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INDEX

Motion Sequence No.	
720-1	3
720-2	5
720-3	9
99-1	11
99-2	12
99-3 99-4 99-5	17
99-6	18
99-7	45
99-8	50
99-9	74
99-10 99-11 99-12 99-13 99-14	86
99-15	119
99-16	134
99-17	142
99-18	142
99-19 to 99-27	127
99-28	149
99-29 to 99-39	154
99-40	154
99-41 99-42	160
99-43	160
99-44	163
adjournment	174

MR. BELL: Good afternoon ladies and gentlemen, my pleasure to serve as your presiding officer for the remainder portion of this afternoon's Technical Session. Hopefully we won't have to work too late.

The next report under consideration this afternoon is that of the Technical Committee on carbon monoxide detection. Here to present the committee report is Committee Chair Tom Norton of Norel Service Company, Incorporated, located in Concord, Massachusetts. The committee report can be found in the blue 2011 annual revision cycle ROP and ROC. The certified amending motions are contained in the motion's committee report behind me here on the screen. We'll proceed in the order of the motion number presented. Mr. Norton.

MR. NORTON: Mr. Chairman, ladies and gentlemen, the report of the Technical Committee on carbon monoxide detection is presented for adoption and can be found in the report on proposals of the report on comments for the 2011 annual meeting revision cycle. The Technical Committee published a report consisting of a partial revision of NFPA 720

standard systems for the installation of carbon monoxide detection and warning. The report was submitted to a letter ballot of the Technical Committee that consists of 27 voting members and the technical correlating committee of the signalling systems for the protection of life and property that consist of 17 voting members. The ballot results can be found on pages 720-1 to 720-13 of the report of proposals, and pages 720-1 to 720-18 of the report of comments. The presiding officer will proceed with the certified amending motion.

MR. BELL: Thank you, Mr. Norton. Now let's proceed with discussion on NFPA 720, the first motion sequence is number 720-1. Is there a motion? Microphone No. 5.

MR. KLEIN: Mr. Chairman, my name is Burton Klein, Burton Klein Associates, and Jon Woodard's authorized representative. Mr. Woodard is unable to attend this technical session. And I would like to move acceptance of Mr. Woodard comments 720-1.

MR. BELL: So the motion on the floor is to accept 720-1. Is there a second?

THE FLOOR: Second.

MR. BELL: I hear a second. Proceed.

MR. KLEIN: I believe the membership and attendance has the document relating to Mr. Woodard's reasons for submitting the NITMAM on technical committee action and public.

MR. BELL: Thank you. Mr.

MR. NORTON: The committee voted to reject this proposal, and the committee statement that the alarms that he is referring to are standalone components and the submitter proposes for off premise communication equipment which is characteristic of the system and not a signal station alarm.

MR. BELL: Thank you. Microphone 2.

MR. CLARY: Mr. Chairman, Shane M. Clary Bay Alarm Company speaking against the motion which is a motion to modify my original proposal which was 720-4 on the proposal, and as Chairman Norton indicated, the definition is for a seal alarm which is a standalone unit and not a system. And also just for the record, if this were to come to appeal, I would be recusing myself at the Standards

Council meeting. Thank you.

MR. BELL: Thank you. Any further discussion? Seeing no one at the microphone we'll move to the vote which is to accept Comment 720-1. All those in favor please raise your hand. Thank you. All those opposed. Motion fails.

Let's move on to motion sequence 720-2. Microphone 5.

MR. VAN OVERMEIREN: FPC Consultants, here as the approved designated representative of Mr. Victor Humm of Humm Associates certified amending motion 720-2 to accept proposal 720-9.

MR. BELL: The motion is to accept proposal 720-9. Is there a second?

THE FLOOR: Second.

MR. BELL: I hear a second. Please proceed.

MR. VAN OVERMEIREN: Prior to this addition, NFPA 720 focused primarily on residential occupancy. This addition encompasses residential and commercial applications for CO for life safety purposes and industrial applications of CO detection for hazardous gases. As a life safety device the

next addition of NFPA 72 will require C O signals to be considered an alarm not a supervisory signal. The first portion of this proposal creates a prioritization of the emergency signals which will specifically allow building owners, system designers, and the AHJ to treat seal alarms differently than fire alarm signals. Not that it with the condition would be treated as a one-fit all alarm condition. This provision will not go through and interrupt the testing of fire alarm systems in any manner. Many of us are aware of situations where existing devices in locations other than the zone of initiation have activated prior to the devices in the zone of incident. As a result, the wrong fire alarm voice message can be broadcast or the wrong group of doors or smoke management system operate. Please note that these provisions only provide flexibility in the design of CO detection and the AHJ approval of those systems. Where the signals for these systems are connected to building fire alarm system. This proposal does not change the installation cost or affect any cost as far as testing and maintenance. I speak in favor of the

motion to accept proposal 720-9.

MR. BELL: Thank you. Mr. Norton would you like to offer the committee's position, please.

MR. NORTON: The committee voted to reject the committee statement. The intent of the proposed recommendation Is unclear. The placement of the new text is inappropriate in Section 5.1 which deals with the interactions for the rest of the standard. The proposed material seems to be dealing with coordination of different signals and different systems which are primarily addressed in NFPA 72.

MR. BELL: Thank you. Microphone No. 5.

MR. VAN OVERMEIREN: Frank Van Overmeiren, F P C Consultants. Comment on Mr. Norton's comments. This chapter or this standard was notably reorganized and changed as part of the expansion of its scope to address the devices and other occupancies other than residential atmosphere. As part of that reorganization, the original proposal was submitted to Chapter 5. Chapter 5 is entitled protected premises carbon

monoxide detection systems. This proposal is addressing those systems that are interconnected to the building fire alarm system.

Section 5-1 is application. While the proposer may not have known exactly where to put this proposal in Chapter 5, at the time the proposal was submitted, Chapter 5 was being substantially changed. The committee couldn't reorganize. Thank you.

MR. BELL: Any further discussion? Mr. Norton, anymore further comment?

MR. MORTON: No.

MR. BELL: We move to the vote to accept proposal 720-9. All those in favor of accepting proposal 720-9 raise your hand. Thank you. All those opposed. Motion fails.

Next motion sequence 720-3. Microphone 5.

MR. KLEIN: Burton Klein, Klein Associates. Authorized representative for John Woodard who was unable to attend the session. I would like to move Mr. Woodard's comment 720-6.

MR. BELL: So the motion on the floor

is to accept comment 720-6. Is there a second?

THE FLOOR: Second.

MR. BELL: I hear a second. Please proceed.

Mr. KLEIN: Again I believe membership and attendance has documentation relating to Mr. Woodard's reasons for submitting a NITMAM on Technical Committee action rejecting his public comment.

MR. BELL: Thank you. Mr. Norton.

MR. NORTON: Thank you, Mr. Chairman. The committee voted to reject this comment, and again the committee's statement is similar to the first motion was that the alarms referenced are standalone components and the submitter proposes off premise communication equipment which is characteristic of a system not a single station alarm.

MR. BELL: Thank you, Mr. Chairman. Microphone 2.

MR. CLARY: Thank you Mr. Chairman. Shane M. Clary, Bay Alarm Company speaking against the motion. I am the author of the original

proposal 720-4, and again this revised definition was for a standalone carbon monoxide alarm and not for a part of a system. And again for the record, that this were to come to appeal at the Standards Council I would be recusing myself. Thank you.

MR. BELL: Thank you. Microphone 2.

MR. BLACK: Mr. Chairman, Art Black Carmel Fire Protection, principal on 720. And I am confused because it looks like 720-1 which we -- speaking against the motion. 720-1 which just was voted on and failed was to included a definition 3311. This particular comment deals with annex material for that definition that we just voted out. So it seems like this is moot, and I'm voting -- speaking against the motion.

MR. BELL: Any other discussion? Seeing no one at the mike we are going to move the vote to accept comment 720-6. All those in favor of the motion please raise your hand. All those opposed. Thank you. Motion fails.

Thank you, Mr. Norton.

The next report for consideration this afternoon is that of the Technical Correlating

Committee on healthcare facilities. Here to present the committee report is Technical Correlating Committee Chair Douglas Erickson of the American Society for Healthcare Engineering located in Christiansted, Virgin Islands. The committee report can be found in the blue 2011 Annual Revision Cycle ROP and R0C, the certified amending motions are contained in the Motions Committee Report behind me here on this screen. We'll proceed in order of the motion number presented. Mr. Erickson.

MR. ERICKSON: Ladies and gentlemen, the Technical Correlating Committee on healthcare facilities is presenting one report for adoption and can be found in the report on proposals and reporting comments for the 2011 annual revision cycle. The Technical Committees and Technical Correlating Committee and Healthcare Facilities has published a report consisting of a partial revision of NFPA 89 standard for healthcare facilities. The report was submitted to letter ballot of the Technical Correlating Committee and the Technical. The ballot results can be found on pages 99-4 to 99-198 of the report on proposals and pages 99-4 to

99-76 of the report on comments. The presiding officer will now proceed with the certified amending motions.

MR. BELL: Thank you. Mr. Chairman. The first motion on NFPA 99 which is motion sequence number 99, the maker of that motion has notified NFPA that they do not wish to pursue this motion. So we're going to move to sequence number 99-2.

Microphone No. 5.

MR. KLEIN: Thank you, Mr. Chairman, Burton Klein or Burton Klein Associates. I'm representing myself. I would move acceptance of my proposal 99-75 on Chapter 4 of the current edition of NFPA 99.

MR. BELL: Motion on the floor to accept proposal 99-75. Is there a second?

THE FLOOR: Second.

MR. BELL: I hear a second. Please proceed.

MR. KLEIN: I would like to point out my proposal has nothing to do with applying requirement NFPA 99 retroactively. Second, there was no intention change or revise any wording

involved in this proposal. My intent was only to relocate existing wording on the subject of maintenance and testing also referred to administration of some of the chapters in several chapters in NFPA 99 into separate chapters thereby separating requirements for existing systems and equipment from new systems and equipment requirements. In my proposal I made reference to a similar separation of new requirements from existing requirements in another NFPA document NFPA 101 life safety code. And the third reason when NFPA was first compiled in 1982 and then restructured in NFPA in 1984, keeping all requirements on one topic and one chapter seemed the best way to arrange material. The chapters involved were divided into four sections. Source, distribution, testing of new systems or equipment, and last one section covering means and testing of systems and equipment already in use.

The chapters involved in proposed restructure of 2012 this arrangement is not so readily evidence and with paragraph numbers and 6 and 7 digits, I concluded it is time to separate new

1 from existing into separate chapters just to make it
2 easier for users of the document, and this includes
3 both private sector and in the enforcing sector to
4 see when requirements apply. Thank you, Mr.
5 Chairman.
6 MR. BELL: Thank you. Mr. Erickson.
7 MR. ERICKSON: Thank you, Mr. Chairman.
8 The Technical Correlating Committee did charge the
9 Technical Committee within the 99 project to go
10 forward and identify those given paragraph numbers
11 that would apply to both new and existing healthcare
12 facilities. As Mr. Klein has said, those are
13 typically testing, have to do with maintenance and
14 operation of these systems as the installation and
15 equipment requirements are not considered
16 retroactive. When the committees looked at the
17 volume of the section numbers that they would be
18 pulling into a new chapter called existing
19 electrical systems existing medical gas systems,
20 there were only 4 or 5 sections that would have been
21 pulled into this new chapter. So therefore it just
22 seemed a little silly to create a brand new chapter
23 on existing. So what they did was they wrote a

section that said for the following section numbers they shall apply to both new and existing healthcare facilities.

MR. BELL: Thank you, Mr. Chair. Microphone 6.

MR. BEEBE: Chad Beebe American Society for Healthcare Engineering speaking on opposition of the motion. We looked at this a number of times and tried to figure out if we needed actual existing and new chapter in this. If we do this it's actually going to fragment all the chapters up we're going to end up having little bits of existing chapter information. And as Mr. Erickson says, it's really going to make it more confusing to authority having jurisdiction and the users of the document. So I urge you not to support the motion on the floor.

MR. BELL: Thank you. Microphone 6.

MR. DAGENAIS: Dave Dagenais speaking on behalf of myself in opposition to the motion. I am a member of the TCC Committee a member of the Electrical Technical Committee. I'm going to read you exactly the way it states. 6.1.2. The following paragraph in this chapter shall apply to new and

existing, and goes on to list 1, 2, 3, 4, 5 and so on. Very clear, very consist, gets right to the point. There is no need for an additional chapter with respect to a small amount of the document that would apply to new and existed. I urge the body to support the committee and vote against this motion.

MR. BELL: Microphone 6.

MR. MANTON: Thank you, Mr. Chairman. Dean Manton, Providence Health and Services Oregon, representing the healthcare section. I stand in opposition to the motion on the floor.

MR. BELL: Any further discussion? Microphone 5.

MR. KLEIN: Burton Klein Associates, in favor of the motion obviously. The question of amount of materials did not seem germane in terms of anyone trying to find the new and the existing within a particular chapter. In the current edition it was much more evident than it is today, and I concur that placing material just small parts of it into a separate chapter may be cumbersome, but in single -- would be very relative evidence that existing and new and separate and if someone wants

to find out just what needs to be needed to look at one particular chapter. Thank you.

MR. BELL: Any further comment? Mr. Erickson.

MR. ERICKSON: No, sir.

MR. BELL: No seeing no one else at the microphone, we'll move to the vote to accept the proposal 99-75. All those in favor please raise your hand. Thank you. All those opposed. Motion fails.

Next motion in sequence is number 99-3. Microphone 5.

MR. KLEIN: Burton Klein, Burton Klein Associates. In light of the vote I respectfully withdraw my next three motions to save time for the other presentations.

MR. BELL: Thank you. Maker of the motion is sequence number 99-3, 99-4, and 99-5 is not going to pursue those motions. So we move directly to motion sequence number 99-6. Microphone No. 3.

MR. NASBY: James Nasby representing myself. I have no akin other than I'm on the

operating table or one of my family members is or is on life support. By way of introduction, I have a BS degree Illinois Institute of Technology, a few courses away from BS.

MR. BELL: Make your motion first.

MR. NASBY: I'm in favor of the motion my NITMAM.

MR. BELL: So your motion as I understand is to return a portion of the report in the form of proposals 99-39, 99-40 and 99-108 and related comments 99-35, 99-36, 99-37, 99-123 and 99-124. Is that correct?

MR. NASBY: Correct.

MR. BELL: So that's the motion on the floor. Is there a second?

THE FLOOR: Second.

MR. BELL: I hear a second. Please proceed.

MR. NASBY: Thank you. I am here representing myself. I am here on my own nickel or as dedicated fanatics say, I'm self funded. I am a member of NFPA 20. Again representing myself. I'm a former member NFPA 110. Former member of NFPA 70

code-making panel 13, the previous few cycles, and also a contributing author to several NFPA publications.

The reason for the NITMAM is the standard seeks to eliminate the term emergency systems. From my viewpoint this could create chaos in the design and construction enforcement aspects of emergency power supplies. Emergency systems whatever you call them. Some can say that this is a semantics type of ploy rather than employing sound engineering, the point being that electrons are electrons and emergency equipment is emergency equipment. By eliminating the word emergency systems, this now, and applying requirements in 99 roughly parallel requirements of NFPA 70, national electrical code Article 700 and also 517 both of which do use the term emergency systems as well as numerous other standards, is going to create a conflict as to who enforces what, who builds to, designs to what, who submits to what, and who inspects to what.

So I see a situation of scope overlap which I think is going to create a lot of confusion.

1 I didn't see any substantive reason stated in the
2 report and proposals or comments for this change.
3 Now the substantiation to proposal
4 99-139 reads, I quote, Avoid any further confusion
5 with term "Emergency systems" as used in Article 700
6 of NFPA 70.
7 Now I don't know what is confusing
8 where, and I don't know of any proposals or request
9 for formal interpretation or TIA that was sent to
10 the national electric code NFPA 70. I'm not sure
11 the reason that NFPA 99 wanted to depart from the
12 long standing requirements of Article 700 which
13 would appear to be either the object or what is wind
14 up occurring in certain situations anyway, or 517,
15 somebody could say it looks like throwing out the
16 baby with the bath water, but again emergency loads
17 are emergency loads are emergency roads. So the
18 real question is do we have the same reliability as
19 in existing healthcare facilities and other
20 facilities.
21 The requirements that have been added
22 to 99 again try to cover what used to be called
23 emergency system leaves a number of holes that are

picked up in Article 700 such as temporary power, mechanically held transfer switches, identification of service entrance equipment, marking of emergency equipment, and others. And as a result, again there can be interacting conflicts both within the new requirements added to 99 as well as conflict between 99 and NFPA 70 and other standards. The emergency systems and NFPA 70 is used by numerous enforcement agencies. And again, what will they do, where do they go.

With regard to the term performance, what is in the national electrical code has been accepted by Standards Council and this organization so I'm going to say unless someone has proposals that change the scope of NFPA 70 what is in there is the requirement.

MR. BELL: 30 seconds.

MR. NASBY: So the questions are why would new facilities be less reliable on emergency power than older and existing facilities and why less reliable than other facilities and also the fact that the existing requirements in 70 are being enforced and built and designed to this day as we

speak. I thank you for your consideration.

MR. BELL: Thank you. Mr. Erickson.

MR. ERICKSON: Yes, Mr. Chairman. Before I turn it over to Jason D'Antona what I would like to do is read to you what the inner -- what's called the inner committee on emergency power supply systems that did as a result of, first of all Standards Council asked us to all get together so let me read a couple of paragraphs here before we go any further.

As I say, the Standards Council appointed a task group called inner committee coordination on emergency electric systems to clarify the performance versus installation scopes of work of panel 15 of the NEC and NFPA 20, 72, 99, 110 and 5101 and 5000. Mr. Carpenter chaired the task group reporting back to the council in August of 2009. The council provided the following statement. Without deciding in advance what the council would do regarding specific jurisdictional issues related to this topic, council considers the guidance in the report be useful. They instructed NFPA to work with the TCs and provide guidance on

the use of the following two definitions.

Performance requirement. A specification of the manner in which equipment or a system is intended to function or operate.

Installation requirement, a specification of the material and process associated with putting equipment in place and making it ready for use in accordance with the performance requirements.

On the issue of selective coordination and central electrical power supply systems which we'll get to in a little bit, if I may go forward, it says NFPA 99 has the responsibility for establishing the performance requirements for the prevention of cascading outages. And NFPA 70 has the responsibility for the installation solution on selective coordination as defined by the performance criteria set by NFPA 99.

On the issue of the central electrical power supply systems NFPA 99 has the responsibility for the reliability of backup power sources and NFPA 70 has the responsibility for the installation solutions of selected load pick up load shedding,

peak load sharing as defined with the performance criteria set by NFPA 99.

I appreciate your allowing me to read this because there was a committee that was a task force of the Standards Council reported back to the Standards Council and that's what the Technical and Tech Correlating Committee was working off of when we were proceeding to do our work.

MR. BELL: Thank you. Microphone 5.

VOICE: Thank you, Mr. Chairman.

MR. BELL: Sorry. Hold on.

MR. ERICKSON: What I would like to do, Mr. Chairman is to have Jason D'Antona who is a member of the committee respond to this. Mr. Vern was unable to attend the meeting as the chair of the committee. So Jason will.

MR. BELL: Microphone 2.

MR. D'ANTONA: Thank you, Mr. Chairman. My name is Jason D'Antona, senior electrical engineer with Partners Healthcare in Boston. I'm here representing the HEALS committee in a position on this.

The intent of the committee was you

actually clarify some definitions that were causing some issues. Article 700 has a definition for a term called emergency system. NFPA 99 has a definition for an emergency systems. These two definitions were close but they had different meanings so we were concerned that they would cause confusion.

One of the concerns from the NITMAM was that in fact we were relieving ourselves of the requirements of Article 700. In fact what we were trying to do is clarify what portions of the system applied to Article 700. And in fact in NFPA 70, Article 51726 it says the essential electrical system shall meet the requirements of Article 700 except as amended by Article 517. So no matter what we do, whether we take the term out or leave as is all portions of the essential electric system which includes life safety critical and equipment branch still apply to Article 700.

MR. BELL: Thank you. Microphone 5.

MR. KOVACIK: Thank you, Mr. Chairman. I'm John Kovacik with Underwriters Laboratories, speaking on behalf of the electrical section of NFPA

and speaking for the motion on the floor. The electrical session met this morning and the members voted to support certified amending motion 99-6. The members therefore support the motion on the floor, that is the members of the electrical section of NFPA. Thank you.

MR. BELL: Thank you. Microphone 6.

MR. DAGENAIS: Dave Dagenais speaking on behalf of the healthcare section in opposition to the motion. This morning at the healthcare section executive board meeting the membership and the board voted to oppose this motion. The healthcare section thinks that the Technical Committee has done an excellent job in clarifying the terminology that is currently used within the industry. Within the healthcare world it exists life safety branch, critical branch, and equipment branch. Terms like essential systems just confuse the installers as well as the maintenance as to what they need to do. The bottom line, the terminology is to clarify. There is no allegation that it would separate from 700, and it doesn't do so as read by the chair. We urge everyone to support the committee in this

action and support the healthcare section. Thank you.

MR. BELL: Thank you. Microphone 5.

MR. SAPRETUS: Vince Sapretus, Cooper Bussmann. I speak in support of the motion. If you read the ROP and ROC it's obvious that NFPA 99 technical committee is trying to divorce itself from the requirement is of Article 700. In doing so, they have removed the word emergency. They've removed the definition of emergency system. And what does that result in? Let's go over a few of the things that it results in. 700.78 requires that a sign be placed at service entrance equipment showing the type and location of an on site emergency power source. That's no longer required. With no signage where the firemen go to locate the emergency source. 700.26 permits the omission of ground fault protection on the north of the transfer switch on the emergency side. Since 700 is no longer applied, that permission to omit that ground fault protection is gone. So those of you that have used that permission can no longer use that permission. You'll have to put ground fault

protection on the alternate source side. And if you put in one level you have got to put in 2 levels.

700.6D requires signalling whenever a ground fault occurs that is no longer required. How long will it take now for electricians and staff to know that a ground fault has occurred. 700.6 D also requires posting of the course of action that the employee must take when a ground fault occurs. That's no longer required.

700.10 A requires marking of boxes and enclosures containing emergency equipment. What happens when the first responders are there and they can't tell what is emergency equipment and what is not.

700.16 requires that emergency lighting continue in the on position until the normal lighting is back up and providing the normal level of light. So let's assume that you had a power outage, the emergency lighting comes back on, now the power comes back on. You wouldn't want the emergency lighting to go off until your normal source light is back up and running. That is no longer required. You could be in the dark until

your normal light is back up and running.

700.20. Limits access to emergency lighting controls to only authorized persons. We surely wouldn't want to allow access to patients and visitors. 700.20 also prohibits 3 and 4 way switches. You can imagine if you have a 4-way switch which one is the one which is off. No longer required.

700.4 B requires a portable or temporary alternate source whenever the emergency generators are out of service for major maintenance or repair, no longer required.

700.5 C requires an automatic transfer switch be mechanically held. Wouldn't be such a good idea if you lost your automatic transfer switch when the power went off.

NFPA 99 should have purview over requirements that are specific to healthcare. Not requirements like these that are applicable to all types of buildings that have emergency systems. Whether they are specifically called an emergency system or whether we call them something else. I suggest you vote for this certified amending motion.

MR. BELL: Thank you. Microphone No. 4.

MR. KOLINSKI: Mark Kolinski representing American Society of Hospital Engineers. I am speaking in opposition to this proposal. I believe that over the years NFPA 99 and NFPA 110 have well served the healthcare industry. I believe there are indeed uniqueness to the healthcare industry and the emergency power supply system, and that in general the NFPA 99 and 110 have defined that very well by the committee has indeed attempted to define it even better with the motion or with the proposal that is already out there. I would like to vote against so that this can be maintained and that we have consistent reading of the code for the authority in the jurisdiction.

MR. BELL: Microphone 2.

MR. LABB: My name is Bill Labb Webb Fire Protection representing ASHRAE and I call the question.

THE FLOOR: Second.

MR. BELL: Motion to close debate made and second. All those in favor of closing debate

please raise your hand. Thank you. All those opposed. Motion fails.

THE FLOOR: (Indicatio).

MR. BELL: You're calling for a electronic vote? Are you asking for an electronic vote?

THE FLOOR: No.

MR. BELL: We are going to go to Microphone No. 6.

MR. MANCHE: Alan Manche, I'm speaking for Schneider Electric Square D Company. I stand in opposition to the motion and I believe there is a misperception with regard to how the NEC is utilized with healthcare facilities here and there has been some clarifications in 99 that gets us to establish what that system is supposed to look like in regard to Article 517 in the NEC. 517 in the NEC specifically references Article 700. You also have to understand that you don't exempt 700 from healthcare facilities just by simply making revisions to the systems here. So there is complete misunderstanding being presented here with regard how Chapter 700 are applied here so I ask for your

support in opposing this motion.

MR. BELL: Thank you. Microphone No. 5.

MR. LIPSTER: Thank you, Mr. Chairman, Steve Lipster representing the International Brotherhood of Electric Workers, and I speak for the motion. Mr. Chairman, we are talking about Article 700 quite a bit and of course it does apply, but the reality is that further on the action taken by the electrical systems does reduce selective coordination to .1 seconds so cuts the selected coordination provision found in Article 700. The entire premise for these issues raised by this and other cams dealing with Chapter 5, the first one being healthcare electrical systems are somehow different from other electrical systems. They're somehow more complex than other structures. This may have been true 20 years ago but things have definitely changed. In my area central Ohio there are four financial centers five, data centers, and one military installation that is far more complex than any healthcare installation. We're talking triple and quadruple redundancy. Every one of those

structures built in every NEC requirement including Article 700. Healthcare systems are no longer the most complex installations out there.

The second leg of this premise assumes 99 is a performance document for healthcare electrical systems and in fact any other NFPA code with broader jurisdiction. This is a grave responsibility. Responsibility I'm afraid my colleagues and myself on ELS have forgotten about. In every single page where there is a conflict with the sister NFPA code the 99 requirements are less restrictive. Every single case. Allowing 99 to be published is created dangerous presence for our association. At lunch I made a quick scan of NFPA code and standards. There are at least 10 NFPA codes with the state occupancy jurisdictions just like 99. Everything from aircraft hangers to LP gas plane, to marinas. What happens when the dry cleaners NFPA 32 decides class work space as hazardous location. Their systems are different. They can't compete in the global economy. It's too expensive. This is a dangerous float to go down. We must allow the codes standards broader

jurisdiction. Please support this cam.

MR. BELL: Thank you. Microphone 2.

MR. D'ANTONA: Partners HealthCare System speaking against the motion. I didn't really state it will the first time, but the intent was to clarify confusion that exists. Some of which we're seeing all those aforementioned requirements are still bound under Article 517-26 because it says essential electrical system must comply with all the requirements of Article 700. This change of definition has no effect whatsoever on that requirement. The essential electrical system comprises of the life safety critical equipment branches of the hospital. All we were doing, all we were trying to clarify is we were getting rid of a subset that existed called the emergency system which consisted only of the life safety and critical branch, excludes equipment branch. By removing that definition which had no requirements in NFPA 99 we're providing equity to all three systems and because of the requirements of 517-26 which are not changed by this proposal, all those systems have to comply with 700. All the list of all different

requirements, they're still valid, still required in 517-26.

MR. BELL: Thank you. Microphone 1.

MR. FISKE: Thank you, Mr. Chairman. William Fiske, Intertek speaking in favor of the motion. Although this has been presented as the NFPA 99 committee action has been presented as clarification and terminology. The record taken as a whole shows that it is not just clarification of terminology, and if anything the move is more likely to create confusion than to resolve it. Needs to be made absolutely clear that the essential safety requirement, the electric safety requirements by NFPA 70. And there is no reason for any particular occupancy to take any acceptance to that.

MR. BELL: Thank you. Microphone 6.

MR. WISEMAN: James Wiseman D Square Schneider Electric, speaking in opposition of the motion. I am a member of both DLS committee and the Code Panel 15 covering Article 517 code. We recognized when working in 517 revision a couple of cycles ago we were having difficulty making distinctions in areas that needed to be distinct

from what was in the 700 in some cases and realized it comes from the using the word emergency in cases that really have different meaning and really comes down to the critical branch of the essential electrical system having requirements that go beyond the requirements of Article 700. But if you talk about all of them as emergency systems you can't separate the two in any requirements. The article 700 requirements address egress and life safety or you can get in and out of a building in the case of emergency. Critical branch is addressing defending in place. You have people in the hospital you need to keep on the system so there are definitely different requirements. You need to have a way to address both of those. No intent to change the way from Article 700 where it is to life safety. We need to be able to tell where we're talking about that and where we're going beyond.

MR. BELL: Thank you. Microphone 3.

MR. CRNKO: Tim Crnko, Cooper Bussmann. I'm in favor of this NITMAM. I'm confused. I heard the representative from ELS panel state that 517-26 and Chapter 15 for the NEC is going to keep the

emergency loads that are traditional emergency loads in any other building complying with Article 700 of the code. Yet last code cycle the healthcare representatives in Panel 15 wanted to eliminate 517.26. So it just hangs by a thread. That's one of the problems here. My opinion, we've got multiple standards covering the same domain. My concern is there is electrical loads for emergency and all these large buildings including healthcare that should be handled by Article 700 of the code. But yet they are not going to be held accountable the same way within the healthcare facilities. My opinion should be in healthcare facilities comply for those loads that are for emergency lighting, egress lighting, pressurization for fire control and all the other loads, elevators for rescue workers and so forth, fire pumps, all that should comply with the appropriate codes with the appropriate articles in the code. And this basically cuts that off. And it builds in the future it can get worse. So again, I stand in favor of the NITMAM.

MR. BELL: Thank you. Microphone 4.

MR. LITROVICH: Thomas Litrovich, Eaton

Corporation, and I speak in opposition to the motion. We believe, I believe that it adds clarity to the industry. And I think we established that it's clear that 517.26 which references the essential electrical system does encompass all that the hospitals are required. So it does reference Article 700 so there is no issues there as well. But I do believe it does add clarity and it will considerably improve the applications in these applications.

MR. BELL: Thank you. Microphone 3.

MR. NASBY: Representing self again. We've heard enough testimony.

MR. BELL: Speaking for the motion?

MR. NASBY: Sorry. Speaking for the motion. I think we've heard enough testimony to clearly indicate that there is confusion by this substantive change. If there had been confusion or need to further clarify emergency systems, the standard could have kept or should keep the definition of emergency systems not wash that term out of the standard but add perhaps subdivisions to it. It didn't do this so now we have again what

appear to be overlapping scopes or holes, and you've heard the testimony that it's not clear which portions of the NEC will or will not apply. So again I think this introduces more confusion. I'm not sure what confusion is trying to solve but it has raised the level of confusion. Again thank you for your consideration.

MR. BELL: Thank you. Microphone 4.

MR. CARON: Daniel Caron with BR Consulting Engineers in Boston and I'm also a member of code-making panel 13. I don't see where the confusion is.

MR. BELL: Speaking for or against?

MR. CARON: Speaking against the motion. I don't understand what the confusion is between 517 or 99 referencing Article 700. 517 doesn't reference 240 yet over current protection is required per Article 240. It doesn't represent the grounding section. It doesn't reference the requirements for motors, yet the requirements for motors is still required as part of the code in a hospital. So whether it does 525 references 700 or whether it doesn't, Article 700 applies to the

emergency system and this is the emergency system we're talking about. I don't understand what the confusion is.

MR. BELL: Thank you. Microphone 1.

MR. MERRICK: Paul Merrick representing myself. Ladies and gentlemen, it seems pretty simple to me.

MR. BELL: For or against?

MR. MERRICK: I am standing at the mike and I am for this motion.

MR. BELL: We need that on the record. Thank you.

MR. MERRICK: Thank you. It's pretty simple. Selective coordination is achievable. Healthcare facilities is not the place to weaken the requirements. Thank you very much.

MR. BELL: Microphone 4.

MR. LEFFERT: Kevin Leffert, Eaton Corporation. I'm speaking against the motion. I would ask everyone to please make sure you can find your vote to the subject at hand. What we're talking about here is NFPA 99, wanting to delete the definition as used in their document. We've heard a

lot of discussions about Article 917, Article 700. We're focused here and voting here now on the bit that applies to only 99, and let's vote on that. Thank you.

MR. BELL: Thank you. Microphone 5.

MR. OAKLEY: My name is George Oakley and I'm speaking on behalf of myself.

MR. BELL: Speaking for or against the motion?

MR. OAKLEY: I'm speaking for the motion.

MR. BELL: Thank you.

MR. OAKLEY: In listening over the last several years of the discussion going on relative to this 99 versus the NEC, I thought I would go back and look at my very first national electrical code book, 1968 edition. I opened it up and looked in the index for hospitals. There were two sections referenced Article 517 which at that time dealt solely with flammable anesthetics which is somewhat passé today. The other reference was Article 700 emergency systems.

Now as we move from that period of time

1 to the current period of time, there were a number
2 of developments that moved along with science and
3 technology in reliability that expanded the
4 requirements for healthcare facilities. And they
5 have been proven by the test of time. As I look now
6 at what is being or trying to be changed, it seems
7 to obfuscate the entire issue. The gentlemen that
8 spoke against the motion most recently all the NEC
9 you have articles 430 you have over current
10 protection in 240 and these things are required.
11 Yes, you follow the code much like the issue of
12 selective coordination is defined in the code which
13 is over a full range of overcurrents. And by golly
14 look at your definition of what overcurrent is.
15 It's a ground fault, short circuit, or overload.
16 In the modification that is being made in NFPA 99,
17 it only addresses overloads which is the easiest
18 thing to coordinate for. But the one that is less
19 deleterious in the event of a serious fault.
20 So what we have here is a hodgepodge
21 definition changes and so forth. And I would
22 suggest to you that as a visitor to a hospital if
23 this goes through as proposed I am more at risk.

I'm not saying as a patient, as a visitor to a hospital than I am in here in this auditorium because of the modifications that are taking place in the hospital system relative to the 700 and life safety 101. I urge the membership in the interest of safety and just common logic to support the motion on the floor.

MR. BELL: Thank you. Microphone 6.

MR. MANCHE: Alan Manche Schneider Electric Square D speaking in opposition to the motion once again. Once again, there is a significant confusion here. We're talking about selective coordination. That has got to be one of it NITMAMs that comes up later in the program. We're sitting here trying to define what the system should look like. And the NFPA 99 committee has purview over establishing what that system looks like. So I urge you to oppose this particular motion and to support what the committee has done.

MR. BELL: Thank you. Microphone 3.

MR. HIRSCHLER: Marcelo Hirschler, I call the question.

MR. BELL: Motion to close debate has

been made and second. All those in favor of closing debate raise your hands. Thank you. All those opposed. Motion carries. Move directly to the vote. To return, on the motion to return the portion of report in form proposals 99-39, 99-40, and 99-108 and related comments 99-35, 99-36, 99-37, 99-123, and 99-124. All those in favor of the motion please raise your hand. Thank you. All those opposed. I am not going to rule on the hand vote. We'll go to an electronic voting on this.

So everyone has a voting device. I'll call for a vote using the electronic voting device given to each of you. You have a red badge, you must have a red badge with the word member on the top of the voting to be voting on this. Let me remind you the vote either one in favor of the motion to accept or 2 oppose the motion. Or 3 abstain.

Please vote. You have five seconds to vote and we're going to close the vote. We are closed. The voting close. No further voting. Motion fails.

The next sequence number 99-7.

Microphone No. 5.

MR. GUIDA: Tom Guida, TJG Services Inc. I am here to make a motion that my comment the 99-41 be accepted so that the definition of life safety system be reinstated with reference to article --

MR. BELL: There is a motion on the floor and then discuss it. Motion on the floor to accept comment 99-41. Is there a second?

THE FLOOR: Second.

MR. BELL: I hear a second. Please proceed.

MR. GUIDA: Thank you. I ask that the definition of life safety systems be reinstated with reference to Article 700 as follows: Life safety branch, a system consisting of feeders and branch circuits meeting the requirements of Article 700 of NFPA 90 intended to provide adequate power needs and ensure safety to patients and personnel that is automatically connected to alternate power sources during interruption of the normal power source.

The definition of life safety branch, adopted by NFPA panel -- Article 700 emergency

systems. If my motion it not accepted there will be no requirement -- for Article 700 treatment of life safety circuits in healthcare facilities. The argument given by the proponents is that the change they propose avoid confusion with the term emergency system. As used in Article 700 and to properly sort out which portions of the essential electrical system the requirement of NEC 700 apply. If clarity is all that is required as to where Article 700 applies in hospitals, why start by completely eliminating any requirement at all. It does not make sense. The argument made by those opposed makes a lot more sense. Life safety circuits traditionally practically and rightfully fall under Article 700 of the National Electric Code. I urge that my motion be accepted and turn down the definition that does not include references to Article 700. Please vote in favor of my motion.

MR. BELL: Thank you. Mr. Erickson.

MR. ERICKSON: Once again I'd like Mr. D'Antona a member of the ELS Technical Committee address this.

MR. D'ANTONA: Thank you, Mr. Chairman.

Jason D'Antona, Partners Health Care speaking on behalf of the committee. The requirements of Article 700 applies to life safety system are covered under Article 917.26.

MR. BELL: Thank you. Microphone 6.

MR. DAGENAIS: Dave Dagenais speaking on behalf of the healthcare section in opposition of the motion. This morning at the healthcare executive board meeting the membership and the board voted to oppose this motion. The healthcare section believes by inserting this into the definition the specific requirement to comply with 700 NFPA 70 is not standards format. Additionally by inserting this within the definition it could in fact imply that that is the only branch that 700 would have to conform with. There has never been an intention that these branch labeling life safety critical branch or equipment would not fall within the 700 realm. This further confuses the issue by placing this requirement within the definition. The healthcare section urges you to vote against this motion.

MR. BELL: Thank you. Microphone 1.

MR. CONRAD: James Conrad with RS Safety Warren Cable and I speak in favor of the motion on the floor. We keep hearing from the opposition that 517-26 references Article 700 but yet last cycle there was a motion to remove that reference and it failed when 99 got sent back to committee. This makes it clear that you do have to comply with Article 700 for the emergency system when it is an emergency system, and I urge you to support this motion. Thank you.

MR. BELL: Thank you. Microphone 6.

MR. HIRSCHLER: Marcelo Hirschler, speaking against the motion. I am the chairman of the NFPA Technical Advisory Committee on the terminology. I am not speaking on behalf of the committee. The NFPA says requirement shall not be placed in definition. This include requirement definition. 2, as the committee pointed out the definition in National Electric Code NFPA 70 is an extract of NFPA 99. If this proposal were accepted we would have to different definitions. Again this is in opposition to the concept of Standards Council requiring uniformity of definition. I urge you to

disapprove this motion.

MR. BELL: Thank you. Microphone 5.

VOICE: For the motion. As was discussed before, I'm not sure why hospital are different than other facilities that will not adopt Article 700. Those are emergency systems and we're's talking about immobilized patients and other systems need to be part of the emergency systems. So please vote for the motion.

MR. BELL: Microphone 6.

MR. BEEBE: Chad Beebe with the American Society for Healthcare Engineers speaking against the motion. We've just heard microphone 1 that a few years back there was a proposal made that failed. It was going to take the reference to 700 out of 517. That failed. Therefore it's in there. So I'm not sure exactly what we're debating anymore. You heard from Marcelo that you can't actually reference another NFPA standard or article in a definition. So I urge you to vote against the motion.

MR. BELL: Thank you. Mr. Erickson?

MR. ERICKSON: No further comments.

Thank you.

MR. BELL: Seeing no one else at the microphone we're going to move to the vote on the motion to accept comment 99-41. All those in favor please raise your hands. Thank you. All those opposed. Motion fails.

Move to motion in sequence number 99-8. Microphone 5.

MR. LIPSCHULTZ: My name is Alan Lipschultz and I am the maker of 99-8, and I move that this body accept comment number 99-78.

MR. BELL: The motion is to accept comment 99-78. Is there a second?

THE FLOOR: Second.

MR. BELL: I hear a second. Please proceed.

MR. LIPSCHULTZ: I am the director of clinical engineering at Christiana Health Care Services in Delaware. I'm a profession engineer and certified clinical engineer and certified safety professional. I have been a member of the NFPA 76 V committee dealing with this issue which then got merge into NFPA 99 for a total of 35 years. I was

on present in 76 B committee when the current definition of what location was drafted 30 years ago. It was never intended for an operating room to be a wet location.

This is an important topic not just inclusion of operating rooms in the wet locations but what really counts is that isolated power or ground fault circuit interrupters which are required for wet locations would then be incorporated into all operating rooms. If anyone doubts as to whether the issue really is isolated power, I would go back to what the technical committee itself said in the current 2009 report and proposals, specifically referring to their proposal that they generated 99-68 where they said, "Essential that modern operating rooms have the added protection of isolated power or ground fault circuit interrupters. This would be accomplished by recognizing operating room as wet locations."

I stand today representing both the association for the advancement of medical instrumentation and the American College of Clinical Engineering and basic reasoning is that the

1 committee has not provided significant or any
2 rationale as to why they want to make operating
3 rooms a wet location. In my view they have violated
4 the regulations governing committee projects,
5 Section 4.4.6.3 of those regulations state that the
6 technical committee's action on, and I'm
7 paraphrasing a little bit, on rejected comments
8 shall "Include a statement preferably technical in
9 nature on the reason for the technical committee
10 action. Such statement shall be sufficiently
11 detailed so as to convey the technical committee's
12 rationale for action. The technical committee
13 action each comment shall be in the form suitable
14 for publication with each comment constitute the
15 report on comments."
16 In this particular case, the committee
17 rejected my proposal. Their only substantiation
18 was, "The committee supports the concept that
19 operating rooms are often wet location wet
20 procedural location but has included appropriation
21 for conducting a risk assessment determine
22 otherwise. The committee concurs that where a risk
23 assessment concludes an operating room is not a wet

1 procedure location such designation is not
2 necessary."
3 I do not represent ECRI Institute.
4 ECRI Institute, for those of you not aware of it,
5 ECRI Institute is like consumer's union a nonprofit
6 organization that deals with technology issues
7 within postural article in health devices journal
8 published in June 2001 includes the following
9 statement. ECRI Institute position. Despite over
10 40 years of controversy that continues to be no
11 documented evidence of events that justify
12 installation of isolated power in all operating
13 rooms. And the years of ground fault circuit
14 interrupter in operating rooms can be dangerous if
15 they cut off the power for critical or life support
16 devices. In addition, medical device designs have
17 become saver. In hospitals have implemented safety
18 focus equipment management programs thus reducing
19 electrical safety risk. Therefore, ECRI Institute
20 urges NFPA not to designate operating rooms as wet
21 locations in the updated NFPA 99. Thank you. I
22 urge you to accept this proposal.
23 MR. BELL: Thank you. Mr. Erickson.

MR. ERICKSON: Once again turning it over to Jason D'Antona.

MR. D'ANTONA: Thank you, Mr. Chairman. Jason D'Antona Partners Health Care representing the AGALS. AGALS Committee debated this issue for 6 years essentially through two cycles. Listened to all sides of the argument whether the OR should be considered a wet location or not. The consensus we came up with was essentially to empower the institutions to make the decision whether it should be a wet location by needs of risk assessment. We raised the default level of the OR not being wet locations. They are wet location unless the institution can prove otherwise through risk assessment.

What we were finding in a lot f cases the institutions were not actually making the decisions. The decisions were being made by architects and engineers. And we thought the most informed party to make the decision about whether it should be a wet location or not is the institution itself.

MR. BELL: Thank you. Microphone 3.

1 MR. SCHIPPER: My name is Tom Schipper
2 and I'm speaking for the motion on behalf of ASHAE.
3 I have been involved with this issue since 1977.
4 And the history of it shows that because of the
5 elimination of flammable anesthetics, some of the
6 earlier systems that we had in place to protect
7 against explosions and fires from those anesthetic
8 needed a new reason for existence. And among those
9 were the humidity controls, isolated power.
10 Isolated power at that time moved to a position of
11 saying well it's needed for electrical safety. It
12 took us several years to work through that and
13 determine that not only for microshock it was not
14 effective, macroshock as well, for macroshot as well
15 it does not give an effective means of protection.
16 The next thing that occurred was well,
17 it's needed because ORs are wet locations. You
18 heard several indications that hospitals do not
19 indicate OR as wet locations. Today, very few
20 hospital OR rooms are built with a floor drain
21 because they do not have significant amounts of
22 water in them. They do have water, they do have wet
23 procedures, but these are controlled. In trying to

1 determine whether or not physicians consider these
2 things as wet locations, my studies in talking to
3 several of them says wet on the floor? As soon as
4 there is something that is spilled we clean it up.
5 We're more concerned about the issue of slips in
6 relationship to our procedures than we are to any
7 kind of shock.
8 Since they are not built as wet
9 locations and spills are responded to for reasons
10 other than electrical safety, and the fact that
11 procedures today that are more wet than others
12 usually have their contents collected as medical
13 waste and leaves the room less wet than they were
14 10 years ago, I request the floor to vote for this
15 motion. Thank you.
16 MR. BELL: Thank you. Microphone 4.
17 MR. EHRENWERTH: Jan Ehrenwerth,
18 anesthesiologist. I represent the 45 thousand
19 members of the American society of Anesthesiology.
20 We strongly oppose this motion. The people who
21 spoke before me obviously have no experience
22 whatsoever in working in an OR. I have worked there
23 for over 30 years. I know what goes on in an OR. I

1 know that today there is more electrical equipment,
2 there is more chances of electrical equipment having
3 fault and the amount of water on the floor is simply
4 astronomical. And these people don't have a clue.
5 The stuff is not mopped up. The systems collecting
6 it are poor, absolutely ridiculous that this has any
7 tracks at all. Operating rooms are wet locations.
8 The committee has voted on 4 occasions, 4 occasions
9 the electrical system committee to support this by
10 an overwhelming margin, 17 to 2 was the last vote.
11 We have considered this for over 20 hours, 20 hours
12 debated all the issues. We've come to a very
13 reasonable conclusion that we allow the default to
14 be a wet location, if the institution wants to
15 change that that is fine. They can do a risk
16 assessment with the clinicians. They can include
17 isolated power. They can include GFCIs, they can
18 include a combination. We have very carefully done
19 this. Operating rooms consist of patients who can't
20 protect themselves because they are anesthetized.
21 If they come in contact with an energized source
22 they can't pull away. We no longer have operating
23 rooms that are for specific purposes. Any operating

room can be used for any purpose at any given time. We have in our particular operating rooms virtually every OR for an open heart procedure and emergency even had to use an ambulatory OR for an open heart procedure. The NFPA contracted with Expon to do research study on this that presented their findings this morning. Clearly they found that there is underreporting of incident. They found incidents of electrical accidents. They stated that the International Electric Technical Commission has supported isolated power. It's the standard all over Europe. It's the standard in South America. And they found that there are high volumes of fluids on the floor. Take something like a knee arthroscopy 6 to 12,000 cc's is frequently used and a great deal of that ending up on the floor.

So let's look at it realistically. Let's look at it, why is Kaiser and some of these places opposed to this. Mostly it's cost. Let's be realistic. It's cost. Well, I went and looked at, let's look at the real cost. Let's look to a reliable system, what is the cost, the incremental cost of putting in a system of isolated power, not

the GFCI incremental cost and I then added about 50 percent. About 22, $23,000. I looked at the average number of cases in our ORs, and I looked at that, multiplied out by the year and then over 30-year life span in OR. it comes to a dollar and 3 cents a case. $1.03 a case to put in essential electrical safety protection. This is ridiculous that we're even debating this. We waste a dollar a minute, waste a dollar a minute on every case I have ever been involved in and usually more. How can we possibly think that we would have less electrical safety protection in an operating room with dozens and dozens of pieces of high voltage equipment connected to defenseless patient with large volumes of fluid on the floor, how can we have less electrical safety protection than our bathroom. Please reject this motion please support the Technical Committee which has spent many, many hours debating this and have come up with a very reasonable proposal and appreciate your support.

MR. BELL: Thank you. Microphone 1.

MR. FISKE: Thank you, Mr. Chairman, I am William Fiske speaking in favor of the motion.

1 The gentleman representing the health care systems
2 committee indicated that the decisions are largely
3 made by architects and design professionals when in
4 fact properly belong with the institution that is
5 operating the facility. And while that may be true.
6 The problem is by the time the institution conducts
7 its risk assessment based on what is actually
8 happening there, the installation has already taken
9 place and it's extremely difficult and expensive to
10 change it. So what it comes down to is do you have
11 the right at the design phase.
12 MR. BELL: Thank you. Microphone 4.
13 MR. BARKER: That's me. Steve Barker.
14 I am the incoming delegate from the American Society
15 of Anesthesiology Organization, and this is my first
16 meeting. I'm very impressed by the caliber of the
17 science here by the way you conduct business and by
18 how smart all of these people are. I provided a
19 unique and somewhat different perspective and I
20 think I have to explain that in about 20 seconds. I
21 apologize if I sound like I'm bragging. I'm not
22 really. I have a Ph.D. in fluid dynamics which
23 includes the science of combustion of course from a

1 place called the California Institute of Technology.
2 I taught that subject for a number of years at
3 places including UCLA. I then underwent my first
4 mid life crisis and went to school and for the past
5 25 years I have been an anesthesiologist. I'm now
6 the chairman of the Department of Anesthesiology at
7 the University of Arizona. So I'm a guy who knows
8 something about fluids who works in an operating
9 room everyday. And by the way I would like to urge
10 this body to use terminology properly. Fluids
11 refers to both liquid and gases, in fact quoting
12 from Webster, a fluid is a substance as a liquid or
13 gas tending to flow or conform to the outline of its
14 container. So when we're talking about liquids on
15 the floor of an operating room we need to say liquid
16 not fluids. I practiced at the University Medical
17 Center in Tucson Arizona. You may recall we had a
18 little problem on January 8th in Tucson. 19 people
19 were shot. 14 of them came to our operating room.
20 We're the only Level 1 trauma center in the city. 8
21 of those 14 to come immediately to the operating
22 room for major trauma operations. We brought in 20
23 anesthesiologists on a Saturday afternoon. What is

1 my? Point they didn't come to operating rooms that
2 were designated trauma rooms or designated wet
3 rooms. They came into the heart room, hand room,
4 the ortho room, whatever room was opened we used
5 most of our operating rooms that day. There is no
6 such thing as a dry operating room. There are dry
7 cases that will give you that but there are no dry
8 operating rooms. You don't know when you build and
9 design and certify an operating room what cases is
10 going to be used for the life of that room. And on
11 that particular day in January we did wet cases,
12 very wet cases in all of our rooms.
13 So to conclude I'll just say are there
14 conductive liquids on the floor in operating rooms?
15 Yes, absolutely. It can happen in any room at any
16 time. Are there alternate electrical pathways
17 available to both patients and staff? Yes,
18 absolutely. Do we connect conductive pathways to
19 our patients? Yes, we connect an electric cautery
20 grounding pads to just about every patient in the
21 operating room. Is there equipment in there that
22 can provide high voltage especially the liquids are
23 poured onto or into it? Yes, absolutely. Safety is

1 risk mitigation and you don't have to electrocute
2 somebody to prove the point that there are
3 electrical hazards with liquids in the operating
4 room. I urge any of you who doubt this to please
5 come visit our operating suite in Tucson. I would
6 be glad to give you a tour. I'll show you the ortho
7 room where the ortho pods everyday, that's what we
8 lovingly call our orthopedic surgeons, come to work
9 in their operating room in hip high boots. That's
10 what they wear. They look like they're going
11 fishing when they're coming into the operating room
12 for a joint replacement or arthroscopy. Wet cases.
13 So my point is operating rooms are
14 wetter than you think. It's not like what you see
15 on TV and it's not like what the data show in the
16 literature. Come visit an operating room and see
17 what goes on there. And I think you'll be
18 convinced. I speak against the motion and thanks
19 for listening.
20 MR. BELL: Thank you. Microphone 5.
21 MR. KING: My name is Don King and I
22 speak on behalf the Kaiser Permanente for this
23 motion. Kaiser Permanente provides health care

1 service to 8.9 million people across the country.
2 Currently to do that we operate 600 operating rooms
3 and perform on almost three-quarters of a million
4 surgical patient. So we're intently interested in
5 this issue. Kaiser Permanente itself is interested
6 in providing safe environment for the practice of
7 medicine and helping our members stay well.
8 Additionally we want the facility to be open and
9 accessible for that health care. So we deal with
10 risk management risk mitigation and omitting hazards
11 on a daily basis. We took a look at the data
12 surrounding this issue. We talked to people, talked
13 to other professional associations about it and
14 we're convinced that the data is just not there to
15 demonstrate the need for 0R to be globally
16 classified as wet locations. The findings of our
17 research within our own organizational aligned with
18 those, the Emergency Care Research Institute, the
19 Association for the Advancement of Medical
20 Instrumentation, the American College of Clinical
21 Engineers. A C C E, and others. Our research has
22 shown us that less than 5 percent of the cases being
23 performed in our OR actually result in what we would

1 classify as a wet location. And in those locations
2 we believe it's appropriate to do a risk assessment
3 and determine that isolated power or other measures
4 might help us mitigate and manage that risk. We're
5 very concerned about the current pressures in the
6 healthcare environment causing all these healthcare
7 organizations to change their thinking about the way
8 they do business and where they focus your their
9 sources. We are more determined to focus our
10 resources on those items that we believe mitigate
11 management risk and improve the health of the
12 communities we serve.
13 The issue was brought up about cost.
14 Well that's interesting. I heard interesting
15 discussion about the data, about practice, talk
16 about clinical practice, and talk about cost. As
17 most of you are aware, the technology of clinical
18 practice has advanced along with technology of fire
19 protection and electrical systems not only in this
20 country but around the world. What we see in the
21 operating rooms we term minimal invasive surgery or
22 endoscopic procedures. And these procedures are
23 relatively small incisions made in the patient,

1 relatively low loss of body fluids, relatively small
2 incision and very complex procedures can be
3 performed within these very small incisions. By our
4 count almost half the surgical procedures we perform
5 involve this type of minimally invasive procedure.
6 Again, this results in less than 5 percent of our
7 cases relating in what we would call a location that
8 could be considered wet.
9 So we took a look at cost. Now we have
10 600 operating ORs and by the end of 2013 we'll have
11 constructed an additional 100, so we're somewhat
12 familiar with the cost of constructing a 0R and what
13 it takes to equip it. Additionally most of you in
14 the facility industry know, that first cost
15 acquisition cost is only 20 percent of the total
16 cost of ownership of any technology. And when we
17 translate those costs, the capital cost and the
18 other uses of the money, those capital costs can
19 cover 1,500 exam rooms that would improve
20 accessibility for patient care. If you look at
21 operating cost associated with supporting these
22 devices across the life cycle and we believe
23 isolated power systems have a 30 years life cycle,

1 those operating systems are sufficient to provide
2 care prenatal care for over 25 hundred new mothers
3 every year so we're very concerned about what the
4 data shows our healthcare efforts and resources
5 should be devoted to and what kind of risk should be
6 prevented versus the kind of impact we can have on
7 the global health of the community for the members
8 that we serve. So we stand solid for this motion.
9 Thank you.
10 MR. BELL: Thank you. Microphone 6.
11 MR. VAN KERCKHOVE: Keith Van
12 Kerckhove, Post Global LifeLink, Incorporated and
13 speaking in opposition to the motion. I believe
14 this motion is successful will drastically reduce
15 the effectiveness. The current language in 2005
16 version of NFPA 99 regarding the termination of wet
17 procedure locations has been a consistent source of
18 confusion and clear guidance on this issue. Under
19 the current rule of the governing body of the
20 facility establish a blanket policy that none of the
21 ORs were ever wet procedure locations, without ever
22 performing an official analysis or seeking input
23 from those individuals that are most familiar with

1 the intimacies of OR procedures. In fact some would
2 say if it's not required by code, then we don't feel
3 it's necessary. End of story. No justification, no
4 inclusion of input from other stakeholders.
5 Recognizing this fact the Technical Committee has
6 rightly chosen to apply a higher standard to
7 establish default designation for basis for design
8 of new facility. The language adopted overwhelming
9 by the Technical Committee represents compromise
10 from both sides of the issue and does two important
11 things. First it requires healthcare facility to
12 formally review the intended use of newly built or
13 renovated operating rooms to determine the
14 likelihood that a procedure could result in a
15 substantial amount of fluid being released around
16 patients or staff causing an elevated risk of
17 electric shock.
18 Secondly it suggests in the form of
19 anecdote that other stakeholders including
20 clinicians, biomedical engineers and facility safety
21 staff be consulted as part of the risk assessment.
22 Individual facilities are still free to determine
23 that a particular operating room is not a wet

1 location just as they can in the current position of
2 99. The only difference is that this determination
3 must now come through a thoughtful instruction
4 analysis.
5 This is entirely consistent with the
6 overall risk approach of 99 and there is no undue
7 burden placed on the facility by this requirement.
8 Technical Committee consistently voted to confirm
9 the concept operating rooms are wet procedure
10 locations over the last 4 years. Each time the vote
11 was an overwhelming majority. When this issue was
12 challenged by a motion during the last cycle members
13 of this body voted to support the Technical
14 Committee stance.
15 In attempt to allay concerns voiced by
16 opponents of the language various compromises have
17 been agreed to resulting in the consensus language
18 before us today. Each time the committee has been
19 clear. The evidence indicates substantial amounts
20 of conductive fluids are released around patient or
21 staff causing an elevated risk of electric shock.
22 This is corroborated by third party independent
23 research study sponsored by NFPA which was analyzed

1 the available date and quantifying the hazard
2 associated with operating rooms.
3 A summary of these findings were
4 presented during a session this morning. And there
5 were several conclusions that support that operating
6 rooms are wet areas. Cardiovascular, thoracic,
7 obstetrical, and orthopedic surgery are the most
8 prevalent procedure performed today. All of these
9 procedures involve very large volumes of blood loss
10 and/or irrigation, up to 1 2 liters. In some
11 instances research indicated that blood was
12 equalling pooled in the work area and on the patient
13 and in the presence of electric medical equipment.
14 Blood runoff has been reported to pool in the shoes
15 of surgical team members and 13 percent of major
16 operations. Splashes of fluid occur on average 50
17 to a hundred percent of the time for these types of
18 major procedures. The draft risk assessment
19 methodology proposed by this report predicts
20 100 percent likelihood personnel would be exposed to
21 liquid in high utilization ORs even when small
22 volume of fluid are present over the course of an
23 annual operation. Furthermore the study

1 acknowledges that up to 96 percent of injuries and
2 errors go unreported. Many have asked why we should
3 specifically designate OR by default I would answer
4 by saying there is clear evidence which is presented
5 to the Technical Committee that illustrates reality
6 that operating rooms are in fact subject to
7 substantial conductive fluid during routine
8 procedure. As manufacturer of power safety
9 equipment dedicated to improve patient safety.
10 MR. BELL: 30 days.
11 MR. VAN KERCKHOVE: -- as well as
12 individual concern with the level afforded
13 reasonable margin of protection when under the care
14 of hospital. I strongly agree with the concept an
15 operating room should be wet procedure location and
16 urge those of you here today to vote to set a clear
17 standard by rejecting this motion.
18 MR. BELL: Thank you. Microphone 3.
19 MR. COLLINS: John Collins. I have
20 been a clinical engineer since 1970. I spent
21 20 years in operating rooms at North Western
22 Memorial Hospital, cardiac care, cardiovascular
23 surgery and neurosurgery. I can't recall ever

seeing any of those locations wet at any time. As far as electrical safety, the origin of the electrical safety problem goes way back to 1968 an article by Brunner in anesthesia which has been mistakenly over the years an example of electrocution in hospitals. Doctor Brunner referenced patients that had catheters in their hearts as being susceptible to electric shock. There was never any mention of medical equipment outside of that susceptible to electric shock. Subsequently, i.e. 60201 has been in force for about 15, 20 years which manufacturers used to make sure their equipment is safe to operate. Third, and finally, I been investigating the NFPA incident report since they started in 1991. I have all the incident reports on my computer. I use it in risk assessment of clinical equipment. And since 1991 well over a million incidents, I do not find any incident of electric shock in patients. Thank you.

MR. BELL: Thank you. Microphone 5.

MR. JEWELL: Bill Jewel with Life Point Hospitals. I've worked 17 years in hospitals, 5 years continuously up in the operating room. We

1 had open heart surgery procedures orthopedic
2 vascular, general procedures, etcetera. Yes, I
3 agree that the orthopedic procedures are rather wet,
4 however all of the other different kinds of
5 procedures are very dry with limited fluids. Being
6 exposed on the floors, there is lots of technology
7 to take the fluids out of the patient's site and
8 also seal savers are used in open heart procedures
9 to capture blood, return to reservoir, spin it and
10 gave it back to the patient. There are multiple
11 devices or orthopedic cases where the fluid is on
12 the floor are immediately sucked up and gotten out
13 of the danger area. Since the '70s there has also
14 been great improvements in device safety, medical
15 device safety which limit the risk of electrical
16 shock in patients and also with better design in
17 microprocessors in current technology. They have a
18 button or electric fault circuit protection which
19 will shut down the device in today's equipment.
20 So given all that information, very low
21 amount of procedures. Mainly orthopedic where you
22 have a lot of fluids involved with arthroscopy, I
23 support the proposal. Thank you.

MR. BELL: Microphone 2.

MR. BLACK: Art Black, I call the question.

MR. BELL: Motion on the floor is to close debate. Do I hear a second?

THE FLOOR: Second.

MR. BELL: All those in favor of closing debate raise your hand. Thank you. All those opposed. Motion passes. We'll move directly to the vote to accept comment 99-78. All those in favor for the motion please raise your hand. Thank you. All those opposed. Motion fails.

Move on to motion sequence number 99-9 microphone 5.

MR. DANIEL: Thank you, Mr. Chair. My name is Mike Daniel, Daniel Consulting Limited. I am speaking for myself on this particular issue. I would like to move acceptance for my comment 99-217.

MR. BELL: Motion on the floor to accept comment 99-217. Do I hear a second.

THE FLOOR: Second.

MR. BELL: Please proceed.

MR. DANIEL: I want to make sure that

1 it's clear that this motion is not about whether any
2 one particular location is or is not a wet procedure
3 location. We've heard enough discussion about that.
4 What this motion does is mandate that a risk
5 assessment process take place to specifically
6 delineate all wet procedure locations as opposed to
7 sending a wrong or mixed message by singling out one
8 specific area in the document. It also places
9 responsibility for making determination where it
10 belongs on the governing body of the healthcare
11 facility. By delineating one specific area as a wet
12 procedure location in the document, we are sending a
13 mixed message to the facility creating confusion and
14 potentially setting a dangerous precedent. Is this
15 the only area that should be considered? Are there
16 others, if so what are they? Do we now follow the
17 future by designated general carriers and critical
18 carriers for the healthcare facility? No. It is
19 inappropriate for us to be making these decisions.
20 This motion mandates the mechanism for
21 the evaluation and clearly delineates the
22 responsible to make a determination not just for one
23 specific area but for all. As a final note of

clarification, this motion replaces the text in the ROP with the following. The healthcare governing body shall conduct a risk assessment to specifically delineate wet procedure locations. Given that the comment only addresses the body of the text, the annex notes delineate who should be involved in the assessment would be retained.

I strongly urge you to support the motion on the floor mandating and all encompassing assessment and placing the responsibility with the organization where it belongs. Thank you.

MR. BELL: Thank you. Mr. Erickson.

MR. ERICKSON: Once again I'd like to recognize Jason D'Antona.

MR. D'ANTONA: Partners Healthcare, speaking on behalf of the committee. The committee was asked to deliberate and look at operating rooms specifically. There was no evidence presented before us that indicated that other areas of the institution or hospital were concerned. We spent considerable time deliberating this issue over two code cycles, many hours, and we came to a consensus of opinion on multiple votes that adding a

1 requirement for risk assessment defaulting the 0R
2 wet location for a risk assessment to alleviate the
3 wet location was not a -- health care organizations
4 today are asked to do risk assessment for any kind
5 of work construction activities even maintenance
6 activities. We didn't think it was an onus
7 requirement to ask them to do a risk assessment on
8 establishing whether or not OR is a wet location or
9 not.
10 MR. BELL: Thank you. Microphone 3.
11 MR. DAGENAIS: Dave Dagenais speaking
12 on behalf of New England Society of Healthcare
13 Engineers. New England Society of Healthcare
14 Engineers executive board meeting after polling the
15 membership voted to support this motion. New
16 England Society of Healthcare Engineers feel this
17 approach of informing users of the document that it
18 is a requirement to evaluate all potential wet
19 procedure locations is a better approach as to
20 opposed to defining operating rooms. We think this
21 gives a clearer message that the expectation is to
22 evaluate all potential wet procedure locations and
23 to manage that evaluation through the annex note

1 which would indicate who would conduct that risk
2 assessment. This approach clearly has the potential
3 to go beyond the operating rooms and gives a much
4 clearer expectation. The New England Society of
5 Healthcare Engineers urges everyone to support this
6 motion.
7 MR. BELL: Thank you. Microphone 4.
8 MR. EHRENWERTH: Jan Ehrenwerth,
9 American Society of Anesthesiologists. Let's be
10 very clear here. This is just a failed attempt to
11 overturn what they couldn't do in the previous
12 motion. This removes all of the language that we
13 just rejected -- that the technical committee put
14 in, and it goes back to where we were. Risk
15 assessment stuff doesn't work. We've proven it over
16 and over again. If the hospital has other areas
17 that they need to assess I'm sure they are going to
18 do it. If we have a burn tank that we're dunking
19 patients in I'm sure they are going to put a GFIC on
20 that. Unbelievably simple. We just spent an
21 enormous amount of time rejecting the previous
22 motion. We need to reject this because it is going
23 to undo everything that we just did and undo

everything that the committee did. There is no confusion here. There is no confusion among the Technical Committee. The vote was 19 to 0 against this comment 99.217. 19 to 0. Just reverses everything we did and it has no business being accepted. I urge you strongly to vote against this motion. Thank you.

MR. BELL: Microphone 3.

MR. DAGENAIS: With the American Society for Healthcare Engineers, and I'm speaking in support of the motion on the floor. The difference between the one you just heard simply just deleted all the information and left it kind of open. This current motion actually requires the risk assessment what is what the anesthesiologists wanted. They kept mentioning about having data and how proud the group are that they are we are for having data before we have decision. We have the data in this case and there is nothing that shows there is a problem, really what is the reason that we need to do to address it in that manner. Let's take this as suggested in this proposal, and let's let the healthcare governing body decide where the

1 risk assessment says that it's a wet location. Let
2 them apply it to areas outside of operating rooms
3 and not just tie it to the operating rooms.
4 One of the other points made was that
5 there are certain procedures that create wet
6 locations. Some hospitals don't do those
7 procedures. So why would we be calling them all wet
8 locations just carte blanche when it should be up to
9 the facility to decide. I urge to you support the
10 motion.
11 MR. BELL: Microphone 4.
12 MR. LATHROP: Jim Lathrop, Koffel
13 Associates speaking for myself just a question of
14 point of information on what the motion is, sir,
15 because I know Mike explained it but I still keep
16 looking at the ROC and the ROC 99-217 which the
17 motion is on says add new text read as follows, does
18 not say replace the current text says add new text.
19 Mike said this is to replace it, but the motion that
20 I see says to add it. Is there an errata that we
21 should be looking at?
22 MR. BELL: Give me a moment here.
23 We're check into that. We have a question for the

maker of this motion.

MR. DANIEL: Yes, sir.

MR. BELL: Is it your intent that the text in 99-9 sequence number 99-9 replaces the text in 4.3.2.2.8.3 in 99-8.

MR. DANIEL: That is correct and that was the initial comment public comment that was submitted and somehow the language was revised when it was put in to say add. It's to replace the ROP language. And I did check with Standards Council, with representatives prior to this session to make sure that was acceptable, and that would be the way it would be interpreted. Does that clarify to answer your question.

MR. LATHROP: I wasn't speaking for or against. I just wanted to make it crystal clear what was going on.

MR. BELL: Thank you. Microphone 5.

MR. MAKER: Paul Maker, Arkansas AHJ speaking for the amendment. I'm a professional engineer and master electrician past 30 years. There appears to be the idea that there is a presumption of guilt until proven innocence in

regard to the existing approach of this amendment would correct that. I'm sadden to see that this body would move in the direction that it is in spite of no significant evidence being provided to the contrary, that NFPA has historically been reactive to end and a history of problems and correcting those problems and I ask where are they. I appreciate the approach of looking at this from the simple context of a wet location, but, unfortunately the focus should be from the electrical standpoint and not on whether it's a wet location or not, and the electrical hazard that is involved, the equipment that is used in the ORs are of such quality if they're not of quality to be used in the environment that they're being used in, we need to get some new equipment in the OR. Thank you.

MR. BELL: Thank you. Microphone 6.

MR. BREWSTER: Thank you, Mr. Chair. Steve Brewster speaking for myself and I'm rising against the motion. Brothers and sisters on the floor I feel your pain. I feel it distinctly. As a principal member of ELS we debated this for 20 hours it was more like 30 or 35. We heard from the

1 practitioners who have a very strong story. We
2 heard from the engineers and administrators who have
3 an equally strong story. The present language you
4 have in the document today is purely a compromised
5 position between the two, duked out after a long
6 debate. And I'd really like to see it fly to a code
7 cycle to see if it goes. Do you think? Thank you
8 Mr. Chairman.
9 MR. BELL: Microphone 3.
10 MR. MANTON: Thank you, Mr. Chairman
11 Dean Manton, Providence Healthcare Oregon speaking
12 on behalf of the healthcare section. During our
13 board and business meeting we voted to support the
14 motion on the floor.
15 MR. BELL: Thank you. Microphone 4.
16 MR. TREMBLAY: Marcel Tremblay. The
17 company I'm with is Venture Incorporated. Our
18 company has --
19 MR. BELL: Speaking for or against the
20 motion?
21 MR. TREMBLAY: Oppose the motion.
22 MR. BELL: Thank you.
23 MR. TREMBLAY: Our company has decades

of national and international experience addressing electrical safety issues and operating room environment both from the standpoint of smoke hazard protection and power continuity. In our opinion, this motion is a clever but what appears to be transparent attempt to circumvent the very special and demanding operating room requirements. As spelled out in proposal number 99-96 and overwhelmingly accepted by the Technical Committee on electrical system. Therefore, I wholeheartedly recommend that the members vote to reject the motion. Thank you.

MR. BELL: Thank you. Microphone 3.

MR. MILL: My name is George Mill with the Joint Commission on Healthcare, and I vote move in favor. The Joint Commission on Healthcare we have roughly 5,600 hospitals in the United States, military bases overseas. We base many of our decisions on risk assessment processes, and the idea of language that we see wet location without any backup to that system does not seem to be a prudent or proper way to do business. We have what we call -- alert where we track incidents that happen in

healthcare. There have been no slips, trips, falls or electrical hazards identified related to these wet locations. So the idea of using a risk assessment to provide the organization the ability to declare rooms that are not going to be wet as dry or not wet locations just makes good sense. And I don't understand the reason for an opposition to what Mr. Daniel has proposed. Makes good sense to us, the Joint Commission. The way which we have been doing business in all areas with risk assessment, and I urge you to vote in favor of this motion on the floor.

MR. BELL: Thank you. Microphone 6.

MR. VAN KERCKHOVE: Keith Van Kerckhove, again speaking against the motion. Two concerns. The first is that the document is provided by the Technical Committee does allow for risk assessment. It does not preclude the use of risk assessment to determine other areas of the hospital as wet location. My second concern is, as I read the comment it would appear to me that it eliminates the annex note that was provided by the previous section and annex 4.3.2.2.8.3 in which they

1 describe in conducting risk assessment healthcare
2 governing body should consult with all relevant
3 parties including but not limited to clinicians,
4 bioengineering staff and facility engineering staff.
5 I would question whether this motion would remove
6 that from the document.
7 MR. BELL: Thank you. Microphone 2.
8 MR. HIRSCHLER: Marcello Hirschler, GBH
9 International, and I call the question.
10 THE FLOOR: Second.
11 MR. BELL: Hold on just one second. We
12 haven't had a clarification request of the
13 submitter. Was it your intent to keep the annex
14 material or not?
15 MR. DANIEL: Absolutely. The intent of
16 this is to keep the annex notes saying who does it
17 and to avoid any tunnel vision.
18 MR. BELL: We're just asking that for
19 clarification purposes we're going to move we have a
20 motion on the floor to close debate. Do I hear a
21 second?
22 THE FLOOR: Second.
23 MR. BELL: I hear a second. All those

in favor of closing debate please raise your hand. Thank you. All those opposed. Motion passes.

Moving directly to the vote which is to accept comment 99-217. All those in favor of accepting comment 99-217 please raise your hand. Thank you. All those opposed. Motion fails.

We are going to move on to motion sequence number 99-10 through 99-14, and I want to point out here that these are related motions so as noted in the motions committee report action on any one of these motions will serve as the represented motion for the other related motions.

THE FLOOR: I was requesting a electronic vote of last count.

MR. BELL: I didn't see that. We can move to an electronic vote if you want. We'll move to electronic vote.

Well now call --

THE FLOOR: Point of order, Mr. Chairman.

MR. BELL: Yes.

THE FLOOR: The chair has already ruled on this. I think it's too late for an electronic

vote.

THE FLOOR: I agree.

MR. BELL: I am going to go ahead and grant the request for an electronic vote. I now call for the vote using the electronic voting devices given to the voting members. You must have a red badge with the word member on the top to be voting. I remind you that you vote either one in favor of the motion to accept or 2 to be opposed and 3 to abstain.

So I now request that you vote.

5 seconds. Voting is now closed.

THE FLOOR: Good call.

MR. BELL: Motion fails.

Before I was interrupted, we were talking about -- if you are going to request an electronic vote you need to do that immediately and go up to the microphone. I didn't hear anything.

So moving to motion sequence No. 99-10 through 99-14. As I was saying these are related motions. Any one of these motions will serve as a representative of the motion for the others. I'm looking for a motion on one of these motions.

Microphone No. 1.

MR. ALLISON: I'm Malcolm Allison. I'm representing the National Electrical Fuse Association and I move to accept my comment 99-115 which seeks to reject proposal 99-107.

MR. BELL: The motion is to accept comment 99-115. Is there a second?

THE FLOOR: Second.

MR. BELL: I here a second. Please proceed.

MR. ALLISON: Thank you. Let me begin with an explanation of the concept of selective coordination. It's the isolation of electrical problem specifically electric overcurrent so that only the overcurrent device immediately the problem open. No additional larger upstream device is open. An example of a selectively coordinated system is an installation where a ground fault perhaps at a light fixture opens only 120 amps circuit breaker does not open the 225 amp panel board main or any other upstream overcurrent device. So only one circuit is de-energized. In a nonselectively coordinated system the ground fault in the light fixture might

1 take out not only the 120 amp breaker but also the
2 225 main as well. De-energize all the circuits by
3 that 225 amp panel. That is the lack of selective
4 coordination. When it happens in an office building
5 there isn't much at stake. When it happens in the
6 healthcare facility probably a lot more at stake.
7 Well the NEC selective coordination requirement
8 covers all levels of overcurrents. This NFPA 99 as
9 written calls for selective coordination with
10 overcurrents at times longer than 0.1 seconds which
11 is a hundred millisecond or cycles. Layman's terms
12 that means that the selective coordination will be
13 required for overload situations but not for fact to
14 ground fault or face-to-face faults which are
15 commonly called short circuit. The NFPA 99
16 technical committee has reduced requirements for
17 selective coordination for critical life safety
18 related loads such as elevator circuits smoke
19 control circuits, emergency lighting circuits, and
20 fire bug circuits so only the overload range over to
21 be selectively coordinated. Such a drastic
22 reduction of the NEC requirements we believe is
23 outside review of the 99 committee as life safety

1 related those mentioned above are just as critical
2 and likely more critical in a healthcare facility as
3 they would be in a stadium arena theater or high
4 rise office building. Even more alarming are
5 potential effects on patients, staff, visitors even
6 first responders.
7 Here is a couple examples. Since 1993
8 the NEC required overcurrent one elevator not
9 de-energize the whole bank of elevators. With the
10 proposed NFPA 99 selective coordination the system
11 could be designed so that the overcurrent the
12 elevator could result in de-energizing an entire
13 bank whether fed from the normal source or alternate
14 source. That means problems moving patients to
15 evacuating visitors and of course first responders
16 couldn't use the elevator either.
17 What happens if there is a passenger on
18 elevator when there is a short and another elevator
19 knocks out the whole bank. Can you see it
20 happening? I can. Number 2, 2005 the NEC has
21 required selective coordination for emergency
22 systems. Good examples would be loads for fire
23 pumps, emergency lighting and smoke control systems.

With the proposed NFPA 99 document we would lose the fire pump, the emergency lighting, and all the smoke control for a long time, when they're needed the most. These are life safety related loads that should never go down needlessly due to lack of selective coordination. The rationale to limit selective coordination by the committee at times longer than, two times longer than a hundred milliseconds are very weak at best. First of all they strike the need for arc flash protection. Flash protection for personnel work required by OSHA to wear appropriate personnel protection equipment that is available. Now in case of an arc flash having a fully coordinated system allows the smallest overcurrent device closest to the fault to open which minimizes the amount of energy, and in a nonselective system that won't happen.

Second, the 99 Technical Committee cites the need for minimum equipment damage. Here again now transfer switches are available and have 30 second rating they have zone protective interlocking and it's now a popular method to limit the time which equipment is exposed to overcurrent

while at the same time receiving selective coordination.

Third the 99 committee, reduce risk of extended outages in a nonselective system should the main open needless time will be spent identifying the --

MR. BELL: 5 seconds.

MR. ALLISON: -- the problem correcting the problem. Lastly the 99 committee the circuit problem, last 99 committee cites liability as a reason not a fully selective system.

MR. BELL: I'll you ask to stop now. Mr. Erickson.

MR. ERICKSON: Thank you, Mr. Chair. Once again I go back to the committee on emergency power supply systems and the fact that after that committee had met, I will read once again for you, on the issue of selective coordination, NFPA 99 has the responsibility for establishing the performance requirements for the prevention of cascading outages and NFPA 70 has the responsibility for installing installation solutions on selective coordination as defined by the performance criteria set by 99.

Therefore, I believe from a technical correlating committee standpoint we have done the job requested of us by that task group. Thank you. And by the way I would like to recognize Jason D'Antona.

MR. D'ANTONA: Thank you, Mr. Chairman. Jason D'Antona speaking on behalf of the Technical Committee for electrical systems. I would like to first off start by saying that the Technical Committee understands selective coordination is a very important issue. The operation of the overcurrent protective devices in hospital directly affect delivery of healthcare. This is such an important issue to us. We spent six years of considerable debate. We listened to both sides of the argument with thoughtful consideration and after that we came to a consensus that short circuit -- that selective coordination was important. There hadn't been one before that for phase fault. We added a requirement, did not exist in previous additions. We also agreed in a consensus that selective coordination should not be the sole determining factor in selection of overcurrent protective devices used in hospitals. I can't

stress enough the Technical Committee voted four times on this issue. And all of our votes were nearly unanimous. We were in clear agreement that selected coordination is important but it has to be, can only be one of several factors that's why we instituted 0.1 second requirement which has been used successfully around the country. I think Florida and some other places.

Our Technical Committee is comprised of healthcare industry experience, cross-section of the industry. We have engineers, clinician standards, officials, facility operators, and manufacturers. That is what makes our consensus very important because we all agreed on this issue. So I strongly urge the membership to support the committee's hard work over these last 6 years. Support our approach to this very, very divisive issue, and reject the motion. Thank you.

MR. BELL: Microphone 5.

MR. KOVACIK: Thank you, Mr. Chairman, John Kovacik of Underwriters Laboratories speaking on behalf of the electrical section of NFPA and speaking for the motion. The electrical section met

this morning and at that meeting the members voted to support certified amending motion 99-10, and as such the members of the electrical section support the motion on the floor. Thank you.

MR. BELL: Thank you. Microphone 6.

MR. COSTLEY: Thank you, Mr. Chair. John Costley, electrical engineer with Newcomb & Boyd. I am speaking --

MR. BELL: Move a little closer to the mike.

MR. COSTLEY: I am speaking against the motion on the floor.

MR. BELL: Can we get your name again.

MR. COSTLEY: Jim Costley, electrical engineers. Newcomb & Boyd Consulting. I am the healthcare section representative and a principal member of the Technical Committee on electrical systems for NFPA 99. Current requirements for selective coordination of overcurrent devices in emergency and legally required standby systems do not specify time and criteria presently in Article 700 and 701 of the NEC. As the 2005 and subsequent codes have been enacted over time by states and

other local agencies, selective coordination requirements have been unclear to the public, owner, designers, and builders. Some HAJs who have studied the issue have successfully established performance criteria similar to that incorporated into the new 99 document. For over 3 years the Technical Committee on electrical systems has sought any documentation of injuries due to miscoordinated devices in healthcare facilities. To date we have not received documentation of a single injury. Not a single one. The proposed 2011 edition of the 99 standard as written establishes a fair achievable minimum performance level of elective coordination for healthcare facilities. This is in accordance with the informational note number 2 in NEC Article 701 wherein NFPA 99 is referenced and I quote, for information regarding performance and maintenance of emergency systems in healthcare facilities.

I ask you and the membership to support the consensus of the Technical Committee and action taken by that committee and the recommendation of the healthcare section and reject this motion. Thank you.

MR. BELL: Thank you. Microphone 5.

MR. LOVORN: Ken Lovorn, Lovorn Engineering. I am speaking for the motion. I'm a registered electrical professional engineer for 12 years designing healthcare installations for 41 years and selective coordination is absolutely critical. Close is not good enough. I have been personally been involved in 2 projects which fortunately I didn't design where the hospitals were supposed to have been selectively coordinated. The coordinated studied had been done but they had not been implemented because administration didn't want to -- planned outage. I suggested to them perhaps they might be more in interested in an unplanned outage. Within a year of one of these they had a 20 horsepower motor go to ground. It cascaded up through the transfer switch to the feeder breaker to the main on the substation. The main on the substation tripped. That then started the sequence for the emergency system. The generator started, emergency buss was energized and the transfer switch closed, and it closed in on a faulted motor. That took down the emergency system. There were four

1 floors of this hospital with some 50 critical case
2 patients most of whom were on respirators that would
3 have died if it hadn't been for the heroic efforts
4 of certainly the entire hospital's nursing staff
5 were called to manually bag these patients for 2 1/2
6 hours until they got the system back on line. If
7 this had been coordinated and selectively
8 coordinated it would have taken out the motor and
9 nothing else. I was there the next day at the
10 hospital and they asked my recommendations. The
11 first one I said is implement the coordination
12 study. Get it fully selectively coordinated all the
13 way down through short circuit because this would
14 have not been picked up if it had been selectively
15 coordinated down to a tenth of a second. This is
16 way too important and the healthcare industry
17 intentionally hides these incidents to prevent
18 lawsuits, because I know of two hospitals and
19 neither of these ended up in any news media
20 whatsoever.
21 So I urge you to accept this motion.
22 Thank you.
23 MR. BELL: Thank you. Microphone 6.

MR. DAGENAIS: Dave Dagenais representing myself speaking against the motion. I am a member of the electrical subcommittee from NFPA 99. I have to emphasize what Jason said. We spent hours and hours debating this. We saw representation from both sides. We thought the process through. We made a conscious decision on what was best, and I urge the membership to stand behind the committee with this. Furthermore, also in the engineering healthcare facility we do not hide things when they come up. We come up with ways to find solutions to them. We manage them. And we assure that it doesn't happen again. The reality is that the whole premise is based on risk. Today we heard a lot of could have, should have, might do, nobody has said it did. The reality is there is no history no evidence that it's an issue. So I urge the body to not make code based on could, have should have, would have been scenario. Thank you.

MR. BELL: Thank you. Microphone 1.

MR. FISKE: William Fiske, Intertek and I'm speaking in favor of the motion. Mr. D'Antona stated that the intercommittee had concluded that

the question of selective coordination timing was within the healthcare committee's jurisdiction. That may or may not be true, but there is one thing that hasn't been brought out yet and that is what makes 0.1 second correct compared to what the NEC requires which is complete coordination of overcurrent protection devices. If there is a sound technical reason for having any kind of a delay in that, it hasn't been brought up in this forum.

MR. BELL: Thank you. Microphone 3.

MR. NASBY: James Nasby, representing myself. I'm speaking in favor of this motion. This is not an academic exercise. What we've heard here is that people have testified over and over that NFPA 99 enforces Article 700 in the National Electrical Code. Article 700 says you will have full coordination and it was voted on 6 times by Code-Making Panel 13. Since the 2005 edition has been in force. Major cities as I mentioned, Chicago and New York has required selective coordination of emergency systems for years and years prior to that. Facilities are being designed and built and are in existence today with full selected coordination and

where you don't have it you're vulnerable to taking other emergency systems off line. I have been designing and servicing fire pump equipment since 1972. Don't tell me how many years that is. I don't want to know. And these are typically 75 up to 300 horsepower motors wired with 350 MCM cable. The equipment is typically rated at 100 thousand amps short circuit and up to 200,000 amps short circuit ratings available on this equipment, and I have been involved with the fault testing at the test labs to do this. A hundred milliseconds or 6 cycles is only going to protect when somebody plugs in a hair dryer or a heater. It's not going to do anything for short circuits. Those may or may not propagate upstream and do in certain cases unless the selective coordination is all the way down to the short circuit level. That's what is important. It was discussed over and over in code-making panel 13 to retain this requirement endlessly. And some of the comments made is like why would you not do this. Or if you don't want selective coordination and localization of faults on the emergency side, which emergency source equipment is it okay to go

off line? Your elevator, your smoke evac, your lighting, your patient care, your life support, you tell me. Because without full selective coordination it is a complete unknown what happens when one of those fire pump motors in the junction box goes to a dead fault, and it does happen. I know of 6 cases and three phones calls I made yesterday. It is not an academic question that these things do occur. It's being enforced throughout the country, has been for years, and NFPA 99 is enforcing and adopting Article 700 of the National Electric Code this is in dead conflict with that. Thank you.

MR. BELL: Thank you. Microphone 2.

MR. FINEN: Thank you Mr. Chairman, Chris Finen, Eaton Corporation, also a member of the ELS Technical Committee speaking against the motion. The question was asked where did 0.1 seconds come from that the ELS committee settled on for this requirement. And that was really substantiated because it's been a mandated standard in the state of Florida for over 15 years. During that time there has not been one single incident of loss of

life or injury due to a lack of selective coordination. Additionally the 0.1 standard and all the action of the Technical Committee do not prevent a designer from going beyond to a higher level of selective coordination. But what it does allow is consideration for the other factors that are just as important for safety and reliability such as arc flash risk to the patients or worker, electrical workers, risk of fire, risk of equipment damage, risk of extended down time. All those are still, are just as viable of considerations in electrical design as selective coordination itself. Thank you.

MR. BELL: Thank you. Microphone 5.

MR. LOVORN: Ken Lovorn, Lovorn Engineering speaking for the motion. I must object to the gentleman of few moments ago speaking against the motion saying that there had been only supposition that there had been no actual incidents. I personally saw two and it's fully documented in an article I wrote in Consulting Specifying Engineering in January of this year. So if anybody is in doubt they can go look it up. Thank you.

MR. BELL: Thank you. Microphone 4.

MR. DEMETROVICH: Thomas Demetrovich, Eaton Corporation and I speak in opposition to the motion. In support of the actions of the Technical Committee that basically have gone over the last 6 years two sets of proposals two sets of comments with the same and similar results that we see today. It's clear 99 addresses the performance criteria with respect to selective coordination and international code addresses the installation requirements. From a precedent perspective 99 has had some form of selective coordination requirement as far back as the 1984 edition. The National Electric Code has most recently I believe in the 2002 or 2005 edition requires selective coordination. So there is a precedent as well established with 99 on this topic. I would also add that from a coordination perspective I don't care if .1, if it's total, whatever the requirement if it's not installed and breakers or overcurrent protective devices don't meet the requirement of the code in the installation, the requirement means nothing at all. So you may have installations where the circuits breakers were not set or established per

the selective coordination study, and the events and occasions that that happened as a result of that should have no bearing on this topic that we're speaking on here today. So I speak again in support of the Technical Committee and the work and the effort that they have done over the last 6 years and with coming up from two cycles with the same exact results. Thank you.

MR. BELL: Microphone 3.

MR. CRNKO: Tim Crnko, Cooper Bussmann speaking in favor of the NITMAM. Mr. Erickson mentioned the intercommittee for emergency power systems. One of the issues that I saw several comments people asking where is the document for this, and it never came forward to see how it was done. I could understand the standards committee possibly saying correlate 99 to 517 that 99 would have a performance issues for things unique to the healthcare industry such as in 5.1.7.1.7. the ground fault protection two levels the only place in the code that it's there. And there is a selective activity statement that you have -- relays between the main and seizure. That's where I think the line

was drawn. I suspected, my opinion, possibly because we haven't even the documentation really what the agreement was, was extended beyond that to other things that probably should not have been done. Because basically you're overriding several articles of the code, several code panels. 700. 720 for elevators, fire pump 695 as well as NFPA 20 has selective coordination for full range also. So does that mean when elevator circuits power pump circuits and so forth are installed in a system of healthcare they are going to have less life safety and reliability according to the code than should be. Okay.

The other one no reported incidents. I want to find a report for NFPA 99 in the wet locations, wet procedures and dry procedures. One of the problems they found is they couldn't find data even on something as universally known as shop, an operating room but they mention as far as documenting reasons underreporting adverse event are documented. Those responsible for investigating and reporting are not privileged to all the patient safety incidents because of the nature of the

1 healthcare industries, physicians, nurses,
2 healthcare workers and hospitals treat all medical
3 adverse events as confidential. As a result of this
4 increased pressure to reduce risk this disciplinary
5 is often the first recourse for a mistake. This
6 leads to further medical mistakes as root causes are
7 not identified through failure investigations after
8 an adverse event has occurred. Eliminating an
9 individual from a position seems to be normal to
10 solve problems.
11 So it does get suppressed. Just the
12 nature of the culture. I've known several
13 situations that were life threatening that never got
14 out. We here it from engineers and other folks,
15 electricians, maintenance. You'll never see
16 documentation anywhere. I had several, I would cite
17 but I'm going to run out of time. Also mentioned
18 that the code does not have a performance limit for
19 selective coordination. That is absolutely
20 incorrect. If you just look at the definition in
21 the code for coordination selective look at the
22 definition for overcurrent. It is very clear it's
23 for the full range of overcurrent and that's been

stated by the code panel also code panel 13 and there is panel statements rejection .1 seconds. Instantaneous portion of the overtime current no less important as well as last code cycle 2011 they said in the statement it is for the full range of overcurrents. So in closing I support this NITMAM.

MR. BELL: Thank you. Microphone 2.

MR. OLSON: I'm Gary Olson with Cummins Power Generation. I asking you to vote against this motion. Cummins Power Generation is a manufacturer of generator sets, other types of equipment. In my role I do a lot of work with engineers who are trying to reach position of selective coordination complete selective coordination in terms of some of you, and we've seen problems that come out of it. The result of the work that has been done so far on this topic is that I see many instances where we have equipment that is installed in such a way that there is a much greater level of fault current reaching equipment. There is no doubt in my mind that this fault current level is much more damaging equipment to equipment and it's much more likely to cause actually more risk to people, just evidenced

by the arc fault indication arc fault studies that I've seen.

I would like to make a couple of points that haven't been made. One of the things that happens all the time is that this topic seems to be characterized as an all or nothing situation. Either we have selective coordination or we don't have selective coordination. In fact when a consulting engineer is designing a facility they do everything they can to get selective coordination because they know it's the thing to do. There are many situations where it's very difficult to achieve, and extremely expensive measures are gone to in order to try to achieve it to some level. The net result of it there is sometimes where in their opinion as the person who knows most about the installation and most about how to make it safe and reliable is not able to actually do that because of pretty much arbitrary rules as to what selective coordination means. So let's not think of this as all or nothing. Let's think of this as giving the consulting engineer that is most capable of doing this job the ability of doing his job and being

responsible for it. That's all I have for now.
Thank you.
MR. BELL: Thank you. Microphone 5.
MR. MARSHALL: My name is Bob Marshall with Herzig Engineering in Kansas City speaking on behalf of Bob Herzig speaking for the proposal. Mr. Herzig the owner of our consulting firm and professional engineer submitted a comment that NFPA 99 has less restrictive requirements than the NEC puts us into a potentially litigious dilemma. First if we design the NFPA 99 we'll be open to greater liability risk because NEC and NFPA 20 have more stringent requirement. NEC is often adopted by state and local law where NFPA 99 is seldom adopted into law. If we adhere to the NEC and NFPA 20 requirement it may take us longer to design the job costing us more to design the project. The NFPA 99 committee did not have a good answer for this dilemma we have. Their panel statement of engineer of record is responsible for the design regardless of the requirement of code and I just heard that statement a few speakers ago. Can be translated Mr. Engineer that is your problem. The code made

their ruling. The NFPA 99 Technical Committee goes on to say in addition proposal law 107 gives the engineer an achievable benchmark for design. Proposal 107 inserted a tenth of a second selective coordination requirement in the NFPA 99. This can be translated, we gutted the requirement for selective coordination. It's now a no brainer to meet the requirement. No need to worry about ground faults, or face-to-face fault that trip circuit breakers and instantaneous trips or open fuses in their current limiting range. It's so easy there is no need to spend engineering dollars doing a coordination study anymore. You can almost install any breaker and fuse and comply without an analysis. So don't worry about the life safety load. The NFPA 99 standard will cover your back trust us. I don't feel comfortable with that, dealing from the 99.

So in summary we believe it's unethical for an engineer to hide behind a standard that professes -- all responsibility for designing a system that is knowingly unsafe. We cannot allow engineers to design a system we know is potentially apt to shut down needlessly endangering human life

because it's easier and less costly to do so. So I urge you to vote with me and approve this motion. Thank you.

MR. BELL: Thank you. Mr. Erickson do you have a comment.

MR. ERICKSON: I apologize to this assembly. I didn't give you the reference from the Standards Council. It was issued on September 19th of 2007. It went out to interested parties so maybe the ones of you didn't get it weren't interested. But it is Standards Decision D as in dog number 07-6 on Standards Council agenda item SC Number 07-7-5-1. Thank you.

MR. BELL: Thank you. Microphone 6.

MR. MANCHE: Alan Manche Schneider Electric Square D speaking in opposition to the motion. I simply want to call attention to the fact that I keep hearing people talking about fire pumps, elevators emergency systems, that's not what this is about. If you read the information we're talking about central electric system within a healthcare facility. It's not as broad as it's made out to be here, and I think the Technical Committee has done

the job, delivered a performance requirement through NFPA 99 for those specific circuits and I urge you to oppose this motion.

MR. BELL: Thank you. Microphone 1.

MR. HICKMAN: Thank you. Palmer Hickman representing myself. I am a member of the NEC Technical Correlating Committee. Yes there is another Technical Correlating Committee involved in this. And we had a conference call about a week and a half two weeks ago, Bill did we not, and we were so concerned about this we accepted a motion to send the entire document back because we still don't think it's right yet. The following day, I think we received email that said, we weren't allowed to have an opinion. So I am certainly not speaking for the Technical Correlating Committee. I'm speaking for myself.

I'm speaking in support this motion. I have several points I would like to make. My own personal opinion of why this motion should be accepted. The first is as you heard many times this has been debated many, many times in the NEC process. Four code panels debated this. Code panel

12 both 13 the one that existed prior and then reconstituted committee, and Code-Making Panel 20. As an example the most recent decision by Code-Panel 13 was on proposal 1395 where it was proposed selective coordination for faults with the duration of a tenth of a second or longer. This is why NFPA 99 it accepted. This proposal was rejected by a vote of 11 to 3. So we clearly do not have consensus in the industry to support 1 tenth of a second. Panel 13 rejected that .1 with the following statement. The .1 second limit in this proposal could reduce the level of safety by eliminating the type of currents that would need to be isolated to the nearest upstream device requiring selective coordination down to only 1 tenth of the second will cover overloads and a few minor phases and minor ground faults. So that was the 11 to 3 vote in the proposal stage.

In the comment stage, comment 13.136 requested acceptance of that proposal I just discussed and again the committee this time had even less votes supporting the 1 tenth. It was a 16, 2 vote with the following committee's statement. The

comment and associated proposal reduces the level of safety and is not needed because collective coordination for the full range of overcurrent is achievable. That is an important point. It is achievable. Why are we going to a lower level of protection and in one of the most important places you'll ever be. Selective coordination for faults with duration of 1 tenth of a second or longer installation where overcurrent protective devices would be coordinated to primarily overload and a few level phase-to-phase in ground faults. Arc flashes are not necessarily greater for selectively coordinated systems.

So I believe that this makes it clear that the NEC code-making panels have addressed what the 99 Technical Committee has done. Accordingly there is a direct conflict with the NEC. We have a series correlation issue.

Another point, I asked some colleagues to give me any kind of information that they might have had as far as what NFPA might think of this and I was forwarded a correspondence dated May 11, 2011 from NFPA advisory services. In it it says the NEC

is clear that where selective coordination is required an overcurrent condition is to be localized to the effected circuit or equipment. Overcurrent is defined in Article 100 is any current in excess of the rated current of the equipment or capacity of the conductor and may result from an overload short circuit or ground fault. In my opinion this correspondence indicates selective coordination is required for any, as stated in that correspondence, any current, any current includes overload short circuits and ground faults. This puts the NFPA reduction and protection in conflict with the requirements and definition in the National Electric Code.

My third point is that the NFPA 99 Committee -- enforcement issues which one of these codes is an enforcer going to enforce. What if the jurisdiction adopts NEC as routinely does but does not directly --

MR. BELL: 30 seconds.

MR. HICKMAN: Fourth point the NFPA 99 Committee action poses a threat for the entire NFPA process. Are two separate ANSI documents allowed to

cover the same requirements? The answer is no. Are they allowed to conflict with one another? Of course not. What about conflicts with the selective coordination requirements of NFPA 20 the fire pump standard, now as I understand we have conflict between two standards and NFPA 29 and NFPA 20.

MR. BELL: Stop. Your time is up. Microphone number 2.

MR. WEBB: Bill Web with Webb Fire Protection representing ASHRAE and I call the question.

THE FLOOR: Second.

MR. BELL: Motion on the floor to close debate. I hear a second.

THE FLOOR: Second. All those if favor of closing debate please raise your hand. Thank you. All those opposed. Motion passes. We'll move directly to vote the motion on the floor which is to accept comment 99-13. All those in favor of this motion please raise your hand. Thank you. All those opposed. I am going to call for an electronic vote on this one. I will now call for a vote using the electronic voting devices given to the voting

members. You must have a red badge with the word member on the top to be voting. I just remind you to either vote 1 in favor of the motion, or 2 opposed to the motion, or 3 to abstain.

A. Please vote now. Five seconds. Voting now closed. 87 to 119. Motion fails.

THE FLOOR: Mr. Chairman, request a standing count on this.

MR. BELL: We're no longer doing standing counts. Electronic means is the means of determining whether or not the motion passes or fails.

We are going to move on to motion sequence Number 99-15. This is a group of many motions so I'll entertain a motion any one of the three motions is referenced in this sequence.

Microphone No. 5.

MR. LOVORN: Ken Lovorn, Lovorn Engineering presenting a motion to accept my comments on 4.4.2.1.2 and set --

MR. BELL: So the motion on the flour to accept comment 99-122 and voting on all three of these up or down. Is there a second.

THE FLOOR: Second.

MR. BELL: I hear a second. Please proceed.

MR. LOVORN: As I mentioned before I have seen these selective coordination issues in the past, and certain electrical systems it's selective coordinated or it's not. There is no partial selected coordinated system. Choosing an arbitrary point this 0.1 second is purely arbitrary. Might as well choose 1 second or 5 seconds or 10 seconds or a hundredth of a second. In reality, the reason that the .1 second was chosen is because that's where the instantaneous region of circuit breakers falls. So that they do not coordinate below that .1 second. And for circuit breakers that's a little more difficult. The committee statement says management of this type of performance traditionally belongs under the purview of this committee. And since that is the case, the committee should recognize that having a system selectively coordinated below point 1 second does not change arc flash risk or equipment damage. We agree that the reduced risk of extended outages is very important to healthcare facilities

having an electrical system selectively coordinated. One of the best ways to reduce the extended outage risks. The committee statement in response to my request to change was mandating selective coordination below .1 second as the sole determining factor in overcurrent protective device result in diminished reliability of essential electrical systems. This is just simply not true. In the National Electric Code Article 100 it says, and I quote, localization of an overcurrent condition to restrict outages to circuit or equipment affected will increase the reliability. The main goal of selective coordination is to isolate the faulty portion of the electrical circuit quickly while maintaining power in the remainder of the electrical system. The fault or overload circuit is isolated by the selective operation of overload protective device closest to the condition. And that is a quote directly out of the National Electric Code, which is in direct opposition to the Technical Committee Position. So after giving you the one example which I could give you the name except that I am not permitted to because they want to keep it

under wraps, I'm strongly recommending that that .1 second phrase be deleted. Thank you.

MR. BELL: Thank you. Mr. Erickson.

MR. ERICKSON: Once again recognizing Jason D'Antona.

MR. D'ANTONA: Partners Healthcare, I would like to call the question.

MR. BELL: The motion is on the floor to close debate. All those --

THE FLOOR: Out of order we have to have debate before you can close debate.

MR. BELL: This is a nondebatable motion.

THE FLOOR: Point of order.

MR. BELL: I would ask you to vote in that manner. So the motion, is there a second to close debate?

THE FLOOR: Second.

MR. BELL: There is a second. The motion on the floor is to close the debate. All those in favor please raise your hand. Thank you. All those opposed. Motion fails. Is this anybody -- I see no one at the microphone. Microphone No.

3.

MR. CRNKO: Tim Crnko, Cooper Bussmann. I want to correct something that was said previously by Alan Manche. I differ with him on the essential electrical systems in hospital. The life safety branch is going to have life safety branch, elimination of means of egress, exit signs, hospital communications, systems where use for issuing instructions of emergency conditions so it's certainly -- elevators are often used for first responders put on the emergency systems at least 700 I assume they are going to go on the essential systems. Fire pumps when they're put on the feeders multi-building campuses a lot of hospital are, they'll put them on the same systems. So it is pertinent that they're basically gutting the requirements in the code for those articles made by those committees.

MR. BELL: Thank you. Microphone 1.

MR. FISKE: Thank you, Mr. Chairman. William Fiske, Intertek speaking in favor of the motion. I think that the results of the last discussion have made it clear that the 99 Committee

has this 0.1 second coordination down absolutely right. So I'm confident that you guys will send us a proposal to change the National Electrical Code and you'll have plenty of substantiation so that we'll be able to join the modern world along with you.

MR. BELL: Microphone 6.

MR. COSTLEY: Jim Costley electrical engineer. I'm speaking against the motion on the floor. This is the same motion as we've just gone to a lengthy discussion about and through the hard work and the 6 years of debate and the technical committee developed a consensus and action which was published as a part of the proposed 99 document. I ask you to support this consensus and the recommendation of the healthcare section. Reject this motion. Thank you.

MR. BELL: Thank you. Microphone No. 3.

MR. NASBY: James Stanley representing myself. I am speaking in favor of this motion. One thing I want to point out is with regard to the legal aspects there are many people, engineers

included, who think that if you change a standard to lose requirements you can hide that standard from a product liability standpoint. I supervised several dozen chronic liability defense cases and I can tell you this is the kind of thing that trial lawyers drool for because once it's evident that there is a state of the ary which is very clear that is being enforced today and has been enforced for years even prior to 2005 in the code and other people do not comply with the state of the art, you are liable. The only thing I want to point out here again we hear that NFPA 99 does enforce Article 700. No it doesn't, yes it does, no it doesn't. Let's make up our mind. Thank you.

MR. BELL: Microphone 6.

MR. DAGENAIS: Dave Dagenais speaking on behalf of myself as a member of the Electrical Committee of 99. I want to continue to emphasis that this is not something that was taken lightly. We've discussed it at great length. We've had testimony from both sides. All of the evidence was weighed. Decision was made going this way, it's the best way to go. We talked about all these things on

the last motion. There is nothing different about this motion. It's the way to go. Thank you.

MR. BELL: Microphone 5.

MR. LIPSTER: Steve Lipster with the electrical workers and I rise for the motion. This is a great responsibility we have to provide performance guidance for healthcare facilities and unfortunately once against once more we're providing less restrictive environment than we have previously. And I don't get it I really don't. We can say that they're too difficult to design. Well according to the American Hospital Association there has been over 25,000 healthcare facilities, 25,000 healthcare facilities designed and built since 2005, all with selective, fully selective coordinated systems. So I don't think it's too hard. I just have to tell you incredibly disappointed that again we're choosing less restrictive language creating a huge conflict with the sister code. Thank you.

MR. BELL: Thank you. Microphone 1.

MR. ALLISON: Malcolm Allison, National Fuse Association. I wanted to say something positive before you fellows blow this one down, I

wanted to call it to the attention of the Technical Committee do you have a short circuit and you have full range selective coordination you get 4 things. You get better arc flash protection, less electric energy, you get less equipment damage, you get reduced outages, and you get higher liability. That's all I have to say.

MR. BELL: Thank you. Microphone 2.

MR. D'ANTONA: Jason D'Antona, Partners Healthcare speaking against the motion. I just want to address something said earlier. 0.1 second requirement was not arbitrarily chosen. It was chosen based on established code that has been successful code in the state of Florida for 15 years as Chris mentioned. I also want to stress the fact that our committee is comprised of a cross-section of the industry. Several professional engineers, professional electrical engineers, myself as one, were gravely aware of the importance of this issue. This issue is not taken lightly by our committee. We deliberated it over 6 years. We had four votes to overwhelmingly in the majority for this position. Code-making Panel 13 if you look at the vote there

were not overwhelming majority. Thank you.

MR. BELL: Microphone 3.

MR. CRNKO: Tim Crnko, Cooper Bussmann. The last statement, I looked in Panel 13 it was more overwhelming in 2011 than 2008 for selective coordination. If you look at the language in the comment section adopted by this panel in 99, it says fault with duration greater than .1 seconds. That means you do not have selectively coordinate for overloads. I think it was a mistake. I think it's a law requirement. Means anything less than .1 second you don't have to worry about. -- insulated breakers they're ignored. Most faults that's where they're going to lie. Thank you.

MR. BELL: Microphone 5.

MR. SAPRETUS: Vince Sapretus, Cooper Bussmann. Why is it that our banking centers financial centers design and install for selective coordination? Do we worry more about our money than we care about our people? We need to think, vote your conscience on this thing. We are going to take better care of our money than we are the patients. Put the firemen out there. You need to get up to

fight the fire. If you're in a building like this, you know that it's been designed and installed such that a fault in one elevator is not going to take them all out. You go in to fight a fire in a hospital you don't have that assurance. You won't. You won't have that insurance.

Follow the money. What are we talking about here? We're talking about saving some bucks. We're talking about saving some space. That's what it is all about. Follow the money. We're wanting to gut the requirements that 4 code panels of the National Electrical Code have talked about for three cycles and the votes keep getting more lopsided and more lopsided. And we're going to take the healthcare standard and go and complete and opposite direction to what has been in the National Electric Code now for in some cases since 1993 and in many cases since 2005. We're going to gut those requirements going to save some bucks and we're going to put patients, staff, first responders and firemen at risk. I urge you to vote for this NITMAM.

MR. BELL: Microphone 4.

MR. LEFFERT: Kevin Leffert, Eaton Corporation and I'm speaking against the motion. I'd just like to recap because we've been at this for a while. First off it was clarified under the Council decision that this group does have responsibility for the performance requirement. Secondly, I think it was also stated that they have been at this now for through four different technical committees. It's going on over 6 years all the technical discussions have had full airing. Also that technical committee overwhelmingly made the technical decision. I urge you to support the NFPA 99 Committee because that's what we're here for now voting on right now. We are not talking about the National Electrical Code requirement, and let's support the 99 committee in their process. Thank you.

MR. BELL: Thank you. Microphone 2.

MR. HORSHNER: Larry Horshner, I work for BF Consulting Engineers. I'm as a member of Code Panel 13 and the Massachusetts Electrical Code Advisory Committee. I just want to put something into perspective. In 2008 the code book came out

700.7 had this fairly harmless looking sentence in there and I think it took people probably 6 months, 6 to 8 months as the code was out before people started looking at it, what does this mean, what do we have to do here. And I'll agree prior to that time we didn't do a very good job in selective coordination, but since then we have got people from Eaton here, from Square D, and since then they have done a tremendous amount of work and it's a big part of their industry, a big part of our industry, and we're not sitting back and we're not trying to not do it, and we have a conscience. When I hear these statements about what if your daughter was lying on a hospital bed. If my daughter was laying on a hospital bed she would be just fine.

What has become what I've seen evolve, and I review power system studies every day, and what has evolved is the industry has taken up the slack. They've created systems, they've created equipment, and breakers, that will coordinate. But when you get down there to that .01 sometimes it's just tough. And most of the time if you say.1 most of the time they're at .04, .02. You need this

little built of leeway. You need this little bit of leverage. Everybody is doing it, getting better at it. Equipment every day is getting better at it, but this is a very reasonable rule.

Now I was in AHJ for a long time in a town just a few miles west of here. And as a young inspector back in the early 80s I completely bought into the philosophy that we all enforce the code. We don't cherry-pick the rules we enforce. If I enforce all the rules and the inspector in my next town he ignores everything it makes my job tougher. But more so it adds to the credibility of the code. If you cherry-pick rules then the code loses its credibility and loses its integrity. The best way to get rid of a bad code rule is to enforce it. Because sooner or later there could be a ground swell and people will change it. And when I see happening with this is a lot of the inspectors, I belong to inspector associations, go to meetings, a lot of inspectors they are just pushing it off and that's a scarey part. What it does to the code when we create rules unenforceable and people are enforcing then, don't understand them. What it does

to the credibility of the code is what concerns me. This .1 is a good rule.

MR. BELL: Thank you. Microphone 5.

MR. OAKLEY: George Oakley speaking on behalf of myself. First and foremost when one talks about selective coordination, there are in fact --

MR. BELL: For or against the motion.

MR. OAKLEY: Sorry. For the motion. Thank you. Selective coordination by definition is false selective coordination. You can go through the NEC and it deals with full coordination. If you look at generally accepted engineering practices and you use other documents that help you from a design standpoint such as the IEEE book, this talks about selective coordination. It is full of coordination. Now, the approach that the healthcare industry has chosen to take in identifying one tenth of a second has modified and to a degree bastardized the definition of selective coordination to the extent that it is only covered, at least at the proposal for the healthcare industry, in the overload range.

Now, several speakers ago on one of the other motions told you about the industry situation

of high fault currents and the damage of equipment. He is absolutely positively right. So why in heaven's name would you not want to coordinate fully selectively down in the short circuit range as well as the overload range? The previous speaker was talking about enforcement. In a past life I hold a license as a state electrical inspector for Ohio and this is enforceable. It's good code. It's good safety practice but when you start to manipulate and massage these definitions it's kind of akin to somebody saying, oh, there is a piece of debris in the party refreshment containers when in fact what you have is the turd in the punch bowl.

MR. BELL: Thank you. Microphone 2.

MR. D'ANTONA: I would like to call the question.

MR. BELL: Motion on the floor to close debate.

THE FLOOR: Second.

MR. BELL: I hear a second. All in favor please raise your hand. Thank you. All those opposed. Motion passes.

So we are going to move to the motion

on the floor which is a group of mini motions and we're voting on all three of these motions in this sequence which is 99-122, 99-127 and 99-128. All those in favor of the motion please raise your hand. Thank you. All those opposed. Motion fails.

Move on to motion sequence Number 99-16. Looking for a motion. Microphone 3.

MR. BEEBE: Chad Beebe, associate director of American Society of Healthcare Engineers and I move to accept comment 99-159 found on pages 99-37 of your ROC.

MR. BELL: Motion on the floor to accept 99-159. Is there a second? There is a second. Please proceed. Mr. Chairman.

MR. ERICKSON: Since this set of motions are submitted by the American Society for Healthcare Engineering, therefore I hope to avoid conflict of interest. At this time I'm going to step down and ask Mr. Koffel to address the issues on behalf of the Technical Committee.

MR. BELL: Thank you. Proceed, Mr. Beebe.

MR. BEEBE: Well hopefully we won't

have to talk about selective coordinated anything in this one and you won't have to talk about location anymore. This one is hopefully fairly simple. The committee rejected this comment I think under somewhat false pretenses and misunderstanding. Their statements said option nonmandatory and not used anywhere in the Chapter 5 regarding gas, they agreed that the system was actually optional, but actually if you look at several sections within Chapter 5 you'll see that in line valves are optional and actually says that there. Also includes the term option in the appendix note on that, and in many other places in 99 also says. There is quite a few places throughout the document as well as in other documents such as NFPA 70. Where it says in Article 51719, see patient grounding and bonding is optional, E additional protective techniques in critical care areas, parens, optional. Article 702 optional standby systems. It's very confusing when you use the term optional for optional systems and then you have an optional system that you don't use the term. It's been creating a lot of confusion across the country

getting a lot of requests through Ashton's lister and Ashton's questions you know wondering why their authority jurisdiction, enforcing them to install instrument air systems when it should be optional there is other way to do this. I think the committee agrees it's optional just adding one simple word. I urge you to support this motion.

MR. BELL: Thank you. Mr. Koffel.

MR. KOFFEL: Whereas the Technical Correlating Committee took no action on this particular comment I will defer to Mark Alan a member of the committee on piping systems to present the committee position.

MR. ALAN: Mark Alan, today I'm speaking on behalf of the committee and Dave Molehill chairman. I would like to simply say that instrument air enters the document as an alternative to nitrogen but if you look in the document neither instrument air nor nitrogen are in any way mandatory. In fact, nothing in NFPA 99 in terms of high system is mandatory from NFPA 99. 99 deals with how to install those systems once the election to put them into the hospital has been made for

other reasons from other standards, etcetera. So to give you an example, we give you five different methods to install oxygen systems but you don't have to have all five of them in your building. The inherent design of the document is meant to allow you to make choices based on whether you wish to install that system who do not wish to install that system for other reasons made by the authority having jurisdiction or the owner.

So I would ask you please to reject this on three grounds. First we believe that such addition is unnecessary by virtue of the design of the document, the fundamental scope of the document. Secondly, we think that if you made such a statement on one system you now would confuse the AHJ's even more because now it would sound like all the other systems are mandatory this is the only one which is optional which is clearly not the intent of the standard. And third that if it was the pleasure of the members to make this change this is not the way to do it. The design of the document should allow us to make this more clear across the document not on this one single system. Thank you Mr. Chairman.

MR. BELL: Thank you. Microphone 1.

MR. SHALINSKI: Mark Shalinski with consulting engineers I would like to speak for the motion. I would like to first of all, what Chad was saying about the need for being an optional system. In the current definition of instrument air, it's something that is for the purposes of this code instrument air intended for powering of medical devices unrelated to human respiration surgical tools sealing arms. Many times interpreted to say that the sealing arms need to have instrument air or that other medical devices, going to have medical devices by gas powered system is going to have to be instrument air. Instrument air requires the redundant systems, the zone belt box, etcetera. And in addition instrument air is actually cleaner than medical air. Instrument air has much higher filtration requirements. So the interesting thing is that while medical air is not allowed to serve booms and such, the instrument air which is now allowed to be breathed and much cleaner is what is required to be used for booms and medical devices. By inserting the word optional the more clear that

the full use of an instrument air system itself is optional. I encourage a vote for the motion.

MR. BELL: Thank you. Microphone 3.

MR. DAGENAIS: Dave Dagenais speaking on behalf of the healthcare section in favor of this motion. This morning at the healthcare section executive board meeting the board and the membership voted to support this motion. The healthcare section believes that this will clarify an issue that has been confusing over the last several years. We also agree that there could be some confusion with the other ones that do not indicate optional however there is not an option to address this at that point. Getting one of these in as optional will clearly be better than getting none of them in. We urge you to support it. Thank you.

MR. BELL: Thank you. Microphone 4.

VOICE: Speaking for myself 35 years in a major hospital instrument air is not meant to be breathed.

MR. BELL: Speaking for or against?

VOICE: Against. It's not meant to be breathed. If you go to the definition under support

gas it mentions nitrogen and mentions instrument air and says neither are allowed to be respired by patients. So that information is wrong. I'm just totally against this.

MR. BELL: Any further discussion? Seeing no one at the microphone we'll move to vote which is to accept comment 99-159. All those in favor please raise your hand. Thank you. All those opposed. Motion passes.

We move on to sequence number 99-17. Is there a motion on the floor related to sequence number 99-17. Microphone 6.

MR. PETERKIN: James Peterkin, Heery International representing the healthcare section. When I signed in for this I noted that I would not be bringing it to the floor.

MR. BELL: So you're indicating you're not pursuing this.

MR. PETERKIN: Correct.

MR. BELL: We'll move on to sequence number 99-18.

MR. JELINSKE: Mark Jelinski with Cator Ruma Associates representing myself. I like to

propose that we accept comment number 99-236.

MR. BELL: The motion is to accept comment 99-236. Is there a second? I hear a second. Please proceed.

MR. JELINSKE: This proposal will reject proposal 99-382 which establishes Chapter 8 plumbing. This proposal goes way beyond the scope of NFPA 99 which is the scope of this code is to establish criteria to minimize the hazard of fire, explosion, and electricity in the healthcare facilities providing services to human beings. Again this is establishing a chapter on plumbing. This proposal, these systems are used in healthcare facilities with very little guidance until now. Healthcare facilities' plumbing systems are subject to multiple strict requirements at state local code and state and local public health code. In addition the FGI/use AIA guidelines for design and construction healthcare facilities is considered the industry standard for healthcare specific design and is adopted as code in many jurisdictions. At best this is kind of a waste of ink actually. Portable water systems shall comply with applicable plumbing

code. What happened to very little guidance. Plumbing fixtures shall be suitable for the intended use. Okay. Further, it's not real complete, incomplete. There are multiple terms in this proposal not defined by the code such as non potable water, black grey clear wastewater, professional use systems and how the guy with the clipboard and deficiency list really understands how to deal with things like that, provisions to allow potable water systems to continue to operate shall be provided. Another level of regulation to the healthcare facility potential conflict and confuse the implementation of the model code and guidelines developed over decades by plumbing industry experts. This is NFPA's first into plumbing. It shouldn't be incorporated into a document that will automatically be adopted nationwide in just about every healthcare facility in the U.S. If the National Fire Protection Association feels plumbing regulation is somehow within its purview, then isolate it to a topic and do a separate code, allow that to be developed fully and allow those who have jurisdiction to consciously adopt a plumbing code

developed by the NFPA. NFPA's concern of fire protection is already well addressed by categories such at materials standards and the protection of fire construction. I urge in the interest of avoiding further confusion and further conflicting regulation on the healthcare industry that this motion be passed.

MR. BELL: Thank you. Mr. Koffel.

MR. KOFFEL: Mr. Chairman, as you can see there are a number of certified amending motions that have been submitted on Chapter 8 of this document. Based upon the number of cams that have been submitted, the committee on mechanical systems had a conference call last week and reviewed those amending motions. The input that I've received from the committee is that some members believe that they acted at the direction of the Technical Correlating Committee. There are other members that believe based upon the certified amending motions that we have established a standard higher than what was intend by the TCC and the stated purpose of this document which is to provide a minimum set of requirements for the performance testing and safe

practices for facilities equipment and appliances including other hazards associated with the primary hazard. As such while I cannot represent this as an official position of either the committee on the mechanic systems or the Technical Correlating Committee. It is from the people who have participated in those calls meetings this week it is our belief that the best action would be to support this motion and return the committee and allow the preparation of attentive interim amendment to be processed and the schedule will allow this to be processed at the August Council meeting to retain any necessary provisions intact would be lost by returning the entire chapter.

MR. BELL: Thank you. Microphone 3.

MR. JOYUS: Bill Joyus I'm part of the mechanical systems committee and I just wanted to I guess knowledge the fact that our committee has met this week informally and also discussed the potential issues with interpretation by the AHJ and the issue that might cause so I'm just here to advocate the fact that we are in agreement with the fact that we want to support this motion.

MR. BELL: Thank you. Microphone 3 again.

MR. BEEBE: Chad Beebe with the American Society for Healthcare Engineering. We also were in on the conference calls and as maker of a number of these motions on Chapter 8, I also concur the route that the Technical Committee is going and the proposed text TIA that they drafted up is well worth supporting this motion.

MR. BELL: Thank you. Microphone 5.

MR. BOLTON: John Bolton CTA Architects Engineers, Great Falls, Montana. I am in support of the motion and representing the Montana Society of Healthcare Engineers and also many architects within the Rocky Mountain region. Our main concern is that this does not get to be a motion that does redundancy in healthcare systems. As it was mentioned earlier, the healthcare systems typically follow the many plumbing codes and standards of local jurisdictions and we don't want to see this incorporate this and make it that much more. They have been getting along with this, done very well, and development of the plumbing codes should be left

to the folks that specialize in those systems. And I don't feel that NFPA taking this attempt should be trying to specialize in the plumbing code sections to do redundant systems within facilities. Thank you.

MR. BELL: Microphone 3.

MR. DAGENAIS: Speaking on behalf of the healthcare section, this morning at the healthcare executive board meeting the membership and board voted to support this motion. Healthcare section is in favor of this motion.

MR. BELL: Thank you. Seeing no one else at the microphone, we'll move to the vote which is to accept comment 99-236. All those in favor of the motion, please raise your hand. Thank you. All those opposed. Motion carries.

Now it's my understanding that because the entire Chapter 8 was returned so there is no longer any text, that the makers of the motion for sequence numbers 99-19 through 99-27 have decided not to pursue those motions. If my understanding is correct please come to the microphone right now. My understanding is that those motions will not be

pursued.

MR. BEEBE: Correct.

MR. BELL: Microphone 3.

MR. BEEBE: That is correct.

MR. BELL: State your name.

MR. BEEBE: Chad Beebe American Society for Healthcare Engineering.

MR. GREGORY: That is correct, James Gregory, Health Facility Consulting.

MR. BELL: Thank you. We'll move on then to motion sequence number 99-29.

THE FLOOR: 28.

MR. BELL: Sorry. Sorry about that. 28. I'm trying to go too quickly here. You would understand the reason why. 99-28 motion on the floor?

MR. JELINSKE: Mark Jelinske, with Cator Ruma Associates consulting engineers, representing myself. And I'd like to propose that we accept comment 99-258.

MR. BELL: Motion to accept comment 99-258. Is there a second? I hear a second.

MR. JELINSKE: This will reject

proposal 99-389 establishing Chapter 9 D. This proposal goes way beyond the scoop of NFPA 99 which is the scope of this code is to establish criteria to minimize the hazards of fire explosion and electricity in healthcare facilities providing services to human beings. This attempt this proposal attempts to regulate comfort in the clinical performance and has no business being in NFPA 99. In the report on proposals, other proposals were rejected with statements like there are numerous technical changes embedded within this document not substantiated by the submitter. And that was for modifications to existing topics. This is an entirely new topic. Same logic should apply. The industry has already many good consensus documents and codes and to guide designers and healthcare facilities such as state, local, municipal, building, fire code, state and local public health code, multiple NFPA documents already address the life safety aspect of AHC which is in the purview of NFPA including the special requirements for healthcare. The FTI AIA guidelines for healthcare facilities and standard 170 are

1 considered the industry standard of care and now are
2 adopted especially since FTI has incorporated ASHRAE
3 standard 170. Adopted as code. Throughout many
4 areas for facility design construction. And an
5 excellent move the healthcare design construction
6 industry has now strong coordinated voice through
7 FGI and ASHRAE. So Chapter 9 confuses, one of the
8 issues here is that we fortunately missed all the
9 debate on redundant plumbing systems, but the
10 concepts of Category 1 through 4 which is
11 established in Chapter 4 talks about specific
12 systems which are critical to health and life
13 safety. However Chapter 4 or Chapter 9 HBC confuses
14 this and uses the term spaces. So for example even
15 though the lack of humidity, in Chapter 4 looking at
16 humidity, you say look, humidity it's not going to
17 kill anybody not a Category 1 system. However
18 Chapter 9 says that humidifiers serving Category 1
19 space requires redundancy. So now even though --
20 won't kill anybody it's got to be a redundant
21 humidifier system. It will require 96 hours of fuel
22 for HVC again category 1 space nothing related to
23 whether the lack of a particular HVAC subsystem in

that space will kill somebody. And then for the rest of the document the rest of the essential power supply system 96-hour fuel supply system, so we have some conflict how do we size the systems there, otherwise requires 96 hours of fuel. One of the bigger issue is this system requires full coverage smoke detection system and either in NFPA 92 engineer smoke control system for Category 1 phase and then it has an idea to use the return system in a hundred percent exhaust mode for Category 2 space in the event of fire. Well the model code prohibits the operation of HVAC system during a fire unless part of a fairly prescriptive engineer's smoke control system. The only area that is listed not being category 1 or 2 in the annexed note is the ambulance garage. Again, this is NFPA's first parade into comfort systems. It should not be incorporated in a document that will be automatically adopted nationwide.

MR. BELL: 30 seconds.

MR. JELINSKI: NFPA legitimate area of concern fire protection again is already well addressed by category materials standard protection

of the opening operation with fire alarm systems, etcetera. Thank you.

MR. BELL: Thank you. Mr. Koffel.

MR. KOFFEL: Thank you, Mr. Chair. Although dealing with ventilation systems as compared to plumbing this is essentially the same issue we dealt with in comment 99-236. Therefore, I am not going to repeat all of my comments and I would refer the reader to the transcript to my comments in comments 99-236. However in summary, I would state that again, the committee members present on the conference call the committee members that have participated in meetings this week feel that there are some essential provisions that would be lost by returning this chapter but having said that, we would encourage you to support the motion and the committee will attempt to process a TIA at the Council meeting in August.

MR. BELL: Thank you. Microphone 3.

VOICE: I just want to reiterate the committee position which was that we have discussed this and essentially the same comment I had for the previous measure also.

MR. BELL: Microphone 3.

MR. DAGENAIS: Dave Dagenais representing the healthcare section. The healthcare section's executive board meeting this morning voted to support this motion.

MR. BELL: Microphone 5.

MR. BOLTON: John Bolton CTA Engineers Great Falls Montana representing the Montana Society of Healthcare Engineers. We also support this proposal to have Chapter 9 removed in its entirety from the documents. Thank you.

MR. BELL: Thank you. Seeing no one else at the microphone we move to the vote to accept comment 99-258. All those in favor of this motion please raise your hand. Thank you. All those opposed. Motion carries.

Similar to Chapter 8, the following motions sequence numbers 99-29 through 99-39 it is my understanding that these will not be pursued because the new chapter has been deleted.

So we're going to move on to sequence number 99-40. And I just want to reiterate a comment Ron Barr made this morning regarding the

1 section paragraph that this is applicable to and
2 actually in Chapter 11 under gas equipment and the
3 paragraph number is 11.4.3.3 paren 2. Is there a
4 motion on the floor. Microphone 5.
5 MR. EHRENWERTH: Jan Ehrenwerth,
6 American Society of Anesthesiologists. I move to
7 accept comment 99-297.
8 MR. BELL: The motion is to accept
9 comment 99-297. Is there a second? I hear a
10 second. Please proceed.
11 MR. EHRENWERTH: Ladies and gentlemen,
12 the hour is late and I'll try to make this brief.
13 Basically what my comment does is it rejects an
14 action by the medical equipment committee to allow a
15 manufacturer of an ozone sterilizer to plug in his
16 sterilizer to the patient's oxygen system. That's
17 the patient's oxygen system. We who work with
18 oxygen everyday consider the patient oxygen system
19 sacrosanct. There is nothing that can be permitted
20 to be plug into this oxygen system. We have
21 hundreds of patients at any given time whose life
22 depends on the oxygen system. Even though there is
23 an attempt by the committee to make this safer or

make it fail-safe if you will, nothing is fool proof. As we all know nothing is idiot proof. We can defeat anything. We simply, there is just simply no justification for allowing a connection to the patient's oxygen system for an ozone sterilizer. The machine can be run off tanks, the main argument I heard is we have to move tanks around a hospital. We move hundreds of tanks around the hospital every day. It's a nonissue.

We have to safeguard back flow protection devices thing can fail, things can leak it's just something that we can't allow. This proposal originally went to the TC on pipelines of which I'm a member. We rejected it unanimously. The technical coordinating committee then said the pipeline committee jurisdiction ends at the wall and it went to the medical equipment committee and somehow it got ground there, I don't know how. But this is opposed. This connection is opposed by everyone. The comment to accept this comment is supported by the American Society of anesthesiologists, the health care section, ECRI Institute the Compressed Gas Association. You have

1 to trust me on this. We can't allow people to plug
2 into a patient's oxygen system and worse if we allow
3 one group to do it then there is going to be other
4 people surely coming down the road saying they did
5 it we can do it too. This comment has to be
6 accepted and we have to maintain the integrity of
7 the patient's oxygen system. Thank you.
8 MR. BELL: Thank you, Mr. Erickson.
9 MR. ERICKSON: Thank you, Mr. Chairman.
10 As Jan mentioned it did go to the Technical
11 Committee on piped gas originally however as he
12 mentioned also the piped gas committee their
13 jurisdiction stops at the outlet on the wall. It
14 did get to the medical equipment committee and I
15 would like to ask Alan Lipschultz to address this as
16 chair of the committee.
17 MR. LIPSCHULTZ: Alan Lipschultz
18 Director of Clinical Engineering Christiana
19 Healthcare Services Delaware, and as mentioned I am
20 the chair of the medical equipment committee. The
21 commenter commented on proposal 99-159. And I would
22 like to point out to the membership that if you look
23 at comment number 99-298 the committee modified

1 their original proposal in the report on comments.
2 No longer restricting it just to sterilizers but
3 instead addressing to the general case and added
4 some additional requirements in there. The
5 committee did accept that its own proposal to modify
6 what it originally had done. It is fair to say
7 before somebody points it out that the motion was
8 not unanimous at the committee ballot level that two
9 members of the committee took strong exception to
10 the committee's action but nevertheless it did pass
11 strongly at that committee. And basically what the
12 committee is saying with appropriate safeguards that
13 other equipment can be connected to that outlet, not
14 saying it's a good idea saying it can be with
15 certain precautions taken but it doesn't require
16 that anybody connect anything to it just that it can
17 be done.
18 MR. BELL: Thank you. Microphone 5.
19 MR. BARKER: Steve Barker, again the
20 incoming delegate from the American Society of
21 Anesthesiologists. I will be brief and not repeat
22 everything Doctor Ehrenwerth said. He pretty much
23 said it all.

1 MR. BELL: Speaking for the motion?

2 MR. BARKER: I'm speaking for the

3 motion, sorry. Speaking for the incorporation of

4 comment 99-297. Thank you. As an anesthesiologist

5 who was once an engineer as Jan says nothing is

6 idiot prove foolproof and that is a slippery slope.

7 We consider the oxygen supply in the operating room

8 to be sacred. It's literally the patient's life

9 line. And if anything even has a slit risk of

10 compromising the safety of that lifeline then we

11 don't want to go in that direction. I think

12 anesthesiologists would be united in this. Thank

13 you.

14 MR. BELL: Thank you. Microphone 5.

15 MS. McLAUGHLIN: Susan McLaughlin MSL

16 Healthcare Consulting speaking on behalf of the

17 healthcare section and in favor of the motion. This

18 morning at executive board and membership meeting

19 the healthcare section voted in support of this

20 motion.

21 MR. BELL: Thank you. Seeing no one

22 else -- microphone 5 again.

23 MR. EHRENWERTH: Just to address --

MR. BELL: Speaking for the motion?

MR. EHRENWERTH: I'm speaking for the motion against. And I do appreciate the committee did try to modify it to make it a little bit safer but again, any risk here is an unacceptable risk and there simply is just no real good reasons to allow a connection to oxygen pipeline much less for a sterilizer that has a readily available oxygen source that is not a danger to the entire oxygen supply at the hospital. Thank you.

MR. BELL: Thank you. Seeing nobody at a microphone we move to the vote on the motion to accept comment 99-297. All those in favor please raise your hand. Thank you. All those opposed. Motion carries. My understanding of the maker of the motion for 99-41 and sequence number 99-42 has notified NFPA that they no longer intend to pursue the motion. We'll move on to motion sequence number 99-43.

MR. HIRSCHLER: Mr. Chairman it is correct I will not make the motion for 41 or 42. Marcelo Hirschler GBH International. I hereby move to accept comment 99-325.

MR. BELL: The motion is to accept comment 99-325. Is there a second.

THE FLOOR: Second.

MR. BELL: Please proceed.

MR. HIRSCHLER: The committee discussed this issue and replaced the wording that they had by using wording saying that the conductor shall be insulated with material that is flame retardant or fire resistant. As I point out in my substantiation the terms flame retardant fire resistant have no meaning in isolation of the yard sick. There is no yard stick being presented. At the time the committee met, they were not aware of the requirements that existed already in the National Code or requires cable they were very concerned with getting the most severe application of prior safety for both power cables and communication cables. Looking at the type of test methods that exist in the National Electrical Code for both power cables and communication cables, I chose to put the UL 685 CSA version in here and the committee chose to hold because it did not have expertise in the matter. In the meantime I've talked to the committee chair and

he felt that but I don't want to put words in his mouth but my understanding is that he understands the position so I hope that the membership will support this motion so that we have actual requirement for the wires and cables in these locations as opposed to just unenforceable requirement as flame retardant or fire resistance, thank you.

MR. BELL: Thank you. Mr. Erickson.

MR. ERICKSON: Yes. What I would like to do is recognize the hyperbaric chair Mr. Rob Sheffield please.

Mr. Sheffield: Bob Sheffield with International chair of the HEAY committee. The committee decided to whole the action they understood the intent and agreed in principle but we were unfamiliar with the test standards that was referenced by submitter, also unfamiliar with the submitter's expertise at the time. So the committee's action was to hold it for the next cycle. Personally I have spoken to the submitter since this time. I'm confident in his expertise in recommending this particular standard still haven't

reviewed it for content and I can't speak for this committee but personally I'm comfortable with the recommendation.

MR. BELL: Thank you. Microphone number 4.

MR. HICKMAN: Thank you. Palmer Hickman speaking for myself. I would like to call the question.

MR. BELL: Motion has been made to close debate. Is there a second.

THE FLOOR: Second. I hear a second. All those in favor of closing debate raise your hand. Thank you. All those opposed. Motion carries.

We move directly to the motion on the floor which is to accept comment 99-325. All those in favor of this motion please raise your hands. Thank you. All those opposed. Motion carries.

Before we move on to the last motion sequence number, I want to ask if there are any followup motions at this point? Seeing nobody at the microphone we are going to move to the last sequence which is 99-44. Is there a motion on the

floor? Microphone number 1.

MR. ALLISON: Malcolm Allison National Fuses Association I move to return the whole document.

MR. BELL: So the motion on the floor is to return the entire report. Is there a second?

THE FLOOR: Second. I hear a second. Please proceed.

MR. ALLISON: I want to send this 99 document back to committee because from today's discussions it's fairly obvious to us that the 99 committee has overlapping responsibilities with the NEC. Healthcare essentials, electrical systems are not totally unique entities. Whereby the 99 committee can set any requirement they want without encroaching on and requirement of the NEC. Healthcare essential electrical systems have many conditions and equipment that are not materially different than those found in any other similar large documents. These are systems that equipment where the NEC established requirements -- sense of standard work. The NFPA 99 committee statement proposal 99-108 partially recognized the fact and I

1 quote although some functioning of the essential
2 electrical system do have commonality with emergency
3 and standby systems and others, there are many
4 patient care related functions that are uniquely
5 performance rated and related and apply only in the
6 healthcare environment unquote. Why didn't the
7 segregate the requirements to only items unique to
8 healthcare. If they had we probably wouldn't be
9 having this anguish. We heard today that was known
10 technical substantiations 99 developed less
11 restricted requirements for selective coordination
12 that at least 4 code-making panels have perfected
13 over 3 cycles. It is eliminated -- on requirements
14 found in Article 700 these are conditions, these are
15 for conditions or equipment that are for life safety
16 and needs whether in hospitals, university, or high
17 rise or other places. What we have heard today is
18 the cycle, what about future cycles. 99 and Article
19 517 are set up to be always out of correlation even
20 article 517 is automatically updated to the dictate
21 of NFPA 99. The NEC and NFPA 99 is set up on
22 different provision cycle year. What happens during
23 the next cycle, Panel 15 does not accept all NFPA 99

changes. Or NEC panel 15 accepts proposals different or in conflict with NFPA 99. It gets worse. Some jurisdictions are struck NEC adoption process out for of years. Even worse. The conflicts are not going to be just between 99 and 517. This NFPA 99 conflicts with other at least 6 other NEC articles also about correcting the scope redundancy who knows what NEC articles would conflict in the future. So I urge you to support my NITMAM.

MR. BELL: Thank you. Mr. Erickson.

MR. ERICKSON: Thank you, Mr. Chairman. Mr. Chair, ladies and gentlemen of the assembly, I stand before you to let you know that the Technical Correlating Committee and the Technical Committee of NFPA 99 project worked very hard to get this document ready for presentation today. It appears that a different faction of this assembly is not satisfied with one of the outcomes and therefore wants to return this entire document back to committee. The LP proposals and ROC comments of NFPA 99 document, that they are using to return these all had a vote of affirmative of 18 to 1

negative. All these sections had hours if not days' worth of debate at both the proposal and the committee, in the comment meetings. I've also been instructed by NFPA staff there is an ANSI document, that as an ANSI document I should say, that if this document does not get published within 10 years from the time of its last publication, that it goes away completely leaving us without any document that deals with medical gas systems, electrical systems and healthcare facilities, without any emergency management security. All the good things that we have within our NFPA document. This is an ANSI standard that says no extension of time beyond 10 years from the date of approval shall be granted for action on a standard. In no case shall standard maintain its status as a current American National Standard beyond 10 years from the date of approval. Such approval automatically expires on the 10th anniversary date of the approval as an American National Standard.

I urge you to take a look at what has been talked about today. Take a look at all the good that 99 has in this document, the years that it

has been in existence, the amount of time that these committee members have dedicated their time and their careers to NFPA 99. Thank you, Mr. Chair.

MR. BELL: Thank you. Microphone 5.

MR. MARSHALL: Bob Marshall, Herzig Engineering, speaking on behalf of Bob Herzig speaking for this proposal. This whole document needs to be sent back to the Technical Committee. It's an embarrassment but it's the only way to preserve the professional NFPA process we have today. We heard today that the NFPA 99 Technical Committee left out numerous key safety requirements as a result of their amendment to divorce from NEC Article 70O. Those requirements included ground fault signalling, hosting of the course of action to be taken after a ground fault, loss of the option to forego alternate source equipment ground fault protection, marking of emergency system enclosures, signage of service entrance equipment showing high and location of emergency sources, mechanically held automatic transfer switches, temporary alternate source, normal emergency generator is out for repair, prohibition of 3 or 4 way lighting switches,

accessibility of emergency lighting switches, and finally emergency lighting continuation while normal lighting is turning on.

We heard the requirements for selective coordination have been gutted. Without any technical substantiation so healthcare facilities would now be permitted to be designed and installed so that their systems will be much less robust and similar facilities that have similar emergency systems. We heard that 4 national electric code panel have discussed and voted down similar proposed changes citing safety and reliability as the major concern. We also heard that money and banking centers voluntarily install full selective coordination but we're gutting the requirement for healthcare. We have seen the NFPA 99 committee has trespassed on the domain of National Electric Code as they've eliminated or reduced requirements from systems and equipment that we have come to expect will not cause bodily harm or property damage, risking the lives of patients, staff, visitors, firemen, and other first responders. The purpose of Section 1.2 in NFPA 99 document now lists

installation this is a conflict with the National Electric Code. The document is flawed in numerous places and conflicts with NFPA 20. It may cause issues with ANSI for jurisdiction, also reduce safety and threaten the NFPA process.

I urge you to vote for this amending motion and send the whole document back to the Technical Committee. Thank you.

MR. BELL: Thank you. Microphone 4.

VOICE: Clark associates speaking for myself. To me, motions to return to committee should be based on a multitude --

MR. BELL: Speaking for or against.

VOICE: Yes speaking against the motion. Should be motion to return based upon a multitude of issues. We all remember a couple of years ago about return to committee in Chicago but we heard probably dozens of things different things, procedural things, items conflicting with each other. This is the situation where a couple of comments got rejected. The technical committee chair has addressed the scope and issues and addressed that the standard council has given these

scoping issues to the healthcare committee.

MR. BELL: Thank you. Microphone 1.

MR. HICKMAN: Thank you. Palmer Hickman, representing myself. Yes, thank you for reminding us that this document got sent back. I think it was two meetings ago and quite frankly I don't see anything much different in it then other than I just saw the committee remove two chapters that they finished. So this causes me great concern. Again I am on the NEC technical correlating committee and we had a conference call just a couple of weeks ago and probably spent 2 hours of great concern of this and we voted to return the document. Again we were told we couldn't have an opinion. So I'm not speaking for the TCC and they don't have an opinion. However, I think you certainly heard from many folks that have a lot of concerns with the correlation issues between the two documents. It was sent back before. I really don't see anything changed. I think it needs to be sent back again. Thank you very much. I support the motion.

MR. BELL: Microphone number 6.

MR. BEEBE: Chad Beebe American Society of Healthcare Engineering, and really all I have to say is wow. We just sat here and debated this all day long and it comes down to one issue that was beat 18 to 1 in the Technical Committee and the assembly has voted against it and we're holding out for that one little issue. My suggestion is that if you want this selective coordination in this document, you come back with real substantial data for the committee to consider for the next cycle but now is not the time to return the entire document for this one issue. Just like Jim Lathrop said last time there was a multitude issues. There is only one issue that is hanging out here right now and that's selective coordination. I urge you to vote against this motion.

MR. BELL: Microphone number 5.

MR. LIPSTER: Thank you, Mr. Chairman. Steve Lipster with the electrical workers. I rise for the motion. Brothers and sisters my take-away is very simple, it's okay for NFPA code to step all over sister codes. That's not a problem. Create conflicts where none should exist, that is okay.

But when we think about conflicting with an ICC code oh, my God we have to back off. That's troubling. Troubling we can get a hornet's nest within our own house but we go after our competition we're going to take three steps back. The thing stinks. Let's send it back.

MR. BELL: Thank you. Microphone 4.

MR. WALLACE: Mike Wallace speaking for myself. I want to call the question.

MR. BELL: Motion on the floor is to close debate. Is there a second.

THE FLOOR: Second.

MR. BELL: I hear a second. All those in favor of closing debate please raise your hand. Thank you. All those opposed. Motion carries. So we'll move directly to the motion on the floor which is to return the entire report. All those in favor of this motion please raise your hand. Thank you. All those opposed. Motion fails. Thank you, Mr. Erickson.

I did want do have an announcement before we close the session that the schedule for buses has been extended so it should be out there

for you to take you where you need to go. This officially closes the portion of the 2011 Annual Technical Association meeting. We'll reconvene tomorrow morning at 8:58 a.m. I want to thank you for your participation and support.

(The proceedings adjourned at 8:11 p.m.)

C E R T I F I C A T E

I hereby certify that the foregoing 172 pages contain a full, true and correct transcription of all my stenographic notes to the best of my ability taken in the above-captioned matter at said time and place.

_____

Carol DiFazio
Registered Professional Reporter

A

ability 86:4 111:23 175:10
able 37:17 111:18 125:5
abovecaptioned 175:10
absolutely 36:12 58:6 63:15,18,23 87:15 99:6 109:19 125:1 135:2
abstain 45:18 89:10 120:4
academic 102:13 104:8
accept 4:23 6:4,12,13 8:1 9:14 10:1 11:18 13:16 18:7 45:17 46:9 51:4,11,12 54:22 75:10 75:20 88:4 89:9 90:4,6 100:21 119:19 120:19,22 136:10,13 142:7 143:1 143:2 148:14 149:20,21 154:13 155:7 155:8 156:20 158:5 160:13 160:23 161:1 163:16 165:23
acceptable 82:12
acceptance 4:20 13:12 36:15 75:18 116:20
accepted 22:13 46:4 47:1,16 49:20 80:6 85:9 115:11 115:21 116:7 134:12 157:6
accepting 9:15 88:5
accepts 166:1
access 30:2,4
accessibility 67:20 169:1
accessible 65:9
accidents 59:9
accomplished 52:18
accountable 38:11
achievable 41:14 98:12 113:3 117:4 117:5
achieve 111:13,14
acknowledges 72:1
acquisition 67:15
acted 145:17
action 5:6 10:8 28:1 29:7 33:9 36:7 53:6,10 53:12,13 88:10 98:20 105:3 118:22 125:13 138:10 146:8 155:14 158:10 162:15,20 167:15 168:15
actions 106:3
activated 7:13
activities 78:5,6
activity 107:22
actual 16:9 105:18 162:4
add 39:8,22 81:17 81:18,20 82:9 106:16
added 21:21 22:6 52:16 60:1 95:19 158:3
adding 77:23 138:6
addition 6:19,20 7:1 54:16 113:2 139:12 140:16 143:17
additional 17:3 67:11 90:16 137:17 158:4
additionally 48:13 65:8 67:13 105:2
additions 95:20
address 8:19 37:9,15 47:22 80:21 128:11 136:19 141:13 150:20 157:15 159:23
addressed 8:11 117:15 145:2 152:23 170:22,23
addresses 43:17 77:5 106:7,9
addressing 9:2 37:11 85:1 158:3
adds 39:2 133:12
adequate 46:18
adhere 112:15
adjourned 174:6
adjournment 2:13
administration 14:4 99:12
administrators 84:2
adopt 50:5 144:23
adopted 46:23 69:8 112:13,14 129:7 143:21 144:17 151:2 151:3 152:19
adopting 104:11
adoption 3:19 12:13 166:3
adopts 118:18
advance 23:19
advanced 66:18
advancement 52:21 65:19
adverse 108:20 109:3,8
advisory 49:14 117:23 131:22
advocate 146:22
affect 7:22 95:12
affirmative 166:23
afforded 72:12
aforementioned 35:7
afraid 34:8
afternoon 3:1,7 11:23 62:23
afternoons 3:4
agals 55:5,5
agencies 22:9 98:1
agenda 114:12
ago 33:18 36:22 52:3 57:14 105:16 112:22 115:10 134:22 170:17 171:6 171:12
agree 72:14 74:3 89:2 121:22 132:5 141:11
agreed 70:17 95:20 96:14 137:8 162:16
agreement 96:3 108:3 146:22
agrees 138:6
ahc 150:20
ahead 89:3
ahj 7:6,19 82:19 133:5 146:20
ahjs 139:15
aia 143:18 150:22
air 138:4,17,19 140:6,8,11 140:14,14,16 140:17,17,19 140:20 141:1 141:19 142:1
aircraft 34:17
airing 131:10
akin 18:23 135:10
alan 32:10 44:9 51:9 114:15 124:4 138:11 138:14,14 157:15,17
alarm 5:14,17,20 7:2 7:7,9,10,15 7:21 9:3 10:18,22 11:2 153:1
alarming 92:4
alarms 5:10 7:6 10:14
alert 85:23
aligned 65:17
allay 70:15
allegation 27:21
alleviate 78:2
allison 90:2,2,11 94:8 127:21,21 164:2,2,9
allow 7:5 30:4 34:23 58:13 86:17 105:5 113:21 139:5,21 144:9,21,22 146:9,11 155:14 156:12 157:1 157:2 160:6
allowed 115:14 118:23 119:2 140:19 140:21 142:2
allowing 25:3 34:12 156:4
allows 93:14
alternate 29:1 30:10 46:20 63:16 92:13 168:17 168:21
alternative 138:17
ambulance 152:16
ambulatory 59:4
amended 26:15
amending 3:13 4:11 6:12 12:7 13:2 27:3 30:23 97:2 145:10 145:15,19 170:6
amendment 82:20 83:1 146:10 168:13
america 59:12
american 12:3 16:6 31:4 50:12 52:22 57:19 61:14 65:20 79:9 80:9 127:12 136:9,16 147:4 149:6 155:6 156:21 158:20 167:16,19 172:1
amount 17:4,16 58:3 69:15 74:21 79:21 93:16 132:9 168:1
amounts 56:21 70:19
amp 90:20 91:1,3
amps 90:19 103:8,8
analysis 68:22 70:4 113:14
analyzed 70:23
anecdote 69:19
anesthesia 73:4
anesthesiol... 57:18 62:5 159:4
anesthesiol... 62:23 79:9 80:15 155:6 156:22 158:21 159:12
anesthesiology 57:19 61:15 62:6
anesthetic 56:7
anesthetics 42:20 56:5
anesthetized 58:20
anguish 165:9
annex 11:12 77:6 78:23 86:22 86:23 87:13 87:16
annexed 152:15
anniversary 167:19
announcement 173:21
annual 1:11 3:12,21 12:6,15 71:23 174:2
ansi 118:23 167:4,5 167:12 170:4
answer 72:3 82:14 112:18 119:1
anybody 105:21 123:22 151:17,20 158:16
anymore 9:11 50:17 113:13 137:3
anyway 21:14
apologize 61:21 114:6
appeal 5:23 11:4
appear 21:13 40:1 86:21
appears 82:22 85:5 166:17
appendix 137:12
appliances 146:1
applicable 30:19 143:23 155:1
application 9:4 161:16
applications 6:21,22 39:9 39:10
applied 26:12 28:20 32:23
applies 40:23 42:3 47:10 48:3
apply 15:4,11 16:2 16:23 17:5 26:19 33:8 40:3 47:8 69:6 81:2 150:14 165:5
applying 13:21 20:14
appointed 23:12
appreciate 25:3 60:20 83:8 160:3
approach 70:6 78:17,19 79:2 83:1,8 96:16 134:16
appropriate 38:18,18 66:2 93:12 158:12
appropriation 53:20
approval 7:19 167:14,17 167:18,19
approve 114:2
approved 6:10
apt 113:23
arbitrarily 128:12
arbitrary 111:19 121:8,9
arc 93:10,13 105:7 111:1,1 117:11 121:21 128:4
architects 55:19 61:3 147:11,14
area 33:19 71:12 74:13 76:8 76:11,15,23 152:14,21
areas 36:23 71:6 77:19 79:16 81:2 86:10 86:19 137:18 151:4
arena 92:3
argument 47:4,12 55:7 95:15 156:6
arizona 62:7,17
arkansas 82:19
arms 140:10,11
arrange 14:14
arrangement 14:21
art 11:7 75:2 126:10
arthroscopy 59:15 64:12 74:22
article 20:16 21:5,12 22:1 26:2,10 26:12,13,14 26:15,19 28:8 32:17 32:18 33:7 33:12 34:2 35:8,10 36:20 37:6,8 37:16 38:2

38:10 39:7 40:16,18,23 42:1,1,19,21 46:6,15,17 46:23 47:2,6 47:9,15,18 48:3,4 49:4 49:8 50:6,19 54:7 73:4 97:21 98:15 102:15,16 104:11 105:20 118:4 122:9 126:12 137:16,19 165:14,18,20 168:14
articles 38:19 43:9 108:6 124:17 166:7,8
ary 126:7
ashae 56:2
ashrae 31:19 119:10 151:2,7
ashtons 138:1,2
asked 23:8 72:2 77:17 78:4 100:10 104:18 117:19
asking 32:5 87:18 107:14 110:9
aspect 150:20
aspects 20:7 125:23
assembly 114:7 166:13 166:18 172:6
assess 79:17
assessment 53:21,23 55:11 55:15 58:16 61:7 66:2 69:21 71:18 73:17 76:5 77:3,7,10 78:1,2,4,7 79:2,15 80:15 81:1 85:19 86:4 86:11,18,19 87:1
associate 136:8
associated 24:6 67:21 71:2 117:1 146:2
associates 4:17 6:11 9:20 13:11 17:14 18:14 81:13 142:23 149:18 170:10
association 1:13 34:14 52:21 65:19 90:4 127:12 127:22 144:19 156:23 164:3 174:3
associations 65:13 133:19
assume 29:18 124:12
assumes 34:4
assurance 130:5
assure 101:13
astronomical 58:4
atmosphere 8:21
attempt 70:15 79:10 85:6 148:2 150:6 153:17 155:23
attempted 31:11
attempts 150:7
attend 4:19 9:21 25:15
attendance 5:4 10:6
attention 114:17 128:1
attentive 146:10
auditorium 44:2
august 23:17 146:12 153:18
author 10:23 20:2
authority 16:14 31:16 138:3 139:8
authorized 4:18 9:20 30:3
automatic 30:13,15 168:21
automatically 46:20 144:16 152:19 165:20 167:18
available 63:17 71:1 93:13,20 103:9 160:8
average 60:3 71:16
avoid 21:4 47:5 87:17 136:17
avoiding 145:5
aware 7:11 54:4 66:17 128:19 161:13

B

baby 21:16
back 23:17 25:5 29:17,19,20 29:22 30:1 42:15 49:6 50:14 52:11 73:3 74:10 79:14 94:15 100:6 106:12 113:16 115:12 132:11 133:7 156:10 164:10 166:20 168:8 170:7 171:5 171:19,21 172:9 173:2 173:5,6
backup 24:21 85:21
bad 133:15
badge 45:13,14 89:7 120:1
bag 100:5
ballot 4:3,7 12:20,22 158:8
ballroom 1:23
bank 92:9,13,19
banking 129:17 169:13
barker 61:13,13 158:19,19 159:2
barr 154:23
base 85:18
based 61:7 101:14,18 128:13 139:6 145:12,19 170:12,15
bases 85:18
basic 52:23
basically 38:19 106:4 108:5 124:16 155:13 158:11
basis 65:11 69:7
bastardized 134:18
bath 21:16
bathroom 60:16
bay 5:17 10:22
bearing 107:3
beat 172:5
bed 132:14,15
beebe 16:6,6 50:11 50:11 136:8 136:8,22,23 147:3,3 149:2,4,6,6 172:1,1
behalf 16:19 26:23 27:9 42:7 48:2,7 49:15 56:2 64:22 77:16 78:12 84:12 95:6 96:22 112:6 126:17 134:5 136:20 138:15 141:5 148:7 159:16 168:6
beings 143:11 150:6
belief 146:8
believe 5:3 10:5 31:6 31:7 32:12 39:2,2,8 66:2,10 67:22 68:13 91:22 95:1 106:13 113:18 117:14 139:11 145:16,18
believes 48:11 141:9
bell 3:1 4:12,22 5:2,7,15 6:2 6:13,16 8:2 8:13 9:10,13 9:23 10:3,10 10:19 11:6 11:16 13:4 13:15,18 15:6 16:4,17 17:7,12 18:3 18:6,17 19:5 19:8,14,17 22:17 23:2 25:9,11,17 26:20 27:7 28:3 31:1,17 31:22 32:4,8 33:2 35:2 36:3,16 37:19 38:22 39:11,14 40:8,13 41:4 41:8,11,17 42:5,8,12 44:8,20,23 46:7,11 47:19 48:5 48:23 49:11 50:2,10,22 51:2,12,15 54:23 55:23 57:16 60:21 61:12 64:20 68:10 72:10 72:18 73:20 75:1,4,7,19 75:22 77:12 78:10 79:7 80:8 81:11 81:22 82:3 82:18 83:17 84:9,15,19 84:22 85:13 86:13 87:7 87:11,18,23 88:15,21 89:3,14 90:6 90:9 94:7,12 96:19 97:5,9 97:13 99:1 100:23 101:20 102:10 104:14 105:13,23 107:9 110:7 112:3 114:4 114:14 115:4 118:20 119:7 119:13 120:9 120:21 121:2 123:3,8,12 123:15,19 124:19 125:7 125:18 126:15 127:3 127:20 128:8 129:2,15 130:23 131:18 134:3 134:7 135:14 135:17,20 136:12,21 138:8 140:1 141:3,17,21 142:5,17,20 143:2 145:8 146:15 147:1 147:10 148:6 148:12 149:3 149:5,10,13 149:21 152:20 153:3 153:19 154:1 154:6,12 155:8 157:8 158:18 159:1 159:14,21 160:1,11 161:1,4 162:9 163:4 163:9 164:5 166:11 168:4 170:9,13 171:2,23 172:17 173:7 173:10,13
belong 61:4 133:19
belongs 76:10 77:11 121:17
belt 140:15
benchmark 113:3
best 14:14 93:9 101:8 122:2 126:23 133:14 143:21 146:8 175:9
better 31:12 74:16 78:19 128:4 129:22 133:2 133:3 141:15
beyond 37:5,18 79:3 105:4 108:3 143:7 150:2 167:13,17
bf 131:20
big 132:9,10
bigger 152:6
bill 31:18 73:21 115:10 119:9 146:16
bioengineering 87:4
biomedical 69:20
bit 24:12 33:8 42:2 53:7 133:1 160:4
bits 16:12
black 11:7,7 75:2,2 144:6
blanche 81:8
blanket 68:20
blood 71:9,11,14 74:9
blow 127:23
blue 3:12 12:6
board 27:11,11 48:9 48:9 78:14 84:13 90:20 141:7,7 148:9,10 154:4 159:18
bob 112:4,6 162:13 168:5,6
bodily 169:20
body 17:5 51:11 62:10 67:1 68:19 70:13 76:10 77:3,5 80:23 83:3 87:2 101:18
bolton 147:11,11 154:7,7
bonding 137:17
book 42:17 131:23 134:14
booms 140:20,22
boots 64:9
boston 1:21 25:20 40:10
bottom 27:20
bought 133:7
bound 35:8
bowl 135:13
box 104:6 140:15
boxes 29:10
boyd 97:8,15
br 40:9
bragging 61:21
brainer 113:7
branch 26:18 27:16,17 27:17 35:18 35:18 37:4 37:11 46:16 46:16,22 48:15,17,18 124:6,6
branches 35:14
brand 15:22
breaker 90:19 91:1 99:17 113:14
breakers 106:19,23 113:10 121:13,15 129:13 132:20
breathed 140:21 141:20 141:23
brewster 83:18,19
brief 155:12 158:21
bringing 142:16
broad 114:22
broadcast 7:15
broader 34:7,23
brotherhood 33:6
brothers 83:20 172:20
brought 62:22 66:13 102:4,9
brunner 73:4,6
bs 19:3,4
bucks 130:8,19
bug 91:20
build 63:8
builders 98:3
building 7:5,20 9:3 37:10 38:2

91:4 92:4 130:1 139:4 150:18
buildings 30:20 38:9
builds 20:19 38:20
built 22:23 34:1 56:20 57:8 69:12 102:22 127:14 133:1
burden 70:7
burn 79:18
burton 4:17,17 9:19 13:11,11 17:14 18:13 18:13
buses 173:23
business 61:17 66:8 80:5 84:13 85:22 86:10 150:8
buss 99:21
bussmann 28:5 37:20 107:10 124:2 129:3,17
button 74:18

C

cable 49:2 103:6 161:15
cables 161:17,17,19 161:20 162:5
caliber 61:16
california 62:1
call 20:9 30:22 31:19 44:22 45:12 64:8 67:7 75:2 85:22 87:9 88:18 89:5 89:13 114:17 115:9 119:10 119:21,22 123:7 128:1 135:15 145:14 153:12 163:7 171:11 173:9
called 15:18 21:22 23:6,12 26:3 30:21 35:16 62:1 91:15 100:5
calling 32:4 81:7
calls 91:9 104:7 146:7 147:5
cam 35:1
campuses 124:14
cams 33:14 145:12
cant 29:13 34:21 37:7 50:18 58:19,22 72:23 95:23 156:12 157:1 163:1
capable 111:22
capacity 118:5
capital 67:17,18
capture 74:9
carbon 3:8,19 4:1 8:23 11:2
cardiac 72:22
cardiovascular 71:6 72:22
care 48:1 51:18 55:4 61:1 64:23 65:9 65:18 67:20 68:2,2 72:13 72:22 78:3 104:2 106:17 129:20,22 137:18 151:1 156:22 165:4
careers 168:3
carefully 58:18
carmel 11:8
carol 175:16
caron 40:9,9,14
carpenter 23:16
carriers 76:17,18
carries 45:3 148:16 154:16 160:15 163:14,18 173:15
carte 81:8
cascaded 99:16
cascading 24:15 94:20
case 34:12 37:10 53:16 60:6,6 60:9 80:19 93:13 100:1 121:19 158:3 167:15
cases 37:1,2 55:16 60:3 63:7,9 63:11,12 64:12 65:22 67:7 74:11 103:15 104:7 126:4 130:17 130:18
categories 145:2
category 151:10,17,18 151:22 152:8 152:10,15,23
catheters 73:7
cator 142:22 149:18
cause 26:6 110:23 146:21 169:20 170:3
causes 109:6 171:9
causing 26:1 66:6 69:16 70:21
cautery 63:19
ccs 59:15
center 1:21,21 62:17 62:20
centers 33:20,20 129:17,18 169:14
central 24:11,19 33:19 114:21
cents 60:6
certain 21:14 81:5 103:15 121:6 158:15
certainly 100:4 115:15 124:10 171:17
certified 3:13 4:11 6:11 12:7 13:2 27:3 30:23 51:20,20 97:2 145:10 145:19
certify 63:9 175:7
chad 16:6 50:11 136:8 140:4 147:3 149:6 172:1
chair 3:9 12:3 16:4 25:15 27:22 75:15 83:18 88:22 94:14 97:6 153:4 157:16,20 161:23 162:11,14 166:13 168:3 170:22
chaired 23:16
chairman 3:17 4:16 5:16 5:19 10:11 10:19,21 11:7 13:4,10 15:5,7 17:8 23:3 25:10 25:13,18 26:21 33:4,7 36:4 47:23 49:13 55:3 60:22 62:6 84:8,10 88:20 95:5 96:20 104:15 120:7 124:20 136:14 138:16 139:23 145:9 157:9 160:20 166:12 172:18
challenged 70:12
chances 58:2
change 7:21 13:23 21:2 22:15 35:10 37:15 39:18 47:4 58:15 61:10 66:7 121:21 122:4 125:3 126:1 133:17 139:20
changed 8:18 9:8 33:19 35:22 43:6 171:20
changes 43:21 150:11 166:1 169:12
chaos 20:6
chapter 8:17,22,23 9:6 9:7 13:13 14:14 15:18 15:21,22 16:10,12,23 17:3,18,21 18:2 32:23 33:14 37:23 137:7,10 143:6,12 145:11 146:14 147:6 148:18 150:1 151:7,11,13 151:13,15,18 153:15 154:10,17,20 155:2
chapters 14:4,5,5,15,20 15:1 16:11 171:8
characteristic 5:13 10:17
characterized 111:6
charge 15:8
check 81:23 82:10
cherrypick 133:9,13
chicago 102:19 170:17
choices 139:6
choose 121:10
choosing 121:8 127:18
chose 161:20,21
chosen 69:6 121:12 128:12,13 134:17
chris 104:16 128:15
christiana 51:18 157:18
christiansted 12:5
chronic 126:4
circuit 43:15 52:8,17 54:13 74:18 90:19,21 91:15 94:9 95:16 100:13 103:8,9,17 113:9 118:3 118:7 121:13 121:15 122:11,14,16 128:2 135:4
circuits 46:17 47:3,13 91:2,18,19 91:19,20 103:14 106:23 108:9 108:10 115:2 118:11
circumvent 85:6
cite 109:16
cites 93:19 94:10
cities 102:19
citing 169:12
city 62:20 112:5
clarification 36:8,9 77:1 87:12,19
clarifications 32:15
clarified 131:4
clarify 23:14 26:1,11 27:20 35:6 35:15 39:19 82:13 141:9
clarifying 27:14
clarity 39:2,8 47:8
clark 170:10
clary 5:16,17 10:21 10:22
class 34:19
classified 65:16
classify 66:1
clean 57:4
cleaner 140:16,21
cleaners 34:19
clear 17:2 36:12 39:4 40:2 49:7 68:18 70:19 72:4 72:16 76:1 79:10 82:16 96:3 106:7 109:22 117:14 118:1 124:23 126:7 139:22 140:23 144:6
clearer 78:21 79:4
clearly 39:17 59:7 76:21 79:2 116:8 139:18 141:15
clever 85:5
clinical 51:18,20 52:22 65:20 66:16 66:17 72:20 73:17 150:8 157:18
clinician 96:11
clinicians 58:16 69:20 87:3
clipboard 144:7
close 26:5 31:22 44:23 45:20 45:21 75:5 87:20 99:7 119:13 123:9 123:11,17,20 135:17 163:10 173:11,22
closed 45:21 89:12 99:22,22 120:6
closer 97:9
closes 174:2
closest 93:15 122:18
closing 31:23 45:1 75:8 88:1 110:6 119:16 163:12 173:14
clue 58:4
code 14:11 20:16 21:10 22:12 31:15 34:6 34:11,15 36:20,20 38:3,3,10,19 40:21 42:16 43:11,12 47:15 49:19 69:2 77:22 84:6 101:18 102:16 104:12 106:9 106:13,20 107:21 108:6 108:6,12 109:18,21 110:1,1,4 112:21,23 115:23,23 118:14 122:9 122:19 124:17 125:3 126:9 127:19 128:13,14 130:11,12,17 131:15,21,21 131:23 132:3 133:8,12,13 133:15,21 134:1 135:8 140:7 143:8 143:16,17,21 144:1,5,13 144:21,23 148:3 150:3 150:18,19 151:3 152:11 161:15,19 169:10,17 170:2 172:21 173:1
codemaking 20:1 40:11 102:18 103:18 116:2 117:15 128:23 165:12
codepanel 116:3
codes 34:16,23 38:18 97:23 118:17 147:19,23 150:16 172:22
colleagues 34:9 117:19
collected 57:12
collecting 58:5
collective 117:2
college 52:22 65:20
collins 72:19,19
combination 58:18
combustion 61:23
come 5:22 11:4 58:12,21 60:19 62:21 63:1 64:5,8 64:16 70:3 101:11,11 104:18 110:15

148:22 169:19 172:9
comes 29:19,20 37:2 37:3 44:14 60:5 61:10 172:4
comfort 150:7 152:17
comfortable 113:17 163:2
coming 64:11 107:7 157:4
comment 6:4 8:16 9:11 9:22 10:1,9 10:12 11:12 11:18 18:3 46:3,9 51:4 51:11,13 53:13,14 75:10,18,20 77:5 80:4 82:7,7 86:21 88:4,5 90:4 90:7 112:8 114:5 116:19 116:19 117:1 119:19 120:22 129:7 136:10 137:4 138:11 142:7 143:1,3 148:14 149:20,21 153:7,22 154:14,23 155:7,9,13 156:20,20 157:5,23 159:4 160:13 160:23 161:2 163:16 167:3
commented 157:21
commenter 157:21
comments 3:21 4:10,21 8:17 12:15 13:1 19:11 21:2 45:6 50:23 53:7 53:15 103:20 106:5 107:14 120:20 153:8 153:10,10 158:1 166:21 170:21
commercial 6:21
commission 59:10 85:15,16 86:9
committee 3:7,9,9,11,14 3:18,22 4:4 4:5 5:6,8,9 8:4,5 9:8 10:8,12 12:1 12:2,3,5,8 12:12,17,21 15:8,9 16:20 16:21 17:6 23:6,12 25:4 25:7,14,16 25:21,23 27:13,23 28:7 31:11 36:7,19 44:16,19 47:21 48:2 49:7,14,16 49:18 51:22 52:1,12 53:1 53:4,9,12,16 53:18,22 55:5 58:8,9 60:18 61:2 69:5,9 70:8 70:14,18 72:5 77:16 77:16 79:13 80:1,3 85:9 86:17 88:10 91:16,23 93:7,18 94:3 94:9,10,15 94:17 95:2,7 95:9 96:1,9 97:17 98:7 98:20,21 101:9 104:17 104:19 105:3 106:4 107:5 107:16 112:18 113:1 114:23 115:7 115:8,16 116:2,21 117:16 118:16,22 121:16,18,19 122:3,21 124:23 125:13 126:18 128:2 128:16,20 131:11,13,16 131:22 136:20 137:4 138:6,10,12 138:13,15 145:13,16,18 146:4,6,9,17 146:18 147:7 153:11,12,17 153:21 155:14,23 156:15,16,17 157:11,12,14 157:16,20,23 158:5,8,9,11 158:12 160:3 161:5,13,21 161:23 162:14,15 163:2 164:10 164:12,15,22 166:15,15,21 167:3 168:2 168:8,12 169:16 170:8 170:11,17,21 171:1,8,11 172:5,10
committees 8:3 10:13 12:16 15:16 53:6,11 96:15 102:2 116:23 124:18 131:9 158:10 162:20
common 44:6
commonality 165:2
commonly 91:15
communication 5:12 10:16 161:17,20
communications 124:8
communities 66:12
community 68:7
company 3:10 5:17 10:22 32:11 84:17,18,23
compared 102:5 153:6
compete 34:21
competition 173:4
compiled 14:12
complete 32:21 102:6 104:4 110:14 130:15 144:3
completely 47:10 133:7 167:8
complex 33:17,21 34:3 67:2
comply 35:9,23 38:13 38:17 48:12 49:8 113:14 126:10 143:23
complying 38:2
components 5:11 10:15
compressed 156:23
comprised 96:9 128:16
comprises 35:13
compromise 69:9
compromised 84:4
compromises 70:16
compromising 159:10
computer 73:16
concept 49:22 53:18 70:9 72:14 90:12
concepts 151:10
concern 38:8 72:12 86:20 145:1 147:15 152:22 169:13 171:10,13
concerned 26:6 57:5 66:5 68:3 77:20 115:11 161:15
concerns 26:8 70:15 86:16 134:1 171:18
conclude 63:13
concluded 14:23 101:23
concludes 53:23
conclusion 58:13
conclusions 71:5
concord 3:11
concur 17:20 147:7
concurs 53:22
condition 7:8,9 118:2 122:10,18
conditions 124:9 164:18 165:14,15
conduct 61:17 77:3 79:1
conducting 53:21 87:1
conductive 63:14,18 70:20 72:7
conductor 118:6 161:7
conducts 61:6
conference 115:9 145:14 147:5 153:12 171:11
confident 125:2 162:22
confidential 109:3
confirm 70:8
conflict 20:19 22:6 34:10 104:12 117:17 118:12 119:2 119:5 127:19 136:18 144:12 152:4 166:2,9 170:1
conflicting 145:5 170:19 173:1
conflicts 22:5 119:3 166:5,6 170:3 172:23
conform 48:16 62:13
confuse 27:18 139:15 144:12
confused 11:9 37:21
confuses 48:19 151:7,13
confusing 16:14 21:7 137:20 141:10
confusion 20:23 21:4 26:7 35:6 36:11 39:17 39:18 40:4,5 40:6,12,15 41:3 44:12 47:5 68:18 76:13 80:2,2 137:23 141:11 145:5
connect 63:18,19 158:16
connected 7:20 46:20 60:14 158:13
connection 156:4,19 160:7
conrad 49:1,1
conscience 129:21 132:12
conscious 101:7
consciously 144:23
consensus 55:8 70:17 77:22 95:16 95:20 96:13 98:20 116:9 125:13,15 150:15
consider 57:1 155:18 159:7 172:10
considerable 77:21 95:14
considerably 39:9
consideration 3:6 11:22 23:1 40:7 95:15 105:6
considerations 105:11
considered 7:2 15:15 55:8 58:11 67:8 76:15 143:19 151:1
considers 23:21
consist 4:7 17:2 58:19
consisted 35:17
consistent 31:15 68:17 70:5
consistently 70:8
consisting 3:23 12:18 46:16
consists 4:4
constitute 53:14
constructed 67:11
constructing 67:12
construction 20:7 78:5 143:19 145:4 151:4,5
consult 87:2
consultants 6:9 8:16
consulted 69:21
consulting 40:10 75:16 97:15 105:20 111:9,22 112:7 131:20 140:3 149:9 149:18 159:16
consumers 54:5
contact 58:21
contain 175:8
contained 3:13 12:8
container 62:14
containers 135:12
containing 29:11
content 163:1
contents 57:12
context 83:9
continuation 169:2
continue 29:16 126:18 144:10
continues 54:10
continuity 85:4
continuously 73:23
contracted 59:5
contrary 83:5
contributing 20:2
control 38:15 91:19 92:23 93:3 152:8,14
controlled 56:23
controls 30:3 56:9
controversy 54:10
convention 1:21
convey 53:11
convinced 64:18 65:14
cooper 28:4 37:20 107:10 124:2 129:3,16
coordinate 43:18 121:14 129:9 132:20 135:3
coordinated 90:17,22 91:21 93:14 99:10 99:11 100:7 100:8,12,15 117:10,13 121:7,8,20 122:1 127:15 137:1 151:6
coordinating 156:15
coordination 8:10 23:13 24:10,17 33:11,12 41:14 43:12 44:13 90:13 91:4,7,9,12 91:17 92:10 92:21 93:6,7 94:2,18,22 95:9,17,21 96:4 97:19 98:1,13 99:6 100:11 102:1 102:6,17,20 102:23 103:16,21 104:4 105:2 105:5,12 106:8,11,15 106:17 107:1 108:8 109:19 109:21 110:13,14 111:7,8,10 111:20 113:5 113:7,13 116:5,15 117:3,7 118:1,8 119:4 121:5 122:5,13 125:1 128:3 129:6,19 132:7 134:6 134:9,10,11 134:15,15,19 165:11 169:5 169:15 172:8 172:15
corporation 39:1 41:19 104:16 106:2 131:2
correct 19:12,13 82:6 83:2 102:5 124:3 142:19 148:22 149:2 149:4,8 160:21 175:8
correcting 83:6 94:8 166:7
correlate 107:17
correlating

4:5 11:23 12:2,12,17 12:21 15:8 25:7 95:1 115:7,8,16 138:10 145:17 146:5 166:15 171:11
correlation 117:18 165:19 171:18
correspondence 117:22 118:8,9
corroborated 70:22
cost 7:22,22 59:19 59:20,21,22 59:23 60:1 66:13,16 67:9,12,14 67:15,16,17 67:21
costing 112:17
costley 97:6,7,11,14 97:14 125:8 125:8
costly 114:1
costs 67:17,18
couldnt 9:8 79:11 92:16 108:17 171:14
council 6:1 11:5 22:13 23:8,11,17 23:18,20,21 25:5,6 49:22 82:10 114:8 114:12 131:5 146:12 153:18 170:23
count 67:4 88:14 120:8
country 65:1 66:20 96:7 104:10 137:23
counts 52:7 120:10
couple 23:9 36:21 92:7 111:3 170:16,20 171:12
course 29:7 33:8 61:23 71:22 92:15 119:3 168:15
courses 19:4
cover 21:22 67:19 113:16 116:16 119:1
coverage 152:6
covered 48:4 134:20
covering 14:17 36:20 38:7
covers 91:8
create 15:22 20:6,18 20:23 36:11 81:5 133:22 172:22
created 34:13 132:19 132:19
creates 7:3
creating 76:13 127:18 137:23
credibility 133:12,14 134:1
crisis 62:4
criteria 24:18 25:2 94:23 97:21 98:5 106:7 143:9 150:3
critical 26:18 27:17 35:13,17 37:4,11 48:17 54:15 76:17 91:17 92:1,2 99:7 100:1 137:18 151:12
crnko 37:20,20 107:10,10 124:2,2 129:3,3
crosssection 96:10 128:16
crystal 82:16
csa 161:21
cta 147:11 154:7
culture 109:12
cumbersome 17:21
cummins 110:8,10
current 13:13 17:18 40:17 43:1,9 52:1,13 66:5 68:15,19 70:1 74:17 80:14 81:18 97:18 110:3 110:19,21 113:11 118:4 118:5,10,10 140:6 167:16
currently 27:15 65:2
currents 116:13 135:1
cut 54:15
cuts 33:11 38:19
cycle 3:12,22 12:6 12:16 38:3 49:5 67:22 67:23 70:12 84:7 110:4 162:21 165:18,22,23 172:10
cycles 20:1 36:22 55:6 77:22 91:11 103:12 107:7 130:13 165:13,18

D

dagenais 16:18,18 27:8 27:8 48:6,6 78:11,11 80:9 101:1,1 126:16,16 141:4,4 148:7 154:2 154:2
daily 65:11
damage 93:19 105:9 121:22 128:5 135:1 169:20
damaging 110:21
danger 74:13 160:9
dangerous 34:13,22 54:14 76:14
daniel 40:9 75:15,16 75:16,23 82:2,6 86:8 87:15
dantona 23:4 25:13,18 25:19 35:3 47:21,23 48:1 55:2,3 55:4 77:14 77:15 95:4,5 95:6 101:22 123:5,6 128:9,9 135:15
dark 29:23
data 33:20 64:15 65:11,14 66:15 68:4 80:16,18,19 108:18 172:9
date 71:1 98:9 167:14,17,19
dated 117:22
daughter 132:13,14
dave 16:18 27:8 48:6 78:11 101:1 126:16 138:15 141:4 154:2
day 22:23 63:5,11 100:9 115:13 132:17 133:3 156:9 172:4
days 72:10 167:1
dead 104:6,12
deal 59:16 65:9 144:8
dealing 8:10 33:14 51:22 113:17 153:5
deals 8:8 11:12 54:6 134:11 138:21 167:9
dealt 42:19 153:7
dean 17:9 84:11
debate 31:22,23 44:23 45:2 75:5,8 84:6 87:20 88:1 95:14 119:14,16 123:9,11,11 123:17,20 125:12 135:18 151:9 163:10,12 167:2 173:11 173:14
debated 55:5 58:12 83:22 115:22 115:23 172:3
debating 50:17 60:8,19 101:5
debris 135:11
decades 84:23 144:14
decide 80:23 81:9
decided 148:20 162:15
decides 34:19
deciding 23:19
decision 55:10,20 80:18 101:7 114:11 116:3 126:22 131:5,12
decisions 55:18,18 61:2 76:19 85:19
declare 86:5
dedicated 19:21 72:9 168:2
deenergize 91:2 92:9
deenergized 90:22
deenergizing 92:12
default 55:12 58:13 69:7 72:3
defaulting 78:1
defeat 156:3
defending 37:11
defense 126:4
defenseless 60:14
defer 138:11
deficiency 144:8
define 31:12 44:15
defined 24:17 25:1 31:10 43:12 94:23 118:4 144:5
defining 78:20
definitely 33:19 37:13
definition 5:20 11:1,11 11:13 26:2,4 28:10 35:11 35:19 39:21 41:23 43:14 43:21 46:4 46:14,22 47:17 48:11 48:14,20 49:17,18,19 49:23 50:20 52:2 109:20 109:22 118:13 134:9 134:19 140:6 141:23
definitions 24:1 26:1,5 49:21 135:10
degree 19:3 134:18
delaware 51:19 157:19
delay 102:8
delegate 61:14 158:20
delete 41:22
deleted 80:13 123:2 154:20
deleterious 43:19
deliberate 77:17
deliberated 128:21
deliberating 77:21
delineate 76:6 77:4,6
delineates 76:21
delineating 76:11
delivered 115:1
delivery 95:12
demanding 85:7
demetrovich 106:1,1
demonstrate 65:15
depart 21:11
department 62:6
depends 155:22
describe 87:1
design 7:18 20:7 61:3 61:11 63:9 69:7 74:16 99:9 105:12 112:11,16,17 112:20 113:3 113:22 127:11 129:18 134:13 139:5 139:12,21 143:18,20 151:4,5
designate 54:20 72:3
designated 6:10 63:2,2 76:17
designation 54:1 69:7
designed 22:23 92:11 102:22 127:14 130:2 169:7
designer 105:4
designers 7:6 98:3 150:16
designing 99:5 103:3 111:9 113:20
designs 20:20 54:16
despite 54:9
detailed 53:11
detection 3:8,19 4:2 6:22 7:18 9:1 152:7
determination 70:2 76:9,22
determine 53:21 56:13 57:1 66:3 69:13,22 86:19
determined 66:9
determining 95:22 120:11 122:5
developed 125:13 144:14 144:22 145:1 165:10
development 147:23
developments 43:2
device 6:23 45:11,12 54:16 74:14 74:15,19 90:15,16,21 93:15 116:14 122:6,18
devices 7:12,14 8:19 54:7,16 67:22 74:11 89:6 95:11 95:23 97:19 98:9 102:7 106:20 117:9 119:23 140:9 140:12,13,22 156:11
devoted 68:5
dictate 165:20
didnt 21:1 35:4 39:23 63:1 78:6 88:15 89:18 99:9 99:12 114:7 114:10 132:6 165:6
died 100:3
difazio 175:16
differ 124:4
difference 70:2 80:12
different 8:10,11 26:5 33:16 34:20 35:23 37:3 37:14 49:21 50:5 61:19 74:4 127:1 131:8 139:2 164:19 165:22 166:2 166:18 170:18 171:7
differently 7:7
difficult 61:9 111:12 121:16 127:11
difficulty 36:22
digits 14:23
dilemma 112:10,19
diminished 122:7
direct 117:17 122:20
direction 83:3 130:16 145:17 159:11
directly 18:20 45:3 75:9 88:3

75:9 88:3 95:11 118:19 119:18 122:19 163:15 173:16
director 51:17 136:9 157:18
disappointed 127:17
disapprove 50:1
disciplinary 109:4
discuss 46:8
discussed 50:4 103:18 116:21 126:20 146:19 153:21 161:5 169:11
discussion 4:13 6:3 9:10 11:16 17:12 42:14 66:15 76:3 124:23 125:11 142:5
discussions 42:1 131:10 164:11
distinct 36:23
distinctions 36:23
distinctly 83:21
distribution 14:16
divided 14:15
divisive 96:17
divorce 28:7 168:13
dls 36:19
doctor 73:6 158:22
document 5:4 14:10 15:2 16:15 17:4 34:5 41:23 76:8,12 78:17 84:4 86:16 87:6 93:1 98:6 107:14 115:12 125:14 137:14 138:17,18 139:5,13,13 139:21,22 144:16 145:12,22 150:12 152:2 152:18 164:4 164:10 166:17,20,22 167:4,5,6,8 167:12,23 168:7 169:23 170:2,7 171:5,14 172:9,11
documentation 10:6 98:8,10 108:2 109:16
documented 54:11 105:19 108:21
documenting 108:20
documents 118:23 134:13 137:15 150:16,19 154:11 164:20 171:19
doesnt 27:22 40:17,18 40:19,23 79:15 101:13 126:13,13 158:15
dog 114:11
doing 28:8 35:14 86:10 111:22 111:23 113:12 120:9 133:2
dollar 60:5,8,9
dollars 113:12
domain 38:7 169:17
don 64:21
dont 21:7,8 32:19 40:11,15 41:2 58:4 63:8 64:1 69:2 81:6 86:7 103:1,4 103:5,21 106:17,20 111:7 113:15 113:16 115:12 127:10,10,16 129:12 130:5 133:9,23 137:22 139:3 147:20 148:2 156:18 159:11 162:1 171:7,16,20
doors 7:16
doubt 64:4 105:21 110:20
doubts 52:10
douglas 12:3
dozen 126:4
dozens 60:12,13 170:18
draft 71:18
drafted 52:2 147:8
drain 56:20
drastic 91:21
drastically 68:14
drawn 108:1
drool 126:6
dry 34:18 63:6,6,7 74:5 86:5 108:16
dryer 103:13
due 93:5 98:8 105:1
duked 84:5
dunking 79:18
duration 116:5 117:8 129:8
dynamics 61:22

E

earlier 56:6 128:11 147:18
early 133:7
easier 15:2 114:1
easiest 43:17
easy 113:11
eaton 38:23 41:18 104:16 106:2 131:1 132:8
economy 34:21
ecri 54:3,4,5,9,19 156:22
edition 13:13 17:18 42:17 98:11 102:18 106:12,14
effect 35:11
effected 118:3
effective 56:14,15
effectiveness 68:15
effects 92:5
effort 107:6
efforts 68:4 100:3
egress 37:9 38:15 124:7
ehrenwerth 57:17,17 79:8 79:8 155:5,5 155:11 158:22 159:23 160:2
either 21:13 45:16 89:8 92:16 111:7 120:3 146:4 152:7
election 138:22
elective 98:13
electric 21:10 23:13 26:17 32:11 33:6 36:13 36:18 44:10 47:15 49:19 59:10 63:19 69:17 70:21 71:13 73:8 73:10,19 74:18 90:14 104:12 106:13 114:16,21 118:13 122:9 122:19 128:4 130:16 169:10,17 170:2
electrical 15:19 16:21 20:16 22:12 24:11,19 25:19 26:13 26:23 27:2,5 33:10,15,16 34:6 35:9,12 37:5 38:8 39:5 42:16 47:7 54:19 56:11 57:10 58:1,2,9 59:9 60:7,11 60:16 63:16 64:3 66:19 73:2,3 74:15 83:10,12 85:2,10 86:2 90:3,13 95:7 96:22,23 97:3,7,14,17 98:7 99:4 101:3 102:16 105:8,11 121:6 122:1 122:7,14,15 124:5 125:3 125:8 126:17 127:5 128:18 130:12 131:15,21 135:7 161:19 164:13,17 165:2 167:9 172:19
electrician 82:21
electricians 29:5 109:15
electricity 143:10 150:5
electrocute 64:1
electrocution 73:6
electronic 32:5,5 45:10 45:12 88:14 88:16,17,23 89:4,5,17 119:21,23 120:10
electrons 20:11,12
elevated 69:16 70:21
elevator 91:18 92:8,12 92:16,18,18 104:1 108:9 130:3
elevators 38:16 92:9 108:7 114:19 124:10
eliminate 20:5 38:4
eliminated 165:13 169:18
eliminates 86:22
eliminating 20:13 47:11 109:8 116:13
elimination 56:5 124:7
els 34:9 37:22 47:21 83:22 104:17,19
email 115:14
embarrassment 168:9
embedded 150:11
emergency 7:4 20:5,8,8 20:12,12,13 20:17 21:5 21:16,17,17 21:23 22:3,7 22:19 23:6 23:13 26:3,4 28:9,10,15 28:17,19 29:11,13,15 29:19,21 30:2,10,20 30:21 31:9 35:16 37:2,7 37:11 38:1,1 38:8,14 39:19,21 41:1,1 42:22 46:23 47:5 49:8,9 50:6 50:8 59:3 65:18 91:19 92:21,23 93:2 94:15 97:20 98:18 99:20,21,23 102:21 103:2 103:22,23 107:12 114:19 124:9 124:11 165:2 167:10 168:18,20,22 169:1,2,9
emphasis 126:18
emphasize 101:4
employee 29:8
employing 20:10
empower 55:9
enacted 97:23
enclosures 29:11 168:18
encompass 39:5
encompasses 6:20
encompassing 77:9
encourage 141:2 153:16
encroaching 164:16
endangering 113:23
ended 100:19
endlessly 103:19
endoscopic 66:22
ends 156:16
energized 58:21 99:21
energy 93:16 128:5
enforce 118:17 126:12 133:8,9,10 133:15
enforceable 135:8
enforced 22:23 104:9 126:8,8
enforcement 20:7 22:8 118:16 135:6
enforcer 118:17
enforces 20:19 102:15
enforcing 15:3 104:11 133:23 138:3
engineer 25:20 51:19,20 72:20 82:21 97:7 99:4 111:9,22 112:8,19,23 113:3,19 125:9 152:8 159:5
engineering 12:4 16:7 20:11 51:18 52:23 87:4 99:3 101:10 105:15,20 112:5 113:12 120:19 134:12 136:17 147:4 149:7 157:18 168:6 172:2
engineers 31:4 40:10 50:12 55:19 65:21 69:20 78:13,14,16 79:5 80:10 84:2 96:11 97:15 109:14 110:12 113:22 125:23 128:17,18 131:20 136:9 140:3 147:12 147:14 149:18 152:13 154:7 154:9
england 78:12,13,16 79:4
enormous 79:21
ensure 46:19
enters 138:17
entertain 120:15
entire 33:13 43:7 92:12 100:4 115:12 118:22 146:14 148:18 160:9 164:6 166:20 172:11 173:17
entirely 70:5 150:14
entirety 154:10
entities 164:14
entitled 8:23
entrance 22:3 28:13 168:19
environment 65:6 66:6 83:15 85:3 127:9 165:6
equalling 71:12
equally 84:3
equip 67:13
equipment 5:12 10:16 14:7,7,17,18 15:15 20:12 20:13 22:3,4 24:3,7 26:18 27:17 28:13 29:11,13 35:13,18 48:18 54:18 58:1,2 60:13 63:21 71:13 72:9 73:9,13 73:17 74:19 83:13,16 93:12,19,23 103:3,7,9,23

105:9 110:11 110:18,20,22 110:22 118:3 118:5 121:21 122:11 128:5 132:20 133:3 135:1 146:1 155:2,14 156:17 157:14,20 158:13 164:18,20 165:15 168:17,19 169:19
equity 35:20
erickson 12:3,10,11 15:6,7 16:13 18:4,5 23:2 23:3 25:12 47:19,20 50:22,23 54:23 55:1 77:12,13 94:13,14 107:11 114:4 114:6 123:3 123:4 136:15 157:8,9 162:9,10 166:11,12 173:20
errata 81:20
errors 72:2
especially 63:22 151:2
essential 26:13,17 27:18 35:9,12 36:12 37:4 39:5 47:7 52:15 60:6 122:7 124:4 124:12 152:2 153:14 164:17 165:1
essentially 55:6,9 153:6 153:22
essentials 164:13
establish 32:15 68:20 69:7 143:9 150:3
established 39:3 98:4 106:16,23 128:13 145:20 151:11 164:21
establishes 98:12 143:6
establishing 24:14 44:17 78:8 94:19 143:12 150:1
etcetera 74:2 139:1 140:15 153:2
europe 59:12
evac 104:1
evacuating 92:15
evaluate 78:18,22
evaluation 76:21 78:23
event 43:19 108:20 109:8 152:11
events 54:11 107:1 109:3
everybody 133:2
everyday 62:9 64:7 155:18
evidence 14:22 17:22 54:11 70:19 72:4 77:18 83:4 101:17 126:21
evidenced 110:23
evident 17:19 126:6
evolve 132:16
evolved 132:18
exact 107:7
exactly 9:5 16:22 50:17
exam 67:19
example 73:5 90:17 116:3 122:22 139:2 151:14
examples 92:7,22
excellent 27:14 151:5
exception 158:9
excess 118:4
excludes 35:18
executive 27:11 48:9 78:14 141:7 148:9 154:4 159:18
exempt 32:19
exercise 102:13
exhaust 152:10
exhibition 1:21
exist 95:19 161:18 172:23
existed 17:5 35:16 116:1 161:14
existence 56:8 102:23 168:1
existing 7:12 14:2,6,9 15:1,11,18 15:19,23 16:2,9,12 17:1,17,23 21:19 22:20 22:22 83:1 150:13
exists 27:16 35:6
exit 124:7
expanded 43:3
expansion 8:19
expect 169:19
expectation 78:21 79:4
expensive 34:22 61:9 111:13
experience 57:21 85:1 96:10
expertise 161:22 162:19 162:22
experts 144:14
expires 167:18
explain 61:20
explained 81:15
explanation 90:12
explosion 143:10 150:4
explosions 56:7
expon 59:5
exposed 71:20 74:6 93:23
extended 94:4 105:10 108:3 121:22 122:2 173:23
extension 167:13
extent 134:19
extract 49:20
extremely 61:9 111:13

F

facetoface 91:14 113:9
facilities 12:1,13,17,19 15:12 16:3 21:19,20 22:19,20,21 32:14,20 38:12,13 41:15 43:4 47:3 50:5 69:22 98:9 98:14,18 102:22 121:23 127:7 127:13,14 143:11,14,15 143:19 146:1 148:4 150:5 150:17,23 167:10 169:6 169:9
facility 61:5 65:8 67:14 68:20 69:8,11,20 70:7 76:11 76:13,18 81:9 87:4 91:6 92:2 96:12 101:10 111:9 114:22 144:12,18 149:9 151:4
fact 22:22 26:9,10 26:12 34:6 48:14 57:10 61:4 62:11 69:1,5 72:6 91:13 94:16 111:8 114:17 128:15 134:6 135:12 138:20 146:18,22,23 164:23
faction 166:18
factor 95:22 122:6
factors 96:5 105:6
fail 156:11
failed 11:11 49:6 50:15,16 79:10
fails 6:6 9:16 11:20 18:10 32:2 45:22 51:6 75:12 88:6 89:14 120:6 120:12 123:22 136:5 173:19
failsafe 156:1
failure 109:7
fair 98:12 158:6
fairly 132:1 137:3 152:13 164:11
fall 47:14 48:18
falls 86:1 121:13 147:12 154:8
false 134:10 137:5
familiar 67:12 68:23
family 19:1
fanatics 19:21
far 7:22 33:21 73:2 106:12 108:19 110:16 117:21
fault 28:18,21,23 29:4,6,8 43:15,19 52:8,17 54:13 58:3 74:18 90:18 90:23 91:14 93:15 95:18 103:10 104:6 107:20 110:19,21 111:1,1 113:9 118:7 122:16 129:8 130:3 135:1 168:15,16,17
faulted 99:22
faults 91:14 103:22 113:9 116:5 116:17 117:7 117:11 118:11 129:13
faulty 122:13
favor 6:5 7:23 9:14 11:18 17:15 18:8 19:6 31:23 36:5 37:21 38:21 45:1,7,16 47:18 49:2 51:4 60:23 75:7,11 85:16 86:11 88:1,4 89:9 101:22 102:12 107:11 119:15,19 120:3 123:21 124:21 125:21 135:21 136:4 141:5 142:8 148:11,14 154:14 159:17 160:13 163:12,17 173:14,17
fed 92:13
feeder 99:17
feeders 46:16 124:13
feel 69:2 78:16 83:21,21 113:17 148:2 153:13
feels 144:19
fellows 127:23
felt 162:1
fgi 143:18 151:7
fight 130:1,4
figure 16:9
filtration 140:18
final 76:23
finally 73:14 169:2
financial 33:20 129:18
find 17:17 18:1 41:20 73:18 101:12 108:15,17
finding 55:16
findings 59:6 65:16 71:3
fine 58:15 132:15
finen 104:15,16
finished 171:9
fire 7:7,10,15,21 9:3 11:8 31:19 38:15 38:17 66:18 91:20 92:22 93:2 103:3 104:5 105:9 108:7 114:18 119:4,9 124:13 130:1 130:4 143:9 144:18 145:1 145:4 150:4 150:18 152:11,12,22 153:1 161:9 161:10 162:7
firemen 28:16 129:23 130:21 169:22
fires 56:7
firm 112:7
first 4:13 7:3 10:14 13:5 14:12 19:5 23:7 29:12 33:14 35:5 42:16 61:15 62:3 67:14 69:11 86:16 92:6 92:15 93:9 95:8 100:11 109:5 112:11 115:21 124:10 130:20 131:4 134:5 139:11 140:4 144:15 152:16 169:22
fishing 64:11
fiske 36:4,5 60:22 60:23 101:21 101:21 124:20,21
five 33:20 45:19 120:5 139:2 139:4
fixture 90:19,23
fixtures 144:2
flame 161:8,10 162:7
flammable 42:20 56:5
flash 93:10,11,13 105:8 121:21 128:4
flashes 117:11
flawed 170:2
flexibility 7:18
float 34:22
floor 4:22 5:1 6:15 9:23 10:2 13:15,17 16:16 17:11 19:15,16 27:1,5 31:21 32:3,7 44:7 46:8,8,10 49:3 51:14 56:20 57:3 57:14 58:3 59:14,16 60:15 62:15 63:14 74:12 75:4,6,19,21 77:9 80:11 83:21 84:14 86:12 87:10 87:20,22 88:13,19,22 89:2,13 90:8 97:4,12 119:12,13,15 119:18 120:7 121:1 123:8 123:10,14,18 123:20 125:10 135:17,19 136:1,12 142:11,16 149:12,16 155:4 161:3 163:11,16 164:1,5,7 173:10,12,16
floors 74:6 100:1
florida 96:8 104:22 128:14
flour 120:21
flow 62:13 156:10

fluid 60:15 61:22 62:12 69:15 71:16,22 72:7 74:11
fluids 59:13 62:8,10 62:16 67:1 70:20 74:5,7 74:22
fly 84:6
focus 54:18 66:8,9 83:10
focused 6:19 42:2
folks 109:14 148:1 171:17
follow 43:11 76:16 130:7,10 147:19
following 16:1,22 23:18 24:1 54:8 77:2 115:13 116:11,23 154:17
follows 46:15 81:17
followup 163:21
fool 156:1
foolproof 159:6
force 25:5 73:11 102:19
forego 168:17
foregoing 175:7
foremost 134:5
forgotten 34:9
form 19:10 45:5 53:13 69:18 106:11
formal 21:9
formally 69:12
format 48:13
former 19:23,23
forth 38:17 43:21 108:10
fortunately 99:9 151:8
forum 102:9
forward 15:10 24:12 107:15
forwarded 117:22
found 3:12,20 4:8 12:6,14,22 33:12 59:7,8 59:13 108:17 136:10 164:19 165:14
four 14:15 33:20 96:1 99:23 115:23 128:21 131:8
fourth 118:21
fpc 6:9
fragment 16:11
frank 8:15
frankly 171:6
free 69:22
frequently 59:15
fti 150:22 151:2
fuel 151:21 152:3,5
full 43:13 102:17 102:23 104:3 108:8 109:23 110:5 117:3 128:3 131:10 134:11,15 141:1 152:6 169:14 175:8
fully 93:14 94:11 100:12 105:19 127:15 135:3 144:22
function 24:4
functioning 165:1
functions 165:4
fundamental 139:13
funded 19:21
further 6:2 9:10,11 17:12 18:3 21:4 23:10 33:9 39:19 45:21 48:19 50:23 109:6 142:5 144:3 145:5,5
furthermore 71:23 101:9
fuse 90:3 113:14 127:22
fuses 113:10 164:3
future 38:20 76:17 165:18 166:9

G

garage 152:16
gary 110:8
gas 15:19 34:18 62:13 137:7 140:13 142:1 155:2 156:23 157:11,12 167:9
gases 6:23 62:11
gbh 87:8 160:22
general 31:10 74:2 76:17 158:3
generally 134:12
generated 52:14
generation 110:9,10
generator 99:20 110:11 168:22
generators 30:11
gentleman 61:1 105:16
gentlemen 3:2,18 12:11 41:6 43:7 155:11 166:13
george 42:6 85:14 134:4
germane 17:16
getting 35:15 130:13 133:2,3 138:1 141:14 141:15 147:22 161:16
gfci 60:1
gfcis 58:17
gfic 79:19
give 56:15 63:7 64:6 81:22 114:7 117:20 122:22 139:2 139:2
given 15:10 45:13 47:4 59:1 74:20 77:4 89:6 119:23 155:21 170:23
gives 78:21 79:3 113:2
giving 111:21 122:21
glad 64:6
global 34:21 68:7,12
globally 65:15
go 7:9 15:9 22:10 23:9 24:12 28:11,16 29:21 32:8 34:22 37:5 42:15 45:10 52:11 72:2 79:3 89:3,18 93:5 94:15 99:16 103:23 105:22 124:12 126:23 127:2 130:4,15 133:19 134:10 141:23 149:14 157:10 159:11 173:4 174:1
goal 122:12
god 173:2
goes 17:1 43:23 57:23 64:17 73:3 79:14 84:7 104:6 113:1 143:7 150:2 167:7
going 11:17 13:8 16:11,11,14 16:21 18:19 20:18,23 22:14 32:8 37:18,23 38:11 42:14 45:9,20 50:15 51:3 63:10 64:10 79:17,19,22 82:17 86:5 87:19 88:7 89:3,16 103:12,13 105:4 108:11 109:17 117:5 118:17 119:21 120:13 124:6 124:12 126:22 129:14,21 130:3,14,18 130:19,20 131:9 135:23 136:18 140:12,13 147:8 151:16 153:8 154:21 157:3 163:22 166:5 173:4
golly 43:13
good 3:1 30:15 86:6 86:8 89:13 92:22 99:7 112:18 132:6 134:2 135:8 135:8 150:15 158:14 160:6 167:11,23
gotten 74:12
governing 53:4 68:19 76:10 77:2 80:23 87:2
grand 1:23
grant 89:4
granted 167:14
grave 34:7
gravely 128:19
great 59:16 74:14 126:20 127:6 147:12 154:8 171:9,13
greater 110:19 112:12 117:12 129:8
gregory 149:8,9
grey 144:6
ground 28:18,20,23 29:4,6,8 43:15 52:8 52:17 54:13 90:18,23 91:14 99:16 107:20 113:8 116:17 117:11 118:7 118:11 133:16 156:18 168:14,16,17
grounding 40:19 63:20 137:17
grounds 139:11
group 7:16 23:12,17 80:17 95:3 120:14 131:5 136:1 157:3
guess 146:18
guida 46:2,2,13
guidance 23:22,23 68:18 127:7 143:14 144:1
guide 150:16
guidelines 143:18 144:13 150:22
guilt 82:23
gut 130:11,18
gutted 113:6 169:5
gutting 124:16 169:15
guy 62:7 144:7
guys 125:2

H

hadnt 95:18 100:3
hair 103:13
hajs 98:3
half 67:4 115:10
hand 6:5 9:15 11:19 18:9 32:1 41:21 45:8,9 63:3 75:8,11 88:1,5 119:16,20 123:21 135:21 136:4 142:8 148:15 154:15 160:14 163:13 173:14,18
handled 38:10
hands 45:2 51:5 163:17
hangers 34:17
hanging 172:14
hangs 38:5
happen 63:15 85:23 93:17 101:13 104:6
happened 107:2 144:1
happening 61:8 92:20 133:18
happens 29:12 34:18 91:4,5 92:17 104:4 111:5 165:22
hard 96:15 125:11 127:16 166:16
harm 169:20
harmless 132:1
hasnt 102:4,9
havent 87:12 108:2 111:4 162:23
hazard 71:1 83:12 85:3 143:9 146:3
hazardous 6:23 34:20
hazards 64:3 65:10 86:2 146:2 150:4
hbc 151:13
heals 25:21
health 17:9 48:1 51:18 54:7 55:4 61:1 64:23 65:9 66:11 68:7 78:3 143:17 149:9 150:19 151:12 156:22
healthcare 12:1,4,12,17 12:19 15:11 16:2,7 17:10 21:19 25:20 27:9,10,12 27:16 28:1 30:18 31:7,8 32:14,20 33:15,22 34:2,5 35:3 38:3,9,12,13 41:15 43:4 47:3 48:7,8 48:10,21 50:12 66:6,6 68:4 69:11 76:10,18 77:2,15 78:12,13,16 79:5 80:10 80:23 84:11 84:12 85:15 85:16 86:1 87:1 91:6 92:2 95:12 96:10 97:16 98:9,14,18 98:22 99:5 100:16 101:10 102:2 107:19 108:11 109:1 109:2 114:21 121:23 123:6 125:16 127:7 127:13,14 128:10 130:15 134:16,21 136:9,17 141:5,6,8 142:14 143:10,13,15 143:19,20 144:11,17 145:6 147:4 147:14,17,18 148:8,9,10 149:7 150:5 150:17,22,23 151:5 154:3 154:3,9 157:19 159:16,17,19 164:13,17 165:6,8 167:10 169:6 169:16 171:1 172:2
hear 5:2 6:16 10:3 13:18 19:17 46:11 51:15 75:5,20 87:20,23 89:18 119:14 121:2 126:12

132:12 135:20 143:3 149:22 155:9 163:11 164:7 173:13
heard 37:21 39:13,16 40:2 41:23 50:13,18 56:18 66:14 76:3 80:12 83:23 84:2 101:15 102:13 112:21 115:21 156:7 165:9,17 168:11 169:4 169:10,13 170:18 171:17
hearing 49:3 114:18
heart 59:3,4 63:3 74:1,8
hearts 73:8
heater 103:13
heavens 135:3
heay 162:14
heery 142:13
held 22:2 30:14 38:11 168:20
help 66:4 134:13
helping 65:7
heroic 100:3
herzig 112:5,6,7 168:5,6
hickman 115:5,6 118:21 163:6,7 171:3,4
hide 101:11 113:19 126:2
hides 100:17
high 59:13 60:13 63:22 64:9 71:21 92:3 135:1 138:21 165:16 168:19
higher 69:6 105:4 128:6 140:17 145:20
hip 64:9
hirschler 44:21,21 49:12 49:12 87:8,8 160:20,22 161:5
historically 83:5
history 56:4 83:6 101:17
hodgepodge 43:20
hold 25:11 87:11 135:6 161:21 162:20
holding 172:6
holes 21:23 40:1
hope 136:17 162:3
hopefully 3:4 136:23 137:3
hornets 173:3
horsepower 99:16 103:6
horshner 131:19,19
hospital 31:4 35:14 37:12 40:22 43:22 44:2,4 50:4 56:20 72:14,22 77:20 79:16 86:20 95:11 100:1,10 124:5,7,14 127:12 130:5 132:14,15 138:23 141:19 156:7 156:8 160:10
hospitals 39:6 42:18 47:10 54:17 56:18 73:6 73:22,22 81:6 85:17 95:23 99:9 100:4,18 109:2 165:16
hosting 168:15
hour 155:12
hours 58:11,11 60:18 77:22 83:22 100:6 101:5 101:5 151:21 152:5 167:1 171:13
house 173:4
huge 127:19
human 113:23 140:9 143:11 150:6
humidifier 151:21
humidifiers 151:18
humidity 56:9 151:15,16 151:16
humm 6:11,11
hundred 68:2 71:17 91:11 93:8 103:11 152:10
hundreds 155:21 156:8
hundredth 121:11
hvac 151:23 152:12
hvc 151:22
hyperbaric 162:11

I

icc 173:1
id 47:20 77:13 84:6 131:3 149:19
idea 30:15 82:22 85:19 86:3 152:9 158:14
identification 22:2
identified 86:2 109:7
identify 15:10
identifying 94:5 134:17
idiot 156:2 159:6
ieee 134:14
ignored 129:13
ignores 133:11
ill 45:11 63:13 64:6 94:12 120:15 132:5 155:12
illinois 19:3
illustrates 72:5
im 11:14 13:11 16:21 18:23 19:6,21,22 21:10 22:14 25:20 26:22 32:10 34:8 37:21,21 40:4,10 41:19 42:7 42:10 44:1 50:4,17 51:19 53:6 56:2 61:16 61:21,21 62:5,7 79:17 79:19 80:10 82:20 83:2 83:19 84:17 89:22 90:2,2 99:3 101:22 102:12 109:17 110:8 115:16,18 123:1 125:2 125:9 131:2 131:20 136:18 138:14 142:3 146:16,21 149:14 156:14 159:2 160:2 162:22 163:2 171:15
imagine 30:6
immediately 62:21 74:12 89:17 90:15
immobilized 50:7
impact 68:6
implement 100:11
implementation 144:13
implemented 54:17 99:12
imply 48:14
importance 128:19
important 52:5 69:10 95:10,13,17 96:4,13 100:16 103:17 105:7 110:4 117:4 117:6 121:23
impressed 61:16
improve 39:9 66:11 67:19 72:9
improvements 74:14
inappropriate 8:7 76:19
incident 7:14 59:8 73:14,16,19 104:23
incidents 59:8 73:18 85:23 100:17 105:18 108:14,23
incision 67:2
incisions 66:23 67:3
include 47:17 49:17 53:8 58:16 58:17,18
included 11:11 53:20 126:1 168:14
includes 15:2 26:18 54:8 61:23 118:10 137:12
including 34:1 38:9 62:3 69:19 87:3 146:2 150:21
inclusion 52:6 69:4
incoming 61:14 158:20
incomplete 144:4
incorporate 147:21
incorporated 3:10 52:9 68:12 84:17 98:5 144:16 151:2 152:18
incorporation 159:3
incorrect 109:20
increase 122:12
increased 109:4
incredibly 127:17
incremental 59:22 60:1
independent 70:22
index 2:1 42:18
indicate 39:17 56:19 79:1 141:12
indicated 5:20 61:2 71:11 77:19
indicates 70:19 118:8
indicating 142:17
indicatio 32:3
indication 111:1
indications 56:18
individual 69:22 72:12 109:9
individuals 68:23
industrial 6:22
industries 109:1
industry 27:15 31:7,9 39:3 67:14 96:10,11 100:16 107:19 116:9 128:17 132:10,10,18 134:16,21,23 143:20 144:14 145:6 150:15 151:1 151:6
informally 146:19
information 16:13 74:20 80:13 81:14 98:17 114:20 117:20 142:3
informational 98:15
informed 55:20
informing 78:17
inherent 139:5
initial 82:7
initiation 7:13
injuries 72:1 98:8
injury 98:10 105:1
ink 143:22
inner 23:5,6,12
innocence 82:23
input 68:22 69:4 145:15
inserted 113:4
inserting 48:11,13 140:23
inspector 133:7,10,19 135:7
inspectors 133:18,20
inspects 20:21
install 113:13 129:18 138:3,22 139:3,7,7 169:14
installation 4:1 7:22 15:14 23:14 24:5 24:16,22 33:21,22 54:12 61:8 90:18 94:22 106:9,21 111:17 117:9 170:1
installations 34:3 99:5 106:22
installed 106:19 108:10 110:18 130:2 169:7
installers 27:18
installing 94:21
instances 71:11 110:17
instantaneous 110:3 113:10 121:13
institute 19:3 54:3,4,5 54:9,19 62:1 65:18 156:23
instituted 96:6
institution 55:14,21 58:14 61:4,6 77:20
institutions 55:10,17
instructed 23:22 167:4
instruction 70:3
instructions 124:9
instrument 138:4,17,19 140:6,8,11 140:14,14,16 140:17,20 141:1,19 142:1
instrumenta... 52:22 65:20
insulated 129:12 161:8
insurance 130:6
intact 146:13
integrity 133:14 157:6
intend 145:21 160:17
intended 24:3 46:18 52:3 69:12 140:8 144:2
intent 8:5 14:1 25:23 35:5 37:15 82:3 87:13 87:15 139:18 162:16
intention 13:23 48:16
intentionally 100:17
intently 65:4
interacting 22:5
interactions 8:8
intercommittee 101:23 107:12
interconnected 9:2
interest 44:5 136:18 145:4
interested 65:4,5 99:14 114:9,10
interesting 66:14,14 140:18
interim 146:10
interlocking 93:22
international 33:5 59:10 85:1 87:9 106:9 142:14 160:22 162:14
interpretation 21:9 146:20
interpreted 82:13 140:10
interrupt 7:10
interrupted 89:15
interrupter 54:14

interrupters 52:8,17
interruption 46:21
intertek 36:5 101:21 124:21
intimacies 69:1
introduces 40:4
introduction 19:2
invasive 66:21 67:5
investigating 73:14 108:21
investigations 109:7
involve 67:5 71:9
involved 14:1,15,20 56:3 60:10 74:22 77:6 83:12 99:8 103:10 115:8
irrigation 71:10
islands 12:5
isnt 91:5
isolate 122:13 144:20
isolated 52:7,11,17 54:12 56:9 56:10 58:17 59:11,23 66:3 67:23 116:14 122:16
isolation 90:13 161:11
issue 24:10,19 43:7 43:11 48:19 51:22 52:11 55:5 56:3 57:5 65:5,12 66:13 68:18 69:10 70:11 75:17 77:21 94:18 95:10 95:13 96:2 96:14,17 98:4 101:17 117:18 128:19,20 141:9 146:21 152:6 153:7 161:6 172:4 172:7,12,14
issued 114:8
issues 23:21 26:2 33:13 39:7 54:6 58:12 85:2 107:13 107:18 118:16 121:5 136:19 146:20 151:8 170:4,16,22 171:1,18 172:13
issuing 124:8
item 114:13
items 66:10 165:7 170:19
ive 73:22 109:12 111:2 132:16 145:15 161:23 167:3

J

james 18:22 36:17 49:1 102:11 125:20 142:13 149:8
jan 57:17 79:8 155:5 157:10 159:5
january 62:18 63:11 105:21
jason 23:4 25:13,16 25:19 48:1 55:2,4 77:14 95:4,6 101:4 123:5 128:9
jelinske 142:22 143:5 149:17,17,23
jelinski 142:22 152:21
jewel 73:21
jewell 73:21
jim 81:12 97:14 125:8 172:12
job 27:14 95:2 111:23,23 112:16 115:1 132:6 133:11
john 9:20 26:22 72:19 96:21 97:7 147:11 154:7
join 125:5
joint 64:12 85:15,16 86:9
jon 4:17
journal 54:7
joyus 146:16,16
junction 104:5
june 1:19 54:8
jurisdiction 16:15 31:16 34:7 35:1 102:2 118:18 138:3 139:9 144:23 156:16 157:13 170:4
jurisdictional 23:20
jurisdictions 34:16 143:21 147:20 166:3
justification 69:3 156:4
justify 54:11

K

kaiser 59:18 64:22,23 65:5
kansas 112:5
keep 37:13,23 39:20 49:3 81:15 87:13,16 114:18 122:23 130:13
keeping 14:13
keith 68:11 86:14
ken 99:2 105:14 120:18
kept 39:20 80:16
kerckhove 68:11,12 72:11 86:14,15
kevin 41:18 131:1
key 168:12
kill 151:17,20 152:1
kind 57:7 68:5,6 78:4 80:13 102:8 117:20 126:5 135:10 143:22
kinds 74:4
king 64:21,21
klein 4:16,17,17 5:3 9:19,19,19 10:5 13:10 13:11,11,20 15:12 17:14 17:14 18:13 18:13,13
knee 59:14
knocks 92:19
know 21:7,8 29:6 57:23 58:1 63:8 67:14 81:15 100:18 103:5 104:7 111:11 113:22 130:2 138:2 156:2 156:18 166:14
knowingly 113:21
knowledge 146:18
known 9:5 108:18 109:12 165:9
knows 62:7 111:16 166:8
koffel 81:12 136:19 138:8,9 145:8,9 153:3,4
kolinski 31:3,3
kovacik 26:21,22 96:20 96:21

L

labb 31:18,18
labeling 48:17
laboratories 26:22 96:21
labs 103:11
lack 91:3 93:5 105:1 151:15 151:23
ladies 3:1,17 12:11 41:6 155:11 166:13
language 68:15 69:8 70:16,17 79:12 82:8 82:10 84:3 85:20 127:18 129:6
large 38:9 60:14 71:9 164:20
largely 61:2
larger 90:16
larry 131:19
lastly 94:9
late 3:5 88:23 155:12
lathrop 81:12,12 82:15 172:12
law 112:14,15 113:2 129:11
lawsuits 100:18
lawyers 126:5
laying 132:14
laymans 91:11
leads 109:6
leak 156:11
leave 26:16
leaves 21:23 57:13
leaving 167:8
leeway 133:1
leffert 41:18,18 131:1 131:1
left 80:13 147:23 168:12
leg 34:4
legal 125:23
legally 97:20
legitimate 152:21
length 126:20
lengthy 125:11
letter 4:3 12:20
level 29:2,17 40:6 55:12 62:20 72:12 98:13 103:17 105:4 110:19,21 111:14 116:12 117:1 117:5,11 144:11 158:8
levels 29:2 91:8 107:20
leverage 133:2
liability 94:10 112:12 126:3,4 128:6
liable 126:10
license 135:7
lie 129:14
life 4:6 6:21,23 14:10 19:2 26:18 27:16 35:13,17 37:9,16 44:4 46:4,14,15 46:22 47:2 47:13 48:3 48:17 54:15 60:5 62:4 63:10 67:22 67:23 73:21 91:17,23 93:4 104:2 105:1 108:11 109:13 113:15,23 124:5,6 135:6 150:20 151:12 155:21 159:8 165:15
lifeline 159:10
lifelink 68:12
light 18:14 29:18,22 30:1 90:18 90:23
lighting 29:15,17,19,21 30:3 38:14 38:15 91:19 92:23 93:2 104:2 168:23 169:1,2,3
lightly 126:19 128:20
likelihood 69:14 71:20
limit 74:15 93:6,22 109:18 116:11
limited 74:5 75:16 87:3
limiting 113:11
limits 30:2
line 27:20 100:6 103:2 104:1 107:23 137:10 159:9
lipschultz 51:9,10,17 157:15,17,17
lipster 33:4,5 127:4,4 172:18,19
liquid 62:11,12,15 71:21
liquids 62:14 63:14,22 64:3
list 17:1 35:23 144:8
listed 152:14
listened 55:6 95:14
listening 42:13 64:19
lister 138:1
lists 169:23
literally 159:8
literature 64:16
liters 71:10
litigious 112:10
litrovich 38:23,23
little 15:22 16:12 24:12 53:7 62:18 97:9 121:15 133:1 133:1 143:14 144:1 160:4 172:7
lives 169:21
load 24:23,23 25:1 113:15
loads 21:16,17 38:1 38:1,8,14,16 91:18 92:22 93:4
local 98:1 112:14 143:16,17 147:20 150:17,18
localization 103:22 122:10
localized 118:2
locate 28:16
located 3:10 12:4
location 28:14 34:20 52:2,4 53:3 53:19,20 54:1 55:8,11 55:13,21 58:14 66:1 67:7 70:1 72:15 76:2,3 76:12 78:2,3 78:8 81:1 83:9,11 85:20 86:20 137:2 168:20
locations 7:12 52:6,9,19 54:21 55:13 56:17,19 57:2,9 58:7 65:16 66:1 68:17,21 70:10 73:1 76:6 77:4 78:19,22 81:6,8 86:3 86:6 108:16 162:6
logic 44:6 150:14
long 21:12 29:5 84:5 93:3 133:5 172:4
longer 28:15,20,22 29:4,9,23 30:7,12 34:2 58:22 91:10 93:8,8 112:16 116:6 117:8 120:9 148:19 158:2 160:17
look 18:1 32:16 42:16 43:5 43:14 44:16 59:17,18,21 59:21 64:10

65:11 67:9 67:20 77:17 105:22 109:20,21 128:23 129:6 134:12 137:9 138:18 151:16 157:22 167:21,22
looked 15:16 16:8 42:17 59:20 60:2,3 129:4
looking 81:16,21 83:8 89:23 132:1 132:4 136:7 151:15 161:18
looks 11:9 21:15 44:17
lopsided 130:13,14
lose 93:1 126:2
loses 133:13,14
loss 67:1 71:9 104:23 168:16
lost 30:15 146:13 153:15
lot 20:23 42:1 47:13 55:16 74:22 91:6 101:15 110:12 124:14 133:18,20 137:23 138:1 171:17
lots 74:6
lovingly 64:8
lovorn 99:2,2,2 105:14,14,14 120:18,18,18 121:4
low 67:1 74:20
lower 117:5
lp 34:18 166:21
lunch 34:14
lying 132:13

M

machine 156:6
macroshock 56:14
macroshot 56:14
main 90:20 91:2 94:5 99:18 99:18 107:23 122:12 147:15 156:6
maintain 157:6 167:16
maintained 31:14
maintaining 122:15
maintenance 7:23 14:3 15:13 27:19 30:11 78:5 98:17 109:15
major 30:11 62:22 71:15,18 102:19 141:19 169:12
majority 70:11 128:22 129:1
maker 13:6 18:17 51:10 82:1 82:19,19 147:5 160:15
makers 148:19
making 24:7 32:20 36:22 55:17 76:9,19
malcolm 90:2 127:21 164:2
manage 66:4 78:23 101:12
management 7:16 54:18 65:10 66:11 121:16 167:11
manche 32:10,10 44:9 44:9 114:15 114:15 124:4
mandate 76:4
mandated 104:21
mandates 76:20
mandating 77:9 122:4
mandatory 138:20,21 139:17
manipulate 135:9
manner 7:11 24:3 80:21 123:16
manton 17:8,9 84:10 84:11
manually 100:5
manufacturer 72:8 110:10 155:15
manufacturers 73:12 96:12
marcel 84:16
marcello 87:8
marcelo 44:21 49:12 50:18 160:22
margin 58:10 72:13
marinas 34:18
mark 31:3 138:11,14 140:2 142:22 149:17
marking 22:3 29:10 168:18
marshall 112:4,4 168:5 168:5
massachusetts 3:11 131:21
massage 135:10
master 82:21
material 8:9 11:13 14:14 17:20 24:6 87:14 161:8
materially 164:18
materials 17:16 145:3 152:23
matter 26:15 161:22 175:10
mclaughlin 159:15,15
mcm 103:6
mean 108:9 132:4
meaning 37:3 161:11
meanings 26:6
means 14:18 56:15 91:12 92:14 106:21 111:20 120:10,10 124:7 129:9 129:11
meant 139:5 141:19 141:22
measure 153:23
measures 66:3 111:13
mechanic 146:5
mechanical 145:13 146:17
mechanically 22:2 30:14 168:20
mechanism 76:20
media 100:19
medical 15:19 52:21 54:16 57:12 62:16 65:19 71:13 73:9 74:14 109:2 109:6 140:8 140:12,12,17 140:19,22 155:14 156:17 157:14,20 167:9
medicine 65:7
meet 26:14 106:20 113:8
meeting 1:13 3:21 6:1 25:15 27:11 46:17 48:9 61:16 78:14 84:13 97:1 141:7 146:12 148:9 153:18 154:4 159:18 174:3
meetings 133:19 146:7 153:13 167:3 171:6
member 16:20,20 19:22 19:23,23 25:14 36:19 40:10 45:14 47:21 51:21 83:22 89:7 97:17 101:3 104:16 115:6 120:2 126:17 131:20 138:12 156:14
members 4:4,7 19:1 27:2,4,5 57:19 65:7 68:7 70:12 71:15 85:11 89:6 97:1,3 120:1 139:20 145:16,18 153:11,12 158:9 168:2
membership 5:3 10:5 27:11 44:5 48:9 78:15 96:15 98:19 101:8 141:7 148:9 157:22 159:18 162:3
memorial 72:22
mention 73:9 108:19
mentioned 92:1 102:19 107:12 109:17 121:4 128:15 147:18 157:10,12,19
mentioning 80:16
mentions 142:1,1
merge 51:23
merrick 41:5,5,9,13
message 7:15 76:7,13 78:21
met 27:2 94:17 96:23 146:18 161:13
method 93:22
methodology 71:19
methods 139:3 161:18
microphone 4:15 5:15 6:3 6:8 8:13 9:17 10:20 11:6 13:9 16:5,17 17:7 17:13 18:7 18:12,20 25:9,17 26:20 27:7 28:3 31:1,17 32:9 33:2 35:2 36:3,16 37:19 38:22 39:11 40:8 41:4,17 42:5 44:8,20 46:1 48:5,23 49:11 50:2 50:10,13 51:3,8 55:23 57:16 60:21 61:12 64:20 68:10 72:18 73:20 75:1 75:14 78:10 79:7 80:8 81:11 82:18 83:17 84:9 84:15 85:13 86:13 87:7 89:18 90:1 96:19 97:5 99:1 100:23 101:20 102:10 104:14 105:13,23 107:9 110:7 112:3 114:14 115:4 119:8 120:17 123:23,23 124:19 125:7 125:18 126:15 127:3 127:20 128:8 129:2,15 130:23 131:18 134:3 135:14 136:7 140:1 141:3 141:17 142:6 142:12 146:15 147:1 147:10 148:6 148:13,22 149:3 153:19 154:1,6,13 155:4 158:18 159:14,22 160:12 163:4 163:22 164:1 168:4 170:9 171:2,23 172:17 173:7
microproces... 74:17
microshock 56:13
mid 62:4
mike 11:17 41:9 75:16 81:15 81:19 97:10 173:8
miles 133:6
military 33:21 85:18
mill 85:14,14
million 65:1,3 73:18
millisecond 91:11
milliseconds 93:9 103:11
mind 110:20 126:14
mini 136:1
minimal 66:21
minimally 67:5
minimize 143:9 150:4
minimizes 93:16
minimum 93:19 98:13 145:22
minor 116:16,17
minute 60:9,9
miscoordinated 98:8
misperception 32:13
missed 151:8
mistake 109:5 129:10
mistakenly 73:5
mistakes 109:6
misundersta... 32:22 137:5
mitigate 66:4,10
mitigation 64:1 65:10
mixed 76:7,13
mode 152:10
model 144:13 152:11
modern 52:15 125:5
modification 43:16
modifications 44:3 150:13
modified 134:18 157:23
modify 5:18 158:5 160:4
molehill 138:16
moment 81:22
moments 105:16
money 67:18 129:19 129:22 130:7 130:10 169:13
monoxide 3:8,19 4:2 9:1 11:2
montana 147:12,13 154:8,8
months 132:2,3
moot 11:14
mopped 58:5
morning 27:2,10 48:8 59:7 71:4 97:1 141:6 148:8 154:4 154:23 159:18 174:4
morton 9:12
mothers 68:2
motion 2:1 3:16 4:11 4:14,14,22 5:17,18 6:6 6:7,12,13 8:1 9:16,17 9:23 10:14 10:23 11:10 11:15,19,20 12:10 13:5,5 13:6,7,15 16:8,16,19 17:6,11,15 18:9,11,18 18:20 19:5,6 19:8,14 27:1 27:3,4,10,12 28:5 30:23 31:12,22 32:2,12 33:1 33:7 35:4 36:6,19 39:2 39:14,16 40:15 41:10 41:19 42:9 42:11 43:8 44:7,11,19 44:23 45:3,4 45:8,17,17 45:22 46:3,7 46:8 47:1,16 47:18 48:8 48:10,22 49:3,5,10,13 50:1,3,9,13

50:21 51:4,6 51:7,12 56:2 57:15,20 60:17,23 64:18,23 68:8,13,14 70:12 72:17 75:4,9,11,12 75:13,19 76:1,4,20 77:1,9 78:15 79:6,12,22 80:7,11,14 81:10,14,17 81:19 82:1 83:20 84:14 84:20,21 85:5,12 86:12,15 87:5,20 88:2 88:6,7,12 89:9,14,19 89:22,23 90:6 96:18 96:23 97:2,4 97:12 98:22 99:3 100:21 101:2,22 102:12 104:17 105:15,17 106:3 110:10 114:2,17 115:3,11,18 115:20 119:13,17,18 119:20 120:3 120:4,6,11 120:13,15,19 120:21 123:8 123:13,16,20 123:22 124:22 125:9 125:10,17,21 127:1,2,5 128:10 131:2 134:7,8 135:17,22,23 136:4,5,6,7 136:12 138:7 140:4 141:2 141:6,8 142:9,11 143:2 145:7 146:9,23 147:9,13,16 148:10,11,15 148:16,19 149:11,15,21 153:16 154:5 154:14,16 155:4,8 158:7 159:1 159:3,17,20 160:1,3,12 160:15,16,18 160:18,21 161:1 162:4 163:9,13,15 163:17,18,19 163:23 164:5 170:7,15,15 171:22 172:16,20 173:10,15,16 173:18,19

motions 3:13,14 12:7,8 13:3 18:15 18:19 88:9 88:10,11,12 89:20,21,23 120:15,16 134:23 136:1 136:2,16 145:10,15,19 147:6 148:21 148:23 154:18 163:21 170:11

motor 99:16,22 100:8

motors 40:20,21 103:6 104:5

mountain 147:15

mouth 162:2

move 4:20 6:4,7 9:13,22 11:17 13:8 13:12 18:7 18:19 36:10 42:23 45:3 51:3,7,10 75:9,13,18 83:3 85:15 87:19 88:7 88:16,16 90:4 97:9 119:17 120:13 135:23 136:6 136:10 142:6 142:10,20 148:13 149:10 151:5 154:13,21 155:6 156:7 156:8 160:12 160:18,22 163:15,19,22 164:3 173:16

moved 43:2 56:10

moving 88:3 89:19 92:14

msl 159:15

multibuilding 124:14

multiple 38:7 74:10 77:23 143:16 144:4 150:19

multiplied 60:4

multitude 170:12,16 172:13

municipal 150:18

N

name 4:16 25:19 31:18 42:6 51:9 56:1 64:21 75:16 85:14 97:13 112:4 122:22 135:3 149:5

nasby 18:22,22 19:6 19:13,19 22:18 39:12 39:15 102:11 102:11 125:20

national 20:15 21:10 22:12 42:16 47:15 49:19 85:1 90:3 102:15 104:12 106:12 118:13 122:9 122:19 125:3 127:21 130:12,16 131:15 144:18 161:14,19 164:2 167:16 167:20 169:10,17 170:1

nationwide 144:17 152:19

nature 53:9 108:23 109:12

nearest 116:14

nearly 96:3

nec 23:15 32:13,17 32:17 34:1 37:23 40:3 42:15 43:8 47:8 91:7,22 92:8,20 97:22 98:15 102:5 112:9 112:12,13,15 115:7,22 117:15,17,23 118:18 134:11 164:13,16,21 165:21 166:1 166:3,7,8 168:13 171:10

necessarily 117:12

necessary 54:2 69:3 146:13

need 17:3 27:19 37:12,14,17 39:19 41:11 50:8 62:15 65:15 79:17 79:22 80:21 83:15 89:17 93:10,19 113:8,12 116:13 129:20,23 132:23 133:1 140:5,11 174:1

needed 16:9 18:1 36:23 56:8 56:11,17 93:3 117:2

needless 94:5

needlessly 93:5 113:23

needs 18:1 36:11 46:18 55:11 165:16 168:8 171:20

negative 167:1

neither 100:19 138:18 142:2

nest 173:3

net 111:15

neurosurgery 72:23

never 48:16 52:3 73:9 93:5 107:15 109:13,15

nevertheless 158:10

new 8:7 14:7,9,16 14:23 15:11 15:18,21,22 16:2,10,23 17:5,17,23 22:5,19 56:8 68:2 69:8 78:12,13,15 79:4 81:17 81:18 83:16 98:5 102:20 150:14 154:20

newcomb 97:7,15

newly 69:12

news 100:19

nfpa 1:13 3:23 4:13 6:19 7:1 8:12 12:19 13:5,7,14,22 14:5,10,10 14:11,12 19:22,23,23 20:2,15 21:6 21:10,11 22:7,8,15 23:15,23 24:13,15,18 24:20,21 25:2 26:3,12 26:23 27:6 28:6 30:17 31:6,6,10 34:6,11,14 34:15,19 35:19 36:7 36:14 41:22 43:16 44:16 46:18,23 48:12 49:14 49:16,19,20 50:19 51:21 51:23 54:20 54:21 59:5 68:16 70:23 73:14 83:5 91:8,15 92:10 93:1 94:18,21 96:22 97:18 98:16 101:3 102:15 104:10 108:7 108:15 112:8 112:11,12,14 112:15,17 113:1,5,15 115:2 116:6 117:21,23 118:11,15,21 118:22 119:4 119:6,6 126:12 131:13 137:15 138:20,21 143:8 145:1 148:2 150:2 150:9,19,21 152:7,21 160:17 164:22 165:21,21,23 166:2,6,16 166:22 167:4 167:12 168:3 168:10,11 169:16,23 170:3,5 172:21

nfpas 144:15 145:1 152:16

nickel 19:20

nitmam 5:5 10:7 19:7 20:4 26:8 37:21 38:21 107:11 110:6 130:22 166:10

nitmams 44:14

nitrogen 138:18,19 142:1

non 144:5

nondebatable 123:12

nonissue 156:9

nonmandatory 137:6

nonprofit 54:5

nonselective 93:17 94:4

nonselectively 90:22

norel 3:10

normal 29:16,17,21 30:1 46:21 92:13 109:9 168:22 169:2

north 28:18 72:21

norton 3:9,16,17 4:12 5:8,20 8:2,4 9:11 10:10 10:11 11:21

nortons 8:17

notably 8:18

note 7:17 76:23 78:23 86:22 98:15 137:12 152:15

noted 88:10 142:15

notes 77:6 87:16 175:9

notified 13:6 160:17

number 3:16 4:14 12:10 13:6,8 16:8 18:11 18:18,20 21:23 43:1 45:23 51:7 51:11 60:3 62:2 75:13 82:4 85:8 88:8 92:20 98:15 114:12 114:13 119:8 120:14 136:6 142:10,12,21 143:1 145:10 145:12 147:6 149:11 154:22 155:3 157:23 160:16,18 163:5,20 164:1 171:23 172:17

numbers 14:22 15:10,17 16:1 148:20 154:18

numerous 20:18 22:8 150:11 168:12 170:2

nurses 109:1

nursing 100:4

O

oakley 42:6,6,10,13 134:4,4,8

obfuscate 43:7

object 21:13 105:15

obstetrical 71:7

obvious 28:6 164:11

obviously 17:15 57:21

occasions 58:8,8 107:2

occupancies 8:20

occupancy 6:20 34:16 36:15

occur 71:16 104:9

occurred 29:6 56:16 109:8

occurring 21:14

occurs 29:4,8

offer 8:3

office 91:4 92:4

officer 3:3 4:10 13:2

official 68:22 146:4

officially 174:2

officials 96:12

oh 135:11 173:2

ohio 33:19 135:7

okay 103:23 108:13 144:3 172:21 172:23

older 22:20

olson 110:8,8

omission 28:17

omit 28:20

omitting 65:10

once 44:11,11 47:20 55:1 77:13 94:15,17 123:4 126:6 127:8,8 138:22 159:5

onefit 7:8

ones 114:10 141:12

onus 78:6

open 59:3,4 65:8 74:1,8 80:14 90:16,16,20 93:16 94:5 112:11 113:10

opened 42:17 63:4

opening 153:1

opens 90:19

operate 7:17 24:4 65:2 73:13 144:10

operating 19:1 52:3,6,10 52:16,18

53:2,19,23 54:12,14,20 58:7,19,22 58:23 59:2 60:12 61:5 62:8,15,19 62:21 63:1,5 63:6,8,9,14 63:21 64:3,5 64:9,11,13 64:16 65:2 66:21 67:10 67:21 68:1 69:13,23 70:9 71:2,5 72:6,15,21 73:23 77:17 78:20 79:3 81:2,3 85:2 85:7 108:19 159:7
operation 15:14 71:23 95:10 122:17 152:12 153:1
operations 62:22 71:16
operators 96:12
opinion 38:6,13 77:23 85:4 108:1 111:16 115:15,20 118:7 171:15 171:16
opponents 70:16
oppose 27:12 44:18 45:17 48:10 57:20 84:21 115:3
opposed 6:6 9:16 11:20 18:9 32:2 45:3,9 47:12 51:6 59:19 75:9,12 76:6 78:20 88:2,6 89:9 119:17 119:21 120:4 123:22 135:22 136:5 142:9 148:16 154:16 156:19,19 160:14 162:6 163:13,18 173:15,19
opposing 33:1
opposite 130:15
opposition 16:7,19 17:11 27:9 31:5 32:12 36:18 39:1 44:10 48:7 49:4,22 68:13 86:7 106:2 114:16 122:20
option 137:6,12 141:13 168:16
optional 137:8,11,17,19 137:19,21,21 137:22 138:4 138:6 139:18 140:5,23 141:2,12,14
order 3:15 12:9 88:19 111:14 123:10,14
oregon 17:9 84:11
organization 22:13 54:6 61:15 77:11 86:4
organizational 65:17
organizations 66:7 78:3
origin 73:2
original 5:18 8:22 10:23 158:1
originally 156:13 157:11 158:6
ors 56:17 60:3 67:10 68:21 71:21 83:13
ortho 63:4 64:6,7
orthopedic 64:8 71:7 74:1 74:3,11,21
osha 93:11
outage 29:19 99:13,15 122:2
outages 24:15 94:4,20 121:23 122:11 128:6
outcomes 166:19
outlet 157:13 158:13
outline 62:13
outside 73:10 81:2 91:23
overall 70:6
overcurrent 43:14 90:14,15 90:21 92:8 92:11 93:15 93:23 95:11 95:22 97:19 102:7 106:19 109:22,23 117:3,9 118:2,3 122:6,10
overcurrents 43:13 91:8,10 110:6
overlap 20:22
overlapping 40:1 164:12
overload 43:15 91:13,20 117:10 118:6 118:10 122:16,17 134:21 135:5
overloads 43:17 116:16 129:10
overmeiren 6:9,18 8:15,16
overriding 108:5
overseas 85:18
overtime 110:3
overturn 79:11
overwhelming 58:10 69:8 70:11 129:1 129:5
overwhelmingly 85:9 128:22 131:11
owner 98:2 112:7 139:9
owners 7:5
ownership 67:16
oxygen 139:3 155:16 155:17,18,18 155:20,22 156:5 157:2 157:7 159:7 160:7,8,9
ozone 155:15 156:5

P

pads 63:20
page 34:10
pages 4:8,9 12:22,23 136:10 175:8
pain 83:21
palmer 115:5 163:6 171:3
panel 20:1 23:15 36:20 37:22 38:4 40:11 46:23 90:20 91:3 102:18 103:18 110:1 110:1,2 112:19 115:23 116:2 116:10 128:23 129:4 129:7 131:21 165:23 166:1 169:11
panels 108:6 115:23 117:15 130:11 165:12
parade 152:17
paragraph 14:22 15:10 16:23 155:1 155:3
paragraphs 23:9
parallel 20:15
paraphrasing 53:7
paren 155:3
parens 137:19
part 8:18,21 11:3 40:21 50:8 69:21 125:14 132:9,10 133:21 146:16 152:13
partial 3:23 12:18 121:7
partially 164:23
participated 146:7 153:13
participation 174:5
particular 11:12 17:18 18:2 36:14 44:18 53:16 59:2 63:11 69:23 75:17 76:2 138:11 151:23 162:23
parties 87:3 114:9
partners 25:20 35:3 48:1 55:4 77:15 123:6 128:9
parts 17:20
party 55:20 70:22 135:12
pass 158:10
passed 145:7
passenger 92:17
passes 75:9 88:2 119:17 120:11 135:22 142:9
passé 42:21
pathways 63:16,18
patient 44:1 60:14 63:20 65:4 66:23 67:20 70:20 71:12 72:9 74:10 104:2 108:22 137:16 155:18 165:4
patients 30:4 46:19 50:7 58:19 63:17,19 69:16 73:7 73:19 74:7 74:16 79:19 92:5,14 100:2,5 105:8 129:22 130:20 142:3 155:16,17,21 156:5 157:2 157:7 159:8 169:21
paul 41:5 82:19
peak 25:1
people 37:12 57:20 58:4 61:18 62:18 65:1 65:12 102:14 107:14 110:23 114:18 125:23 126:9 129:20 132:2 132:3,7 133:17,22 146:6 157:1 157:4
percent 60:2 65:22 67:6,15 71:15,17,20 72:1 152:10
perfected 165:12
perform 65:3 67:4
performance 22:11 23:14 24:2,8,14,17 25:1 34:5 94:19,23 98:4,13,17 106:7 107:18 109:18 115:1 121:17 127:7 131:6 145:23 150:8 165:5
performed 65:23 67:3 71:8
performing 68:22
period 42:23 43:1
permanente 64:22,23 65:5
permission 28:20,22,23
permits 28:17
permitted 122:23 155:19 169:7
person 111:16
personal 115:20
personally 99:8 105:19 162:21 163:2
personnel 46:19 71:20 93:11,12
persons 30:3
perspective 61:19 106:10 106:17 131:23
pertinent 124:16
peterkin 142:13,13,19
ph 61:22
phase 61:11 95:18 152:8
phases 116:16
phasetophase 117:11
philosophy 133:8
phones 104:7
phrase 123:2
physicians 57:1 109:1
pick 24:23
picked 22:1 100:14
piece 135:11
pieces 60:13
piped 157:11,12
pipeline 156:16 160:7
pipelines 156:13
piping 138:12
place 24:7 37:12 41:15 44:3 56:6 61:9 62:1 76:5 107:20 175:11
placed 28:13 49:17 70:7
placement 8:6
places 59:19 62:3 76:8 96:8 117:6 137:13 137:14 165:17 170:3
placing 17:20 48:19 77:10
plane 34:18
planned 99:13
please 6:5,16 7:17 8:3 10:3 11:19 13:18 18:8 19:17 32:1 35:1 41:20 45:8 45:19 46:11 47:18 50:9 51:5,15 60:17,17 64:4 75:11 75:22 88:1,5 90:9 119:16 119:20 120:5 121:2 123:21 135:21 136:4 136:14 139:10 142:8 143:4 148:15 148:22 154:15 155:10 160:13 161:4 162:12 163:17 164:8 173:14,18
pleasure 3:2 139:19
plenty 125:4
ploy 20:10
plug 155:15,20 157:1
plugs 103:12
plumbing 143:7,12,15,23 144:2,14,15 144:19,23 147:19,23 148:3 151:9 153:6
pods 64:7
point 13:20 17:3 20:11 63:1 64:2,13 73:21 81:14 88:9,19 117:4,19 118:15,21 121:9,20 123:14 125:22 126:11 141:14 157:22 161:9 163:21
pointed 49:18
points 81:4 111:3 115:19 158:7
policy 68:20
polling 78:14
pool 71:14
pooled 71:12
poor 58:6
popular 93:22
portable 30:9 143:22
portion

3:3 7:3 19:9 45:5 110:3 122:14 174:2
portions 26:11,17 40:3 47:7
poses 118:22
position 8:3 25:21 29:16 54:9 56:10 70:1 84:5 109:9 110:13 122:21 128:22 138:13 146:4 153:21 162:3
positive 127:23
positively 135:2
possibly 60:11 107:17 108:1
post 68:12
posting 29:7
postural 54:7
potable 144:5,9
potential 78:18,22 79:2 92:5 144:12 146:20
potentially 76:14 112:10 113:22
poured 63:23
power 20:8 22:1,20 23:6 24:11 24:20,21 28:15 29:18 29:20 30:16 31:9 46:18 46:20,21 52:7,11,17 54:12,15 56:9,10 58:17 59:11 59:23 66:3 67:23 72:8 85:4 94:16 107:12 108:9 110:9,10 122:15 132:17 152:2 161:17,19
powered 140:13
powering 140:8
practically 47:14
practice 65:6 66:15,16 66:18 135:9
practiced 62:16
practices 134:12 146:1
practitioners 84:1
precautions 158:15
precedent 76:14 106:10 106:15
preclude 86:18
predicts 71:19
preferably 53:8
premise 5:12 10:16 33:13 34:4 101:14
premises 8:23
prenatal 68:2
preparation 146:10
prescriptive 152:13
presence 34:13 71:13
present 3:8 12:1 52:1 71:22 84:3 138:12 153:12
presentation 166:17
presentations 18:16
presented 3:16,19 12:10 32:22 36:6,7 59:6 71:4 72:4 77:18 161:12
presenting 12:13 120:19
presently 97:21
preserve 168:10
presiding 3:2 4:10 13:1
pressure 109:4
pressures 66:5
pressurization 38:15
presumption 82:23
pretenses 137:5
pretty 41:6,13 111:19 158:22
prevalent 71:8
prevent 100:17 105:3
prevented 68:6
prevention 24:15 94:20
previous 20:1 79:11,21 86:23 95:19 135:5 153:23
previously 124:3 127:10
primarily 6:19 8:11 117:10
primary 146:2
principal 11:8 83:22 97:16
principle 162:16
prior 6:18 7:13 82:11 102:21 116:1 126:9 132:5 161:16
prioritization 7:4
private 15:3
privileged 108:22
probably 91:6 108:4 132:2 165:8 170:18 171:12
problem 61:6 62:18 73:3 80:20 90:14,15 94:8,9,10 112:23 172:22
problems 38:6 83:6,7 92:14 108:17 109:10 110:15
procedural 53:20 170:19
procedure 54:1 59:3,5 67:5 68:17 68:21 69:14 70:9 71:8 72:8,15 76:2 76:6,12 77:4 78:19,22
procedures 56:23 57:6,11 66:22,22 67:2,4 69:1 71:9,18 74:1 74:2,3,5,8 74:21 81:5,7 108:16,16
proceed 3:15 4:11,13 5:2 6:17 10:4 12:9 13:2,19 19:18 46:12 51:16 75:22 90:10 121:3 136:14,21 143:4 155:10 161:4 164:8
proceeding 25:8
proceedings 174:6
process 24:6 76:5 101:7 115:23 118:23 131:16 153:17 166:4 168:10 170:5
processed 146:11,12
processes 85:19
product 126:3
professes 113:20
profession 51:19
professional 51:21 65:13 82:20 99:4 112:8 128:17 128:18 144:6 168:10 175:16
professionals 61:3
program 44:14
programs 54:18
prohibition 168:23
prohibits 30:5 152:11
project 15:9 112:17 166:16
projects 53:4 99:8
proof 156:2,2
propagate 103:15
proper 85:22
properly 47:6 61:4 62:10
property 4:6 169:20
proponents 47:4
proposal 5:9,18,19 6:12 6:14 7:3,21 8:1,22 9:1,6 9:6,14,15 11:1 13:13 13:16,21 14:1,8 18:8 21:3 31:5,13 35:22 49:20 50:14 52:14 53:17 54:22 60:20 74:23 80:22 85:8 90:5 112:6 113:2,4 116:4,7,12 116:18,20 117:1 125:3 134:20 143:5 143:6,7,13 144:5 150:1 150:2,7 154:10 156:13 157:21 158:1 158:5 164:23 167:2 168:7
proposals 3:20 4:9 12:14 12:23 19:10 21:2,8 22:14 45:5 52:13 106:5 150:9 150:10 166:1 166:21
propose 47:5 143:1 149:19
proposed 8:6,9 14:20 43:23 71:19 86:8 92:10 93:1 98:11 116:4 125:14 147:8 169:11
proposer 9:5
proposes 5:11 10:15
protect 56:6 58:20 103:12
protected 8:23
protection 4:6 11:8 28:18 28:21 29:1 31:19 40:17 43:10 52:16 56:15 60:7 60:12,16 66:19 72:13 74:18 85:4 93:10,11,12 102:7 107:20 117:6 118:12 119:10 128:4 144:19 145:2 145:3 152:22 152:23 156:11 168:18
protective 93:21 95:11,23 106:19 117:9 122:6,17 137:18
proud 80:17
prove 55:14 64:2 159:6
proven 43:5 79:15 82:23
provide 7:18 23:23 46:18 63:22 68:1 86:4 127:6 145:22
provided 23:18 53:1 61:18 83:4 86:17,22 144:10
providence 17:9 84:11
provides 64:23
providing 29:17 35:20 65:6 127:8 143:11 150:5
provision 7:9 33:12 165:22
provisions 7:17 144:9 146:13 153:14
prudent 85:21
public 5:6 10:8 82:7 98:2 143:17 150:19
publication 53:14 167:7
publications 20:3
published 3:22 12:18 34:13 54:8 125:14 167:6
pull 58:22
pulled 15:21
pulling 15:18
pump 93:2 103:3 104:5 108:7 108:9 119:4
pumps 38:17 92:23 114:18 124:13
punch 135:13
purely 84:4 121:9
purpose 59:1 145:21 169:22
purposes 6:22 58:23 87:19 140:7
pursue 13:7 18:19 148:21 160:17
pursued 149:1 154:19
pursuing 142:18
purview 30:17 44:17 121:18 144:20 150:21
pushing 133:20
put 9:5 28:23 29:2 29:2 60:6 79:13,19 82:9 124:11 124:13,15 129:23 130:20 131:22 138:23 161:20 162:1
puts 112:10 118:11
putting 24:7 59:23

Q

quadruple 33:23
quality 83:14,14
quantifying 71:1
question 17:15 21:18 31:20 44:22 75:3 81:13 81:23 82:14 87:5,9 102:1 104:8,18 119:11 123:7 135:16 163:8 173:9
questions 22:18 138:2
quick 34:14
quickly 122:14 149:14
quite 33:8 137:14 171:6
quote 21:4 98:16 122:10,19 165:1
quoting 62:11

R

r0c 12:7
raise 6:5 9:15 11:19 18:8 32:1 45:2,8 51:5 75:8,11 88:1 88:5 119:16 119:20 123:21 135:21 136:4 142:8 148:15 154:15 160:14 163:12,17 173:14,18
raised 33:13 40:6 55:12
range 43:13 91:20 108:8 109:23 110:5 113:11 117:3 128:3 134:21 135:4 135:5
rated 103:7 118:5 165:5
rating 93:21
ratings 103:9
rationale 53:2,12 93:6
reach 110:13
reaching 110:20
reactive 83:5
read 16:21 23:5,9 25:3 27:22 28:6 81:17

86:21 94:17 114:20
reader 153:9
readily 14:22 160:8
reading 31:15
reads 21:4
ready 24:7 166:17
real 21:18 59:21 144:3 160:6 172:9
realistic 59:20
realistically 59:17
reality 33:9 72:5 101:13,16 121:11
realized 37:1
really 16:13 35:4 37:3,3 52:7 52:11 61:22 80:20 84:6 104:20 108:2 127:10 144:8 171:19 172:2
realm 48:19
reason 14:11 20:4 21:1,11 36:14 53:9 56:8 80:20 86:7 94:11 102:8 121:11 149:15
reasonable 58:13 60:20 72:13 133:4
reasoning 52:23
reasons 5:5 10:7 57:9 108:20 139:1 139:8 160:6
recall 62:17 72:23
recap 131:3
received 98:10 115:14 145:15
receiving 94:1
recognize 77:14 95:4 121:19 162:11
recognized 36:21 164:23
recognizing 52:18 69:5 123:4
recommend 85:11
recommendation 8:6 98:21 125:16 163:3
recommendat... 100:10
recommending 123:1 162:23
reconstituted 116:2
reconvene 174:3
record 5:22 11:3 36:8 41:11 112:20
recourse 109:5
recusing 5:23 11:5
red 45:13,14 89:7 120:1
reduce 33:10 68:14 94:3 109:4 116:12 122:2 170:4
reduced 91:16 121:22 128:6 169:18
reduces 117:1
reducing 54:18
reduction 91:22 118:12
redundancy 33:23 147:17 151:19 166:8
redundant 140:15 148:4 151:9,20
refer 153:9
reference 14:8 39:6 40:17,19 42:21 46:5 46:15 49:6 50:15,19 114:7
referenced 10:14 42:19 73:7 98:16 120:16 162:18
references 32:18 39:4 40:22 47:17 49:4
referencing 40:16
referred 14:3
referring 5:10 52:14
refers 62:11
refreshment 135:12
regard 22:11 32:13,16 32:22 83:1 125:22
regarding 23:20 68:16 98:17 137:7 154:23
regardless 112:20
region 121:13 147:15
registered 99:4 175:16
regulate 150:7
regulation 144:11,19 145:6
regulations 53:4,5
reinstated 46:5,14
reiterate 153:20 154:22
reject 5:9 8:5 10:12 60:17 79:22 85:11 90:5 96:17 98:22 125:16 139:10 143:6 149:23
rejected 53:7,17 79:13 116:7,10 137:4 150:10 156:14 170:21
rejecting 10:8 72:17 79:21
rejection 110:2
rejects 155:13
related 19:11 23:21 45:6 86:2 88:9,12 89:20 91:18 92:1 93:4 142:11 151:22 165:4 165:5
relating 5:4 10:6 67:7
relationship 57:6
relative 17:22 42:14 44:4
relatively 66:23 67:1,1
relays 107:22
released 69:15 70:20
relevant 87:2
reliability 21:18 24:21 43:3 105:7 108:12 122:7 122:12 169:12
reliable 22:19,21 59:22 111:18
relieving 26:9
relocate 14:2
remainder 3:3 122:15
remember 170:16
remind 45:16 89:8 120:2
reminding 171:5
remove 49:5 87:5 171:8
removed 28:9,10 154:10
removes 79:12
removing 35:18
renovated 69:13
reorganization 8:21
reorganize 9:8
reorganized 8:18
repair 30:12 168:23
repeat 153:8 158:21
replace 81:18,19 82:9
replaced 161:6
replacement 64:12
replaces 77:1 82:4
report 3:6,9,11,14,18 3:20,21,23 4:2,8,10 11:22 12:2,5 12:8,13,14 12:18,20,23 13:1 19:9 21:2 23:22 45:5 52:13 53:15 71:19 73:15 88:10 108:15 150:9 158:1 164:6 173:17
reported 25:5 71:14 108:14
reporter 175:16
reporting 12:15 23:17 108:22
reports 73:16
represent 40:18 54:3 57:18 146:3
representation 101:6
representative 4:18 6:10 9:20 37:22 89:22 97:16
representat... 38:4 82:11
represented 88:11
representing 13:12 17:10 18:22 19:20 19:22 25:21 31:4,19 33:5 39:12 41:5 52:20 55:4 61:1 90:3 101:2 102:11 115:6 119:10 125:20 142:14,23 147:13 149:19 154:3 154:8 171:4
represents 69:9
request 21:8 57:14 87:12 89:4 89:11,16 120:7 122:4
requested 95:2 116:20
requesting 88:13
requests 138:1
require 7:1 151:21 158:15
required 28:15 29:4,9 29:23 30:8 30:12 36:1 39:6 40:18 40:21 43:10 47:9 52:8 69:2 91:13 92:8,21 93:11 97:20 102:20 118:2 118:9 140:22
requirement 13:22 22:16 24:2,5 28:8 34:1 35:12 36:13 47:2,8 47:11 48:12 48:20 49:16 49:17 70:7 78:1,7,18 91:7 95:19 96:6 103:19 104:20 106:11,18,20 106:21 112:13,16,21 113:5,6,8 115:1 128:12 129:11 131:6 131:15 162:5 162:7 164:15 164:16 169:15
requirements 14:6,8,9,10,13 15:4,15 20:14,15 21:12,21 22:6,22 24:9 24:14 26:10 26:14 30:18 30:19 34:11 35:7,10,19 35:21 36:1 36:13 37:5,6 37:8,9,14 40:20,20 41:16 43:4 46:17 48:2 85:7 91:16 91:22 94:20 97:18 98:2 106:10 112:9 118:13 119:1 119:4 124:17 126:2 130:11 130:19 140:18 143:16 145:23 150:22 158:4 161:14 164:21 165:7 165:11,13 168:12,14 169:4,18
requires 28:12 29:3,7 29:10,15 30:9,13 69:11 80:14 102:6 106:14 140:14 151:19 152:5 152:6 161:15
requiring 49:23 116:14
rescue 38:16
research 59:6 65:17,18 65:21 70:23 71:11
reservoir 74:9
residential 6:19,20 8:20
resistance 162:7
resistant 161:9,10
resolve 36:11
resources 66:10 68:4
respect 17:4 106:8
respectfully 18:14
respiration 140:9
respirators 100:2
respired 142:2
respond 25:14
responded 57:9
responders 29:12 92:6,15 124:11 130:20 169:22
response 122:3
responsibil... 164:12
responsibility 24:13,16,20,22 34:8,8 76:9 77:10 94:19 94:21 113:20 127:6 131:6
responsible 76:22 108:21 112:1,20
rest 8:8 152:2,2
restrict 122:11
restricted 165:11
restricting 158:2
restrictive 34:12 112:9 127:9,18
restructure 14:21
restructured 14:12
result 7:14 22:4 23:7 28:11 65:23 69:14 92:12 107:2 109:3 110:16 111:15 118:6 122:6 168:13
resulting 70:17
results 4:7 12:22 28:12 67:6 106:6 107:8 124:22
retain 103:19 146:12
retained 77:7
retardant 161:8,10 162:7
retroactive 15:16
retroactively 13:22
return 19:9 45:4,4 74:9 146:9 152:9 164:3 164:6 166:20 166:22 170:11,15,17 171:14 172:11 173:17
returned 148:18
returning 146:14 153:15
reverses 80:4
review 69:12 91:23 132:17
reviewed 145:14 163:1
revise 13:23
revised 11:1 82:8
revision 3:12,22,23 12:6,15,18 36:21
revisions 32:21
rid 35:15 133:15
ridiculous 58:6 60:7
right

17:2 61:11 115:13 125:2 131:14 135:2 148:22 172:14
rightfully 47:14
rightly 69:6
rise 92:4 127:5 165:17 172:19
rising 83:19
risk 43:23 53:21,22 54:19 55:11 55:14 58:15 61:7 64:1 65:10,10 66:2,4,11 68:5 69:16 69:21 70:6 70:21 71:18 73:16 74:15 76:4 77:3 78:1,2,4,7 79:1,14 80:15 81:1 85:19 86:3 86:10,18,19 87:1 94:3 101:14 105:8 105:9,9,10 109:4 110:23 112:12 121:21,22 130:21 159:9 160:5,5
risking 169:21
risks 122:3
road 157:4
roads 21:17
rob 162:11
robust 169:8
roc 3:13 28:6 81:16,16 136:11 166:21
rocky 147:15
role 110:12
ron 154:23
room 52:3,19 53:23 57:13 59:1 60:12 62:9 62:15,19,22 63:3,3,4,4,6 63:9,10,15 63:21 64:4,7 64:9,11,16 69:23 72:15 73:23 85:2,7 108:19 159:7
rooms 52:6,10,16 53:3,19 54:13,14,20 56:20 58:7 58:19,23 59:2 63:1,2 63:3,5,8,12 63:14 64:13 65:2 66:21 67:19 69:13 70:9 71:2,6 72:6,21 77:17 78:20 79:3 81:2,3 86:5
root 109:6
rop 3:12 12:7 28:6 77:2 82:9
roughly 20:15 85:17
route 147:7
routine 72:7
routinely 118:18
rs 49:1
rule 45:9 68:19 133:4,15 134:2
ruled 88:22
rules 111:19 133:9 133:10,13,22
ruling 113:1
ruma 142:23 149:18
run 109:17 156:6
running 29:22 30:1
runoff 71:14

S

sacred 159:8
sacrosanct 155:19
sadden 83:2
safe 65:6 73:13 111:17 145:23
safeguard 156:10
safeguards 158:12
safer 155:23 160:4
safety 6:21,23 14:11 26:18 27:16 35:13,17 36:12,13 37:9,16 44:5 44:6 46:5,14 46:15,19,22 47:3,13 48:3 48:17 49:2 51:20 54:17 54:19 56:11 57:10 60:7 60:12,16 63:23 69:20 72:8,9 73:2 73:3 74:14 74:15 85:2 91:17,23 93:4 105:7 108:11,23 113:15 116:12 117:2 124:5,6 135:9 150:20 151:13 159:10 161:16 165:15 168:12 169:12 170:5
sapretus 28:4,4 129:16 129:16
sat 172:3
satisfied 166:19
saturday 62:23
save 18:15 130:19
saver 54:17
savers 74:8
saving 130:8,9
saw 101:5 105:19 107:13 171:8
saying 44:1 56:11 72:4 87:16 89:20 95:8 105:17 107:17 135:11 140:5 157:4 158:12 158:14,14 161:7
says 16:13 24:13 26:13 35:8 49:16 57:3 81:1,17,18 81:20 102:16 117:23 121:16 122:9 129:7 137:11 137:13,16 142:2 151:18 159:5 167:13
sc 114:13
scan 34:14
scarey 133:21
scenario 101:19
schedule 146:11 173:22
schipper 56:1,1
schneider 32:11 36:18 44:9 114:15
school 62:4
science 43:2 61:17,23
scoop 150:2
scope 8:19 20:22 22:15 139:13 143:7,8 150:3 166:7 170:22
scopes 23:14 40:1
scoping 171:1
screen 3:15 12:9
seal 5:20 7:6 74:8
sealing 140:10,11
second 4:23 5:1,2 6:14,15,16 10:1,2,3 13:16,17,18 13:22 19:15 19:16,17 31:21,23 34:4 45:1 46:9,10,11 51:13,14,15 75:5,6,20,21 86:20 87:10 87:11,21,22 87:23 90:7,8 90:9 93:18 93:21 96:6 100:15 102:5 113:4 116:6 116:10,11,16 117:8 119:12 119:14,15 120:23 121:1 121:2,9,10 121:11,12,14 121:21 122:5 123:2,16,18 123:19 125:1 128:11 129:12 134:17 135:19,20 136:13,14 143:3,4 149:22,22 155:9,10 161:2,3 163:10,11,11 164:6,7,7 173:11,12,13
secondly 69:18 131:7 139:14
seconds 22:17 33:11 45:19 61:20 89:12 91:10 94:7 104:18 110:2 118:20 120:5 121:10 121:10 129:8 152:20
section 8:7 9:4 14:17 15:17 16:1,1 17:10 26:23 27:5,9,10,12 28:1 40:19 48:7,10,21 53:5 84:12 86:23 96:22 96:23 97:3 97:16 98:22 125:16 129:7 141:5,6,9 142:14 148:8 148:11 154:3 155:1 156:22 159:17,19 169:23
sections 14:16 15:20 42:18 137:9 148:3 154:4 167:1
sector 15:3,3
security 167:11
see 15:4 20:22 21:1 40:11 64:14,16 66:20 81:20 83:2 84:6,7 85:20 88:15 92:19 106:6 107:15 109:15 110:17 123:23 133:17 137:10,16 145:10 147:20 171:7 171:20
seeing 6:3 11:17 18:6 35:7 51:2 73:1 142:6 148:12 154:12 159:21 160:11 163:21
seeking 68:22
seeks 20:5 90:5
seen 110:15 111:2 121:5 132:16 169:16
segregate 165:7
seizure 107:23
seldom 112:14
selected 24:23 33:11 96:4 102:23 121:8
selection 95:22
selective 24:10,17 33:10 41:14 43:12 44:13 90:12 91:3,7,9,12 91:17 92:10 92:21 93:6,7 94:1,11,18 94:22 95:9 95:17,21 97:19 98:1 99:6 102:1 102:20 103:16,21 104:3 105:1 105:5,12 106:8,11,14 107:1,21 108:8 109:19 109:21 110:13,14 111:7,8,10 111:19 113:4 113:7 116:5 116:15 117:7 118:1,8 119:3 121:5 121:6 122:4 122:13,17 127:15,15 128:3 129:5 129:18 132:6 134:6,9,10 134:15,19 137:1 165:11 169:4,14 172:8,15
selectively 90:17 91:21 99:10 100:7 100:12,14 117:12 121:20 122:1 129:9 135:4
self 19:21 39:12
semantics 20:10
send 115:11 125:2 164:9 170:7 173:6
sending 76:7,12
senior 25:19
sense 47:12,13 86:6 86:8 164:21
sent 21:9 49:6 168:8 171:5 171:19,21
sentence 132:1
separate 14:5,23 15:1 17:21,23 27:21 37:8 118:23 144:21
separating 14:6
separation 14:9
september 114:8
sequence 2:1 4:14 6:7 9:17 13:5,8 18:11,18,20 45:23 51:7 75:13 82:4 88:8 89:19 99:19 120:14 120:16 136:3 136:6 142:10 142:11,20 148:20 149:11 154:18,21 160:16,18 163:20,23
series 117:18
serious 43:19
serve 3:2 66:12 68:8 88:11 89:21 140:19
served 31:7
service 3:10 22:3 28:13 30:11 65:1 168:19
services 17:9 46:2 51:19 117:23 143:11 150:6 157:19
servicing 103:3
serving 151:18
session 3:4 4:19 9:21 27:2 71:4 82:11 173:22
set 24:18 25:2 72:16 94:23 106:23 120:20 136:15 145:22 164:15 165:19,21
sets 106:5,5 110:11
setting 76:14
settled 104:19
severe 161:16
shalinski 140:2,2
shane 5:16 10:22
sharing 25:1
shedding 24:23
sheffield 162:12,13,13
shock 57:7 69:17 70:21 73:8 73:10,19 74:16
shoes 71:14
shop 108:18
short 43:15 91:15 92:18 95:16

100:13 103:8 103:8,14,17 118:6,10 128:2 135:4
shot 62:19
shouldnt 144:15
show 64:6,15
showing 28:14 168:19
shown 65:22
shows 36:9 56:4 68:4 80:19
shut 74:19 113:23
sick 161:11
side 28:19 29:1 103:22
sides 55:7 69:10 95:14 101:6 126:21
sign 28:13
signage 28:16 168:19
signal 5:13 7:2
signalling 4:5 29:3 168:15
signals 7:1,4,7,20 8:10
signed 142:15
significant 44:12 53:1 56:21 83:4
signs 124:7
silly 15:22
similar 10:13 14:9 98:5 106:6 154:17 164:19 169:9 169:9,11
simple 41:7,14 79:20 83:9 137:3 138:7 172:21
simply 32:20 58:3 80:12 114:17 122:8 138:16 156:3,4 160:6
single 10:17 17:22 34:10,12 98:10,11 104:23 139:23
singling 76:7
sir 18:5 81:14 82:2
sister 34:11 127:19 172:22
sisters 83:20 172:20
site 28:14 74:7
sitting 44:15 132:11
situation 20:22 111:6 134:23 170:20
situations 7:11 21:14 91:13 109:13 111:12
six 95:13
size 152:4
slack 132:19
slippery 159:6
slips 57:5 86:1
slit 159:9
slope 159:6
small 17:4,20 66:23 67:1,3 71:21
smallest 93:15
smart 61:18
smoke 7:16 85:3 91:18 92:23 93:2 104:1 152:7,8,13
society 12:4 16:6 31:4 50:12 57:19 61:14 78:12 78:13,16 79:4,9 80:10 136:9,16 147:4,13 149:6 154:8 155:6 156:21 158:20 172:1
sole 95:21 122:5
solely 42:20
solid 68:8
solution 24:16
solutions 24:23 94:22 101:12
solve 40:5 109:10
somebody 21:15 64:2 103:12 135:11 152:1 158:7
somewhat 42:20 61:19 67:11 137:5
soon 57:3
sooner 133:16
sorry 25:11 39:15 134:8 149:13 149:13 159:3
sort 47:6
sought 98:7
sound 20:10 61:21 102:7 139:16
source 14:16 28:15,17 29:1,22 30:10 46:21 58:21 68:17 92:13,14 103:23 160:9 168:17,22
sources 24:21 46:20 66:9 168:20
south 59:12
space 34:19 130:9 151:19,22 152:1,10
spaces 151:14
span 60:5
speak 7:23 23:1 28:5 33:6 39:1 49:2 64:18 64:22 106:2 107:4 140:3 163:1
speaker 135:5
speakers 112:22 134:22
speaking 5:17 10:22 11:10,15 16:7,18 26:23 27:1,8 31:5 32:10 35:4 36:5,18 39:14,15 40:13,14 41:19 42:7,8 42:10 44:10 48:1,6 49:13 49:15 50:12 56:2 60:23 68:13 75:17 77:16 78:11 80:10 81:13 82:15,20 83:19 84:11 84:19 86:15 95:6 96:21 96:23 97:8 97:11 99:3 101:2,22 102:12 104:17 105:15,16 107:4,11 112:5,6 114:16 115:15,16,18 124:21 125:9 125:21 126:16 128:10 131:2 134:4 138:15 141:4,18,21 148:7 159:1 159:2,3,16 160:1,2 163:7 168:6 168:7 170:10 170:13,14 171:15 173:8
special 85:6 150:21
specialize 148:1,3
specific 23:20 30:18 48:12 58:23 76:8,11,23 115:2 143:20 151:11
specifically 7:5 30:21 32:18 52:13 72:3 76:5 77:3,18 90:14
specification 24:2,6
specify 97:21
specifying 105:20
spelled 85:8
spend 113:12
spent 60:18 72:20 77:20 79:20 94:5 95:13 101:4 171:12
spilled 57:4
spills 57:9
spin 74:9
spite 83:3
splashes 71:16
spoke 43:8 57:21
spoken 162:21
sponsored 70:23
square 32:11 36:17 44:10 114:16 132:8
stadium 92:3
staff 29:5 63:17 69:16,21 70:21 87:4,4 92:5 100:4 130:20 167:4 169:21
stage 116:18,19
stake 91:5,6
stakeholders 69:4,19
stance 70:14
stand 17:10 32:11 38:21 52:20 68:8 101:8 166:14
standalone 5:11,21 10:15 11:2
standard 4:1 8:9,18 12:19 20:5 39:20,22 50:19 59:11 59:12 69:6 72:17 98:12 104:21 105:2 113:16,19 119:5 126:1 126:2 130:15 139:19 143:20 145:20 150:23 151:1 151:3 152:23 162:23 164:22 167:13,15,15 167:17,20 170:23
standards 5:23 11:4 20:18 22:7 22:13 23:8 23:11 25:5,6 34:15,23 38:7 48:13 49:22 82:10 96:11 107:16 114:8,11,12 119:6 139:1 145:3 147:19 162:17
standby 97:20 137:19 165:3
standing 21:12 41:9 120:8,10
standpoint 83:10 85:3 95:2 126:3 134:14
stanley 125:20
start 47:10 95:8 135:9
started 73:15 99:19,20 132:4
state 34:16 35:5 37:22 53:5 104:21 112:14 126:7 126:10 128:14 135:7 143:16,17 149:5 150:17 150:18 153:11
stated 21:1 59:9 101:23 110:1 118:9 131:7 145:21
statement 5:9 8:5 10:13 23:19 53:8 53:10 54:9 107:22 110:5 112:19,22 116:11,23 121:16 122:3 129:4 139:14 164:22
statements 110:2 132:13 137:6 150:10
states 16:22 85:17 97:23
station 5:14 10:17
status 167:16
stay 65:7
stenographic 175:9
step 136:19 172:21
steps 173:5
sterilizer 155:15,16 156:5 160:8
sterilizers 158:2
steve 33:5 61:13 83:19 127:4 158:19 172:19
stick 161:12
stinks 173:5
stop 94:12 119:7
stops 157:13
story 69:3 84:1,3
stress 96:1 128:15
strict 143:16
strike 93:10
stringent 112:13
strong 84:1,3 151:6 158:9
strongly 57:20 72:14 77:8 80:6 96:14 123:1 158:11
struck 166:3
structures 33:17 34:1
studied 98:3 99:11
studies 57:2 111:1 132:17
study 59:6 70:23 71:23 100:12 107:1 113:13
stuff 58:5 79:15
subcommittee 101:3
subdivisions 39:22
subject 14:2 41:21 62:2 72:6 143:15
submits 20:20
submitted 4:3 8:22 9:7 12:20 82:8 112:8 136:16 145:11,13
submitter 5:11 10:15 87:13 150:12 162:18,21
submitters 162:19
submitting 5:5 10:7
subsequent 97:22
subsequently 73:11
subset 35:16
substance 62:12
substantial 69:15 70:19 72:7 172:9
substantially 9:7
substantiated 104:20 150:12
substantiation 21:3 53:17 125:4 161:9 169:6
substantiat... 165:10
substantive 21:1 39:18
substation 99:18,19
subsystem 151:23
successful 68:14 128:14
successfully 96:7 98:4
sucked 74:12
sufficient 68:1
sufficiently 53:10
suggest 30:23 43:22
suggested 80:22 99:13
suggestion 172:7
suggests 69:18
suitable

53:13 144:2
suite 64:5
summary 71:3 113:18 153:10
supervised 126:3
supervisory 7:2
supplies 20:8
supply 23:6 24:11,20 31:9 94:16 152:3,3 159:7 160:10
support 16:16 17:6 19:2 27:3,4 27:23 28:1,5 33:1 35:1 44:6,19 49:10 54:15 58:9 60:17 60:20 70:13 71:5 74:23 77:8 78:15 79:5 80:11 81:9 84:13 96:15,16 97:2,3 98:19 104:2 106:3 107:4 110:6 115:18 116:9 125:15 131:12,16 138:7 141:8 141:16,23 146:8,23 147:12 148:10 153:16 154:5 154:9 159:19 162:4 166:9 171:21 174:5
supported 59:11 156:21
supporting 67:21 116:22 147:9
supports 53:18
supposed 32:16 99:10
supposition 105:18
suppressed 109:11
sure 21:10 40:5 41:20 50:4 50:17 73:12 75:23 79:17 79:19 82:12
surely 30:4 157:4
surgeons 64:8
surgery 66:21 71:7 72:23 74:1
surgical 65:4 67:4 71:15 140:9
surrounding 65:12
susan 159:15
susceptible 73:8,10
suspected 108:1
swell 133:17
switch 28:19 30:7,14 30:15 99:17 99:21
switches 22:2 30:6 93:20 168:21 168:23 169:1
system 5:13,21 7:5,16 7:21 9:3 10:17 11:3 21:23 24:3 26:3,11,14 26:17 28:10 30:22 31:9 32:16 35:4,9 35:12,16 37:5,13 39:5 41:1,1 44:4 44:15,17 46:5,16 47:6 47:8 48:3 49:8,9 58:9 59:22,23 85:10,21 90:17,23 92:10 93:14 93:17 94:4 94:11 99:20 99:23 100:6 108:10 113:21,22 114:21 121:8 121:20 122:1 122:16 132:17 137:8 137:22 138:21 139:7 139:8,15,23 140:5,13 141:1 151:17 151:21 152:3 152:3,6,7,8 152:9,12,14 155:16,17,18 155:20,22 156:5 157:2 157:7 165:2 168:18
systems 4:1,6 7:10,19 7:20 8:11 9:1,2 14:6,7 14:17,18 15:14,19,19 20:6,8,14,17 21:5 22:8 23:7,13 24:11,20 26:4 27:18 30:20 32:21 33:10,15,16 34:2,6,20 35:20,22 37:7 39:19 39:21 42:22 46:14 47:1 50:6,8,8 56:6 58:5 61:1 66:19 67:23 68:1 92:22,23 94:16 95:7 97:18,20 98:7,18 102:21 103:2 107:13 114:19 117:13 121:6 122:8 124:5 124:8,11,13 124:15 127:16 132:19 137:20,21 138:4,12,22 139:3,17 140:15 143:13,15,23 144:7,10 145:13 146:5 146:17 147:17,18 148:1,4 151:9,12 152:4,17 153:1,5 164:13,17,20 165:3 167:9 167:9 169:8 169:10,19

T

table 19:1
take 26:16 29:5,8 36:15 50:15 59:14 74:7 76:5 80:22 91:1 112:16 129:21 130:3 130:14 134:17 167:21,22 173:5 174:1
takeaway 172:20
taken 33:9 36:8 61:8 98:21 100:8 126:19 128:20 132:18 158:15 168:16 175:10
takes 67:13
talk 37:6 66:15,16 137:1,2
talked 65:12,12 126:23 130:12 161:23 167:22
talking 33:7,22 37:17 41:2,22 44:12 50:7 57:2 62:14 89:16 114:18 114:20 130:7 130:8,9 131:14 135:6
talks 134:5,14 151:11
tank 79:18
tanks 156:6,7,8
task 23:12,17 25:4 95:3
taught 62:2
tc 156:13
tcc 16:20 145:21 171:15
tcs 23:23
team 71:15
tech 25:7
technical 1:13 3:4,7,18 3:22 4:3,5 4:19 5:6 10:8 11:23 12:2,12,16 12:16,21,21 15:8,9 16:21 25:6 27:13 28:7 47:21 49:14 52:12 53:6,8,9,11 53:12 59:10 60:18 69:5,9 70:8,13 72:5 79:13 80:3 85:9 86:17 91:16 93:18 95:1,6,8 96:1,9 97:17 98:6,20 102:8 104:17 105:3 106:3 107:5 113:1 114:23 115:7 115:8,16 117:16 122:20 125:12 128:1 131:9,10,11 131:12 136:20 138:9 145:17 146:5 147:7 150:11 156:15 157:10 165:10 166:14,15 168:8,11 169:6 170:8 170:21 171:10 172:5 174:3
techniques 137:18
technology 19:3 43:3 54:6 62:1 66:17 66:18 67:16 74:6,17
tell 29:13 37:17 103:4 104:3 126:4 127:17
temporary 22:1 30:10 168:21
tending 62:13
tenth 100:15 113:4 116:6,9,15 116:22 117:8 134:17
term 20:5,17 21:5 22:11 26:3 26:16 39:21 47:5 66:21 137:12,20,22 151:14
termination 68:16
terminology 27:14,20 36:8 36:10 49:15 62:10
terms 17:16 27:17 91:11 110:14 138:20 144:4 161:10
test 43:5 103:11 161:18 162:17
testified 102:14
testimony 39:13,16 40:2 126:21
testing 7:10,23 14:3 14:16,18 15:13 103:10 145:23
text 8:7 77:1,5 81:17,18,18 82:4,4 147:8 148:19
thank 4:12 5:7,15 6:1,2,5 8:2 8:13 9:8,15 10:10,11,19 10:21 11:5,6 11:20,21 13:4,10 15:4 15:6,7 16:4 16:17 17:8 18:2,9,17 19:19 23:1,2 25:9,10,18 26:20,21 27:6,7 28:1 28:3 31:1 32:1 33:2,4 35:2 36:3,4 36:16 37:19 38:22 39:11 40:6,8 41:4 41:12,13,16 42:4,5,12 44:8,20 45:2 45:8 46:13 47:19,23 48:5,23 49:10,11 50:2,22 51:1 51:5 54:21 54:23 55:3 55:23 57:15 57:16 60:21 60:22 61:12 64:20 68:9 68:10 72:18 73:19,20 74:23 75:8 75:11,15 77:11,12 78:10 79:7 80:7 82:18 83:16,17,18 84:7,10,15 84:22 85:12 85:13 86:13 87:7 88:2,6 90:11 94:14 95:3,5 96:18 96:20 97:4,5 97:6 98:23 99:1 100:22 100:23 101:19,20 102:10 104:13,14,15 105:12,13,22 105:23 107:8 110:7 112:2 112:3 114:3 114:4,13,14 115:4,5 119:16,20 123:2,3,21 124:19,20 125:17,18 126:14 127:2 127:19,20 128:8 129:1 129:14 131:16,18 134:3,9 135:14,21 136:5,21 138:8 139:23 140:1 141:3 141:16,17 142:8 145:8 146:15 147:1 147:10 148:4 148:12,15 149:10 153:2 153:3,4,19 154:11,12,15 157:7,8,9 158:18 159:4 159:12,14,21 160:10,11,14 162:8,9 163:4,6,13 163:18 166:11,12 168:3,4 170:8,9 171:2,3,4,21 172:18 173:7 173:15,18,19 174:4
thanks 64:18
thats 19:14 25:6 28:15 29:9 38:5 61:13 64:7,9 66:14 96:5 103:17 107:23 109:23 112:1 114:19 121:12,15 128:7 129:13 130:9 131:13 133:21 155:16 172:15,22 173:2
theater 92:3
theyll 124:15
theyre 33:16 36:1 64:10,11 83:14,15 93:3 124:13 124:16 127:11 129:13,14 132:23
theyve 28:9 132:19,19 169:18
thing 43:18 56:16 63:6 102:3 111:11 125:22 126:5 126:11 129:21 140:18 156:11 173:5
things 28:12 33:18 43:10 57:2 69:11 101:11 104:9 107:18 108:4 111:4 126:23 128:3 144:9 156:11 167:11 170:18,18,19
think 20:23 39:3,16 40:4 60:11 61:20 64:14 64:17 78:6 78:20 84:7 88:23 96:7 107:23 111:20,21 114:23 115:13,13 117:21 124:22 126:1 127:16 129:10,10,20 131:7 132:2 137:4 138:5 139:14 159:11 171:6 171:16,20 173:1
thinking 66:7
thinks 27:13
third 14:11 70:22 73:13 94:3 118:15 139:19
thomas 38:23 106:1

thoracic 71:6
thought 42:15 55:19 101:6
thoughtful 70:3 95:15
thousand 57:18 103:7
thread 38:5
threat 118:22
threaten 170:5
threatening 109:13
three 18:15 35:20 104:7 120:16 120:22 130:12 136:2 139:11 173:5
threequarters 65:3
throwing 21:15
tia 21:9 147:8 153:17
tie 81:3
tim 37:20 107:10 124:2 129:3
time 9:6 14:23 18:15 35:5 42:19,23 43:1,5 56:10 59:1 61:6 63:16 70:10 70:18 71:17 73:1 77:21 79:21 93:3 93:23 94:1,5 97:21,23 104:22 105:10 109:17 111:5 116:21 119:7 132:6,22,23 133:5 136:18 155:21 161:12 162:19,22 167:7,13 168:1,2 172:11,13 175:11
times 16:8 91:10 93:7,8 96:2 102:17 115:21,22 140:10
timing 102:1
tjg 46:2
today 17:19 42:21 52:20 56:19 57:11 58:1 70:18 71:8 72:16 78:4 84:4 101:14 102:23 106:6 107:4 126:8 138:14 165:9 165:17 166:17 167:22 168:11,11
todays 74:19 164:10
told 134:23 171:14
tom 3:9 46:2 56:1
tomorrow 174:4
tools 140:10
top 45:15 89:7 120:2
topic 14:13 23:21 52:5 106:16 107:3 110:17 111:5 144:21 150:14
topics 150:13
total 51:23 67:15 106:18
totally 142:4 164:14
tough 132:22
tougher 133:11
tour 64:6
town 133:6,11
track 85:23
tracks 58:7
traditional 38:1
traditionally 47:14 121:17
transcript 153:9
transcription 175:8
transfer 22:2 28:18 30:13,15 93:20 99:17 99:21 168:21
translate 67:17
translated 112:22 113:6
transparent 85:6
trauma 62:20,22 63:2
treat 7:6 109:2
treated 7:8
treatment 47:2
tremblay 84:16,16,21,23
tremendous 132:9
trespassed 169:17
trial 126:5
tried 16:9
trip 113:9
triple 33:23
tripped 99:19
trips 86:1 113:10
troubling 173:2,3
true 33:18 61:5 102:3 122:8 175:8
trust 113:16 157:1
try 21:22 111:14 155:12 160:4
trying 17:17 26:11 28:7 35:15 40:5 43:6 44:15 56:23 110:13 132:11 148:3 149:14
tucson 62:17,18 64:5
tuesday 1:19
tunnel 87:17
turd 135:13
turn 23:4 47:16
turning 55:1 169:3
tv 64:15
two 24:1 26:4 37:8 42:18 55:6 69:10 77:21 84:5 86:15 93:8 100:18 105:19 106:5 106:5 107:7 107:20 115:10 118:23 119:6 158:8 171:6 171:8,19
type 20:10 28:14 67:5 116:13 121:17 161:18
types 30:20 71:17 110:11
typically 15:13 103:5,7 147:18

U

ucla 62:3
ul 161:20
unable 4:19 9:21 25:15
unacceptable 160:5
unanimous 96:3 158:8
unanimously 156:14
unbelievably 79:20
unclear 8:6 98:2
underreporting 59:8 108:20
understand 19:9 32:19 40:15 41:2 86:7 107:16 119:5 133:23 149:15
understanding 148:17,21,23 154:19 160:15 162:2
understands 95:9 144:8 162:2
understood 162:16
underwent 62:3
underwriters 26:22 96:21
undo 79:23,23
undue 70:6
unenforceable 133:22 162:6
unethical 113:18
unfamiliar 162:17,18
unfortunately 83:9 127:8
uniformity 49:23
union 54:5
unique 61:19 107:18 164:14 165:7
uniquely 165:4
uniqueness 31:8
unit 5:21
united 85:17 159:12
universally 108:18
university 62:7,16 165:16
unknown 104:4
unnecessary 139:12
unplanned 99:14
unquote 165:6
unrelated 140:9
unreported 72:2
unsafe 113:21
updated 54:21 165:20
upstream 90:16,21 103:15 116:14
urge 16:16 17:5 27:23 44:5 44:18 47:15 49:9,23 50:20 54:22 62:9 64:4 72:16 77:8 80:6 81:9 86:11 96:15 100:21 101:8 101:17 114:2 115:2 130:21 131:12 138:7 141:16 145:4 166:9 167:21 170:6 172:15
urges 48:21 54:20 79:5
use 14:19 20:17 24:1,8 28:22 59:4 62:10 69:12 73:16 86:18 92:16 124:8 134:13 137:20,22 141:1 143:18 144:3,6 152:9
useful 23:22
users 15:2 16:15 78:17
uses 67:18 151:14
usually 57:12 60:10
utilization 71:21
utilized 32:13

V

valid 36:1
valves 137:10
van 6:9,18 8:15,15 68:11,11 72:11 86:14 86:14
various 70:16
vascular 74:2
ventilation 153:5
venture 84:17
vern 25:14
version 68:16 161:21
versus 23:14 42:15 68:6
viable 105:11
victor 6:11
view 53:3
viewpoint 20:6
vince 28:4 129:16
violated 53:3
virgin 12:5
virtually 59:2
virtue 139:12
vision 87:17
visit 64:5,16
visitor 43:22 44:1
visitors 30:5 92:5,15 169:21
voice 7:15 25:10 50:3 141:18 141:22 151:6 153:20 170:10,14
voiced 70:15
voltage 60:13 63:22
volume 15:17 71:22
volumes 59:13 60:14 71:9
voluntarily 169:14
vote 6:4 9:13 11:18 17:6 18:7,14 30:23 31:14 32:5,6 41:21 42:3 45:4,10 45:12,16,19 45:20,20 47:18 48:21 50:9,20 51:3 57:14 58:10 70:10 72:16 75:10 80:3,6 85:11,15 86:11 88:3 88:14,16,17 89:1,4,5,8 89:11,17 110:9 114:2 116:8,18,23 119:18,22,22 120:3,5 123:15 128:23 129:20 130:21 141:2 142:6 148:13 154:13 160:12 166:23 170:6 172:15
voted 5:8 8:4 10:12 11:11,13 27:3,12 48:10 58:8 70:8,13 78:15 84:13 96:1 97:1 102:17 141:8 148:10 154:4 159:19 169:11 171:13 172:6
votes 77:23 96:2 116:22 128:21 130:13
voting 4:4,7 11:14 42:2 45:10 45:11,12,15 45:15,21,21 89:5,6,8,12 119:23,23 120:2,5,22 131:14 136:2
vulnerable 103:1

W

wall 156:16 157:13
wallace 173:8,8
want 29:20 30:4 53:2 65:8 75:23 88:8 88:16 99:12 103:5,21 108:15 114:17 122:23 124:3 125:22 126:11,18 128:10,15 131:22 135:3 146:23 147:20 153:20 154:22 159:11 162:1 163:20 164:9 164:15 172:8 173:9,21 174:4
wanted 21:11 38:4 80:16 82:16 127:22 128:1 146:17
wanting 41:22 130:10
wants 17:23 58:14 166:20
warning 4:2
warren 49:2
wash

39:21
wasnt 82:15
waste 57:13 60:8,9 143:22
wastewater 144:6
water 21:16 56:22,22 58:3 143:23 144:6,9
way 14:14 16:22 19:2 30:5 37:14,15 38:12 61:17 62:9 66:7 73:3 82:12 85:22 86:9 95:4 100:13 100:16 103:16 110:18 126:22,23 127:2 133:14 138:5,19 139:20 143:7 150:2 168:9 168:23
ways 101:11 122:2
weak 93:9
weaken 41:15
wear 64:10 93:12
web 119:9
webb 31:18 119:9,9
webster 62:12
week 115:9 145:14 146:7,19 153:13
weeks 115:10 171:12
weighed 126:22
went 30:16 59:20 62:4 114:9 156:13,17
weres 50:7
west 133:6
western 72:21
wet 52:4,6,9,19 53:3,19,19 53:23 54:20 55:8,11,12 55:13,21 56:17,19,22 57:2,3,8,11 57:13 58:7 58:14 63:2 63:11,12 64:12 65:16 66:1 67:8 68:16,21 69:23 70:9 71:6 72:15 73:1 74:3 76:2,6,11 77:4 78:2,3 78:8,18,22 81:1,5,7 83:9,11 85:20 86:3,5 86:6,20 108:15,16
wetter 64:14
weve 38:6 39:13,16 41:23 50:13 58:12 76:3 79:15 102:13 110:15 125:10 126:20,20 131:3
whats 23:5
whatsoever 35:11 57:22 100:20
wholeheartedly 85:10
william 36:5 60:23 101:21 124:21
wind 21:13
wired 103:6
wires 162:5
wiseman 36:17,17
wish 13:7 139:6,7
withdraw 18:15
wondering 138:2
wont 3:4 93:17 130:5,6 136:23 137:2 151:20
woodard 4:18,20 9:21
woodards 4:18 5:5 9:22 10:7
word 20:13 28:9 37:2 45:14 89:7 120:1 138:7 140:23
wording 13:23 14:2 161:6,7
words 162:1
work 3:5 23:15,23 25:8 34:19 56:12 64:8 71:12 78:5 79:15 93:11 96:16 107:5 110:12,16 125:12 131:19 132:9 155:17 164:22
worked 57:22 73:22 166:16
worker 105:8
workers 33:6 38:16 105:9 109:2 127:5 172:19
working 25:7 36:21 57:22
works 62:8
world 27:16 66:20 125:5
worry 113:8,15 129:12,19
worse 38:20 157:2 166:3,4
worth 147:9 167:2
wouldnt 29:20 30:4,14 165:8
wow 172:3
wraps 123:1
written 91:9 98:12
wrong 7:15,16 76:7 142:3
wrote 15:23 105:20

X

Y

yard 161:11,12
year 60:4 68:3 99:15 105:21 165:22
years 31:6 33:18 42:14 50:14 51:23 52:2 54:10,13 55:6 56:12 57:14,23 62:2,5 67:23 70:10 72:21 73:5,12,22 73:23 82:21 95:13 96:16 98:6 99:5,6 102:21,21 103:4 104:10 104:22 106:5 107:6 125:12 126:8 128:14 128:21 131:9 141:10,18 166:4 167:6 167:14,17,23 170:17
yesterday 104:8
york 102:20
youll 28:23 64:17 109:15 117:7 125:4 137:10
young 133:6
youre 32:4 103:1 108:5 130:1 142:17,17
youve 40:1

Z

zone 7:13,14 93:21 140:15

0

0 80:3,4 91:10 96:6 102:5 104:18 105:2 121:9 125:1 128:11
000 59:15 60:2 103:8 127:13 127:13
01 132:21
02 132:23
03 60:6
04 132:23
076 114:12
07751 114:13
0r 65:15 67:12 78:1

1

1 8:7 16:22 17:1 33:11 36:3 41:4 48:23 50:13 60:6 60:21 62:20 67:19 71:10 90:1 91:10 96:6 100:5 101:20 102:5 104:18 105:2 106:18 107:19,19 110:2 115:4 116:9,10,11 116:15,22 117:8 120:3 120:20 121:9 121:10,12,14 121:21 122:5 123:1 124:19 125:1 127:20 128:11 129:8 129:11 132:22 134:2 140:1 151:10 151:17,18,22 152:8,15 164:1 166:23 169:23 171:2 172:5
10 29:10 34:15 57:14 121:10 167:6,14,17
100 67:11 71:20 103:7 118:4 122:9
101 14:10 44:5
107 113:2,4
10th 167:18
11 2:3 116:8,17 117:22 155:2 155:3 174:7
110 19:23 23:16 31:6,10
119 2:8 120:6
12 2:4 59:15 99:5 116:1
120 90:19 91:1
127 2:10
13 20:1 40:11 71:15 102:18 103:19 110:1 116:1,4,10 116:19 128:23 129:4 131:21
134 2:8
136 116:19
1395 116:4
14 1:19 62:19,21
142 2:9,9
149 2:10
15 1:19 23:15 36:20 37:23 38:4 73:12 104:22 128:14 165:23 166:1
154 2:11,11
16 29:15 116:22
160 2:12,12
163 2:13
17 2:4 4:7 58:10 73:22
170 150:23 151:3
172 175:7
174 2:13
18 2:5 166:23 172:5
19 62:18 80:3,4
1968 42:17 73:3
1970 72:20
1972 103:4
1977 56:3
1982 14:12
1984 14:13 106:12
1991 73:15,17
1993 92:7 130:17
19th 114:8

2

2 5:15 10:20 11:6 16:22 17:1 25:17 29:2 31:17 35:2 45:17 49:18 58:10 71:10 75:1 82:5,5 86:23 86:23 87:7 89:9 92:20 98:15 99:8 100:5,5 104:14 110:7 116:22 119:8 120:3,20,20 128:8 131:18 135:14 152:10,15 155:3 169:23 171:13
20 19:22 23:15 30:2,5 33:18 58:11,11 61:20 62:22 67:15 72:21 73:12 83:22 99:16 108:7 112:12,15 116:2 119:4 119:6 170:3
200 103:8
2001 54:8
2002 106:14
2005 68:15 92:20 97:22 102:18 106:14 126:9 127:14 130:18
2007 114:9
2008 129:5 131:23
2009 23:18 52:13
2011 1:11,19 3:12 3:21 12:6,15 98:11 110:4 117:22 129:5 174:2
2012 14:21
2013 67:10
217 80:4
22 60:2
225 90:20 91:2,3
23 60:2
240 40:17,18 43:10
25 62:5 68:2 127:13,13
26 28:17 38:5 39:4 48:4
27 4:4
28 149:12,14
29 119:6

3

3 2:2 17:1 18:21 30:5 37:19 39:11 44:20 45:17 53:5 55:23 60:5 72:18 78:10 80:8 82:5,5 84:9 85:13 86:23,23 89:10 98:6 102:10 107:9 116:8,17 120:4 124:1 125:19 129:2 136:7 141:3 146:15 147:1 148:6 149:3 153:19 154:1 155:3,3 165:13 168:23
30 22:17 52:2 57:23 67:23 72:10 82:21 83:23 93:21 118:20 152:20
300 103:6
30year 60:5
32 34:19
3311 11:12
35 51:23 83:23 141:18
350

103:6

4

4
1:19 13:13 15:20 17:1 30:5,9 31:2 38:22 40:8 41:17 53:5,5 57:16 58:8,8 61:12 70:10 79:7 81:11 82:5 84:15 86:23 105:23 120:20,20 128:3 130:11 130:23 141:17 151:10,11,13 151:15 155:3 163:5 165:12 168:23 169:10 170:9 173:7
40
54:10
41
99:6 160:21
42
160:21
430
43:9
45
2:5 57:18
4way
30:6

5

5
2:2 4:15 6:8 8:7,14,22,23 9:6,7,18 13:9 15:20 17:1,13 18:12 25:9 26:20 28:3 30:13 33:3 33:14 42:5 46:1 50:2 51:8 64:20 65:22 67:6 73:20,23 75:14 82:18 85:17 89:12 94:7 96:19 99:1 105:13 107:19 112:3 120:17 121:10 127:3 129:15 134:3 137:7,10 147:10 154:6 155:4 158:18 159:14,22 168:4 172:17
50
2:6 60:2 71:16 100:1
500
67:19
5000
23:16
51
9:4
5101
23:16
517
20:16 21:14 26:15 32:17 32:17 36:20 36:21 38:5 39:4 40:16 40:16 42:19 50:16 107:17 165:19,20 166:6
51719
137:16
51726
26:13 35:8,21 36:2 37:22 49:4
525
40:22
58
174:4

6

6
14:22 16:5,17 16:22 17:7 27:7 29:6 32:9 36:16 44:8 48:5 49:11 50:10 53:5 55:6 59:15 68:10 83:17 86:13 96:16 97:5 100:23 102:17 103:11 104:7 106:4 107:6 114:14 125:7 125:12 126:15 128:21 131:9 132:2,3 142:12 166:6 171:23
600
65:2 67:10 85:17
60201
73:11
685
161:20
695
108:7
6d
29:3

7

7
14:23 107:19 107:19 132:1
70
19:23 20:15 21:6,10 22:7 22:8,15,22 24:15,22 26:12 36:14 48:12 49:19 94:21 137:15
700
20:16 21:5,12 22:1 26:2,10 26:12,14,19 27:22 28:8 28:12,17,19 29:3,6,10,15 30:2,5,9,13 32:18,19,23 33:8,12 34:2 35:10,23 37:1,6,9,16 38:2,10 39:7 40:16,22,23 42:1,21 44:4 46:15,17,23 47:2,6,8,9 47:15,18 48:3,12,15 48:18 49:4,8 50:6,15 97:22 102:15 102:16 104:11 108:6 124:11 126:12 132:1 165:14
701
97:22 98:16
702
137:19
70o
168:14
70s
74:13
72
7:1 8:12 23:15
720
3:23 4:13 6:19 11:8 108:7
7201
2:2 4:8,9,14 4:21,23 6:4 11:9,10
72013
4:8
72018
4:9
7202
2:2 6:7,12
7203
2:3 9:17
7204
5:19 11:1
7206
9:22 10:1 11:18
7209
6:12,14 8:1 9:14,15
74
2:6
75
103:5
76
51:21 52:1
78
28:12

8

8
62:20 65:1 82:5 86:23 132:3 143:6 145:11 147:6 148:18 154:17 174:4 174:7
80s
133:7
86
2:7
87
120:6
89
12:19
8th
62:18

9

9
2:3 65:1 150:1 151:7,13,18 154:10
90
46:18
917
42:1 48:4
92
152:7
96
72:1 151:21 152:5
96hour
152:3
99
13:5,6,14,22 14:5 15:9 20:14 21:11 21:22 22:6,7 23:15 24:13 24:18,20 25:2 26:3 28:6 30:17 31:6,10 32:15 34:5 34:11,12,17 35:19 36:7 40:16 41:22 42:3,15 43:16 44:16 49:6,20 51:23 54:21 68:16 70:2,6 80:4 91:8,15 91:23 92:10 93:1,18 94:3 94:9,10,18 94:23 97:18 98:6,11,16 101:4 102:15 104:11 106:7 106:10,16 107:17,17 108:15 112:9 112:11,14,17 113:1,5,16 113:17 115:2 116:7 117:16 118:15,21 124:23 125:14 126:12,18 129:7 131:13 131:16 137:13 138:20,21,21 143:8 150:2 150:9 164:9 164:11,14,22 165:10,18,21 165:21,23 166:2,5,6,16 166:22 167:23 168:3 168:11 169:16,23
991
2:3
9910
2:7 88:8 89:19 97:2
99107
90:5
99108
19:10 45:6 164:23
9911
2:7
99115
90:4,7
9912
2:7
99122
120:22 136:3
99123
19:11 45:7
99124
19:12 45:7
99127
136:3
99128
136:3
9913
2:7 119:19
99139
21:4
9914
2:7 88:8 89:20
9915
2:8 120:14
99159
136:10,13 142:7 157:21
9916
2:8 136:7
9917
2:9 142:10,12
9918
2:9 142:21
9919
2:10 148:20
99198
12:23
992
2:4 13:8
99217
75:18,20 81:16 88:4,5
99236
143:1,3 148:14 153:7,10
99258
149:20,22 154:14
9927
2:10 148:20
9928
2:10 149:15
9929
2:11 149:11 154:18
99297
155:7,9 159:4 160:13
99298
157:23
993
2:4 18:11,18
99325
160:23 161:2 163:16
9935
19:11 45:6
9936
19:11 45:6
9937
19:11 45:6 136:11
99382
143:6
99389
150:1
9939
2:11 19:10 45:5 154:18
994
2:4 12:22,23 18:18
9940
2:11 19:10 45:5 154:22
9941
2:12 46:4,9 51:4 160:16
9942
2:12 160:16
9943
2:12 160:19
9944
2:13 163:23
995
2:4 18:18
996
2:5 18:20 27:3
9968
52:15
997
2:5 45:23
9975
13:13,16 18:8
9976
13:1
9978
51:11,13 75:10
998
2:6 51:7,10 82:5
999
2:6 75:13 82:4 82:4
9996
85:8