45:16 reviewed 7:18 revised 89:12 revisit 20:14 rich 90:23,24 Rick 44:15;63:22;64:23;104:14 rid 68:20 ridiculous 39:19 riding 71:24 right 4:17;5:9,11;6:7;15:11;20:12, 13;25:12;26:2;28:17;31:19;32:10, 16;33:2,4,18;36:17,21;37:7;39:23; 41:5;42:22;49:13;52:21;53:21;61:7, 18;77:21;78:4;83:19;85:5;86:19; 89:8;90:5,23;92:5;97:4,11,22;98:24; 99:23;102:4,7,7,9;107:3;108:6; 109:6;7:6;12:15;16:21;17:2;43:10; 50:14;51:11;54:2;85:15;100:5; 105:24,24 ring 59:21 Rod 8:21;12:1,11;13:7;36:4;111:20 roll 111:13,17 room 8:4;11:17;44:23;46:3,3,4,11; 47:20;50:13;57:24;64:24;66:20,22; 67:2;69:19;86:9,22 rope 67:9,12,12,18,18;68:17;69:5, 8,15;70:23;88:17,18;90:16,17,18, 20;91:7,14,15,18 ropes 67:24;68:23;72:12,14;76:10; 77:1;81:4,9;87:10,11;88:23;92:3,6, 12,12,18,20,20 rouging 74:21 round 67:13;69:5 rule 41:10;53:6;62:21,23,24;97:4 rules 5:19,23;22:24;33:23;62:17, 18,18;94:20,22;95:2;97:23;105:15 run 53:2;54:4;83:2 running 66:11 Rush 47:4;53:6 rust 74:22 rusting 73:17;74:21</p> <p style="text-align: center;">S</p> <p>safe 66:15;70:4;77:2;93:4;95:11,13 safer 94:18 safety 4:23;15:20;44:23;46:3,4; 47:20;62:1;74:3;87:13;91:20;92:21;</p>
--	---	--	---

<p>101:6;4:15;22:23;31:23 sales 66:7 same 7:21;8:2,4;10:9,19;39:3,4,5,6,15,17;40:5;46:20;47:24;68:12;74:12;92:7,13,19;94:7;101:24;102:2 sample 26:22 samples 67:10;73:18 sat 87:13 satisfies 47:5 satisfy 37:12;46:16 saving 69:3 savings 69:21 saying 23:10;33:11;40:3;51:5;53:16;59:1;63:1;93:10;94:23;101:6 schedule 9:15,15;10:2;79:12,16 scheduled 10:19 Schlitz 61:13 screen 45:9,24;46:14;48:1,2,3,9,18,19,21;65:12 screens 48:8,15 screwdriver 75:15 scuffing 83:21;84:8 Seattle 87:8,9,22 second 3:17;5:24;8:16;10:4,5,7;13:13;15:2;34:6,16;36:4;37:18;38:11,12;49:16;53:10;54:16,17;57:12;60:13;102:18;109:3,16;111:9;112:8;3:18;14:6;34:8;53:23;63:12;102:19;109:4,14;111:10 seconded 8:18,22;13:14;15:4;38:18;42:11;111:11;112:9 Secondly 106:15 section 16:20;48:11;22:22 seeing 48:10;83:16 seek 48:16 seems 27:20;51:23,23;54:12 select 48:8 self-inspected 107:2 sell 99:8,10 send 4:5;28:4,6;33:14;35:17;41:22;55:6;73:6;78:3,5;85:9;102:12;103:8;104:19;105:23;108:16;4:4;33:11 sending 40:22;43:20 sense 26:18;27:20;51:24 sent 6:21;34:3;39:21;40:3;56:18;82:12;85:8;92:9 sentence 45:6 separate 7:4;28:13;36:2;66:21;69:19 September 10:17,18;11:11,19 Service 18:11;61:14 serviceable 78:10;82:19 Services 49:20 set 13:9;18:12;22:19;28:21;29:2;36:24;48:8,9,10 sets 5:20 setting 41:14;78:1 settings 78:18 seven 22:10;66:12;68:1,2;79:7;86:15 several 20:5;48:15 severe 74:19 shaft 69:1</p>	<p>shall 14:12;23:3,5;60:3 shape 67:13 share 7:21;8:11;19:7;22:12;26:23;37:5;7:16 shared 8:12 shares 7:20;8:3,5 sheave 69:1,9,12,16;84:4 sheaves 70:23 sheets 36:9 Shepard 106:2 shiny 73:23 short 64:10;68:15;97:3 shorting 75:20 shorts 75:21 show 48:12;73:8,12;75:13 showing 16:19 shows 5:1;74:19;102:10 shrink 69:16,17 shrinkage 80:3 shut 74:9;76:22;77:9;78:13;79:13,22 sick 22:13 side 15:15;16:22,22;47:5;96:5;16:1,3 sign 4:21;60:23;61:12 signal 14:12,21;58:24;59:23,24;60:1,4,6,13,21,22;61:1,5,5,8,10 signed 6:15,17 significant 99:15 similar 23:13 simple 81:20 single 101:7 sit 17:14;26:2 site 97:7,7,8 sites 73:10,11 sits 97:4 sitting 28:18;61:23 situation 7:18;37:21;93:12 situations 7:12;23:13;53:17 six 22:9;92:18 six-story 99:8 size 68:9;69:2,22 sizes 68:5 ski 72:23;76:19 small 65:13;67:2;80:3 smaller 68:8,10;69:9,20,22;70:22;88:23 smart 48:4 smokes 46:6 smooth 73:16 sold 66:9 somebody 20:21;28:14;29:22;32:3;38:6;39:12;42:16;61:9;72:2;75:15;79:23;92:2;109:12;13:14;96:19 somehow 72:2 someone 104:5 sometime 87:24;90:1;31:13,15 sometimes 48:5 somewhat 23:13 sorry 25:7;8:20 sort 32:10;48:21 sounds 41:19</p>	<p>source 49:15 southern 56:19,9,23 speak 19:13;58:17,18;59:8;64:17,22;93:5 special 46:2;92:11 specific 29:20;59:9;60:8,9;84:19;96:3;102:16 specifically 61:3;65:7;67:8 specs 5:10 split 30:23 spot 20:19;21:1,1 spotlighted 19:6 spots 73:18 spring 90:1 Springfield 9:16,18,23;10:14,14;12:19;13:10;57:15,15,17,18,21;58:1 sprinklers 46:7 spun 84:4,6 Sr 58:16 stable 72:6 stacks 45:10 staff 30:11 standard 6:23;19:14,16;32:1;87:2;88:4,15,16;89:17;91:7 standardized 39:2;40:6 standards 5:2;14:22;22:19;23:8;25:18,19,22;87:3;88:3;89:4;93:22;64:3,21 standing 79:24;96:5 stapled 36:7 start 3:2;9:12;22:7;40:15;64:13;77:21;111:17 started 86:8,16 starting 6:22;31:24;108:22 state 9:18;12:22;14:3;22:19;23:15,18,19;26:14,14,17;27:2;40:22,23;56:20;84:18;6:23;19:15,21;20:18;23:19;24:9,10;32:1;56:5,8;57:13 stated 6:13;21:9;31:22 statement 86:14 states 23:7,13,19;25:16;84:10,12 state's 21:18 States 84:17 stating 6:22 stations 56:18 status 45:5 stay 13:6;42:1;43:18 steel 63:24;64:4;65:2;66:22;67:8,14,18,18,21,23;68:3,17;69:8;76:5,7;80:15,15;83:23;88:22;90:16,17,18,19;91:7,14,15,18;92:3,6,12,18,20 step 26:20;110:12 stepped 91:11 sticking 74:7,14,24 still 8:7,7;22:6;42:14;65:8;67:18;72:16;90:16,19;93:11 stop 16:16;71:6,21;72:8 stops 16:13 strand 68:2 strands 68:2;74:14,23 strength 67:17;71:7,9;83:22,23;90:15 stresses 70:24</p>	<p>stretch 70:12 string 47:19;53:4 stronger 67:24 structure 66:23 stuff 24:10;34:4;41:6;53:5 sub-committee 27:18;28:4;29:6,9,11,18;88:13 subject 6:4;71:15;111:2 subjected 70:14 submission 85:7;95:1 submit 62:21;63:2;86:18;87:6;105:18 submitted 10:2;85:3;88:1;101:20 successful 66:6 suggest 9:22;30:2;74:16 suggested 9:15;11:16 summary 65:11 summer 22:14 supply 49:7 support 66:22;93:17,18;94:11 supporting 100:10 suppose 101:10 supposed 4:24;59:21 sure 11:23;26:7;27:10;31:13,14;49:10;65:8;70:3;18:9;55:10 surface 73:17 surprise 31:6 suspended 67:5 suspension 63:24;65:1;66:4;68:21;106:22,24 SWIENTON 3:16;31:18;32:3,9,13,17;33:1,4,7,17,22;34:2;35:2,6,9;41:19;42:13,20;44:3;48:1;50:22;51:1,4,11;52:11;83:4,8 switch 48:18;61:19 switches 14:11;60:3 system 28:15;45:8,20,21;46:15;47:10;49:5;66:16;72:23;73:2,3;75:8,9;76:17;77:10,14,16;78:11,23;79:4,19;82:3,4;90:12,13,20;95:11,12,20;101:24;103:11;106:23,24 systems 46:8,9;80:18</p>
T			
<p>table 61:23 tags 4:23 talk 7:11;17:14;31:18;52:24;64:23;65:6;66:1,8;67:7;73:5;75:7 talking 16:4;31:19;32:9;33:1;36:11,17,19;37:2;65:18 tamper 78:12 task 24:5,11;29:19,23;30:11;36:13;37:9,20;42:2 technical 66:8 technology 70:3;72:21;76:18,20;94:3;100:21,22 teleconference 57:17,24 teleconferencing 57:14 telephone 20:20 telling 56:13;95:14;104:7 temperature 71:13;72:3;78:18,19 temperatures 70:9</p>			

<p>temporarily 110:18 ten 98:13 tendered 64:5;16:9 tendering 107:17 tensile 67:24 terms 37:15;66:9;74:3 test 27:8;71:9;80:19 tested 70:1,9,11,15,17 testing 70:6,21,24;71:6;72:24;73:9;104:9 tests 5:15;71:1,13 Thanks 107:14 thereafter 110:15,17 therefore 20:21;36:3;50:15 thinking 23:19;96:23 third 74:5 third-party 106:4 thirty-story 99:9 thisindicating 48:13;65:10 Thompson 18:7,10;43:21;50:6;55:8;58:1,16;104:20;105:23;58:18;59:15,20;60:7,12,24;61:16;62:10 though 9:7;34:10;50:9;55:13;73:1 thought 19:11;95:10,19 three 5:20;12:7;35:18;42:3;87:10;91:5 three-inch 80:15 three-ply 36:2 threw 37:15 throughout 56:8;83:16 Thursday 5:21 Thyssen 85:20;87:8 Thyssenkrupp 96:1,4 Thyssen's 108:20 timely 28:9 times 13:8;80:6 tinkered 78:11 tiny 24:11;61:18;62:3 today 37:13;44:17;45:18;57:2;58:11;64:1,17,23;66:8;73:1;90:17,18;100:19 together 90:24 toggle 48:15 told 33:4,17;98:20,22 Tom 25:9,10;111:18 took 37:14;61:13;86:12 tool 21:11;76:11 tools 80:19 top 15:18;16:4,5,7,12,16;17:3,5;66:20,23;72:3;75:12;77:4;84:21 topic 19:5 total 36:3;68:3 totally 87:14 tower 44:18,21,21;46:13;54:3 track 77:20 tracking 71:1 traction 6:15;67:19,23;70:12;71:21;72:6,7;74:3;83:22;84:2 tractions 16:22 traditional 72:14;76:24 training 80:20;106:5,8,11 travel 45:11 tremendous 101:5;104:2</p>	<p>tried 58:2;71:15 true 60:24;87:14 Trust 57:7 truthful 57:5 try 37:10;38:3;65:20;70:23;71:15;77:1;104:12 trying 20:8;61:5,21;62:1;98:21 turn 105:22 turned 84:5 turns 14:9 tweak 28:19 two 6:15;7:4,4,5,11;8:3,12;14:14;26:18,21;30:4,24;31:10;34:15;35:15;36:2,4;37:6;39:7,7,12,18;42:3,11,17;43:12,18;55:24;57:13;65:9;68:5;91:11;92:12;101:16;105:11;111:7;49:3 two-page 35:21;43:12 type 100:13;106:20 typical 50:2;67:12;73:15;81:24;83:20,20 typically 71:11</p>	<p>27:13,13;32:16,21;33:2,4,7,12,18,19,19;34:20;36:1;39:12;43:23;48:22;50:5;52:20;62:14;69:3,9;71:4;72:19;93:11;105:22;107:8 used 6:23;31:24;32:1;35:24;40:4,4;47:11;61:13;69:22;70:22;72:22;76:19,21;92:16 user 78:9,10 users 27:11 uses 36:21;65:1 using 6:19;19:11;22:6;25:1,10;30:14;31:19;32:3,10,18,19;35:20,21;62:3;75:8;88:24 usually 65:11;71:8;67:1</p>	<p>43:20;79:15 way 11:21;12:4;13:8;31:1;34:4;38:23;42:20;43:8;57:16;58:23;67:17;82:7;85:12;86:1;91:14;97:4,20,21 ways 42:18;106:9 wear 73:17;74:1,19;79:19;80:2;84:8 website 32:8 week 5:2;8:3,3;11:18;88:7,9;89:4 weekends 8:4 weeks 8:4 weight 68:24 weird 61:15</p>
	U	V	<p>Weller 112:2;27:17;28:3,8,14;29:10,16;36:11,16,23;37:2,4,7;51:23;53:15,23;54:11;85:2,11,16;86:5,14,18,21,24;87:19,21;88:5,8,12,21;89:18;90:10;93:2,4;94:4,8;95:8,19,22;96:9,14,19,23;98:20;99:3;100:2,8,18;101:3;102:3,19;103:23;104:11;108:22;112:2 west 47:5 what's 42:3;66:3;83:5;92:2 wheelchair 8:15 WHEREUPON 3:4;63:16;64:10;110:20 whole 19:22;32:6;37:15,16;46:14;53:4;69:16,17;71:1;101:1 wide 68:8 willing 36:13 wire 67:12,18,18;68:17;69:5,8;83:23;90:16,17,18,19;91:7,14,15,18;92:3,6,12,12,18,20 wires 67:23;68:2,3;74:6,12,14;80:3 wish 90:22 within 8:5;66:21;88:13;104:23 without 28:6;71:22;77:5;80:20,20;89:13 withstand 85:22 wonder 21:14,19 wondering 4:2;51:20;56:6;57:16 word 56:16;57:8,8;62:1;28:19 words 47:10 work 22:15;24:6,11;28:18;30:11;92:1;98:22 working 31:16;86:9;92:8 works 86:1 world 37:15;84:14 world's 99:13 worldwide 70:8 world-wide 66:10 Worldwide 64:19 wrapped 67:13 write 15:17;16:12 writing 32:22;62:21;63:2;85:3;104:23 wrong 6:20;80:9;89:23 wrote 22:7</p>
		W	<p style="text-align: center;">Y</p> <p>year 18:15,22;19:1,2,3;31:12,13,</p>

15;56:16;58:2;72:17;89:16,18,19;
90:7,9;91:4,7;93:14;99:11;18:14
years 30:23;31:1,7;57:1;66:12,13;
70:21,22;71:11;72:22;76:20;81:23,
24;86:12,15;88:16;91:5;92:10,16
yeses 7:14
yesterday 56:20
Yom 10:24
Young 18:7,10;28:21;18:8,10,19,
22;20:2,12;21:22,24;22:2,11,21;
25:4,10,24;26:6;28:17,22;30:6,16;
31:3,9;34:14;36:1,15,19;37:5,14,24;
38:5;44:12;55:8,11;109:23;110:2,7,
11

Z

zinc 67:21