CITY COUNCIL
CITY OF NEW YORK

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TRANSCRIPT OF THE MINUTES

Of the

COMMITTEE ON FIRE AND
EMERGENCY MANAGEMENT

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November 1, 2021
Start: 10:05 a.m.
Recess: 1:00 p.m.

HELD AT: Remote Hearing - Virtual Room 1

B E F O R E: Joseph Borelli
Chairperson

COUNCIL MEMBERS:
Justin L. Brannan
Fernando Cabrera
James F. Gennaro
Alan N. Maisel

A P P E A R A N C E S (CONTINUED)

Joseph Jardin
Chief of Fire Prevention

Julian Bazel
Fire Code Council

Shaji Joseph
Director of Code Development

Richard Blatus
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Tom Potter
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A P P E A R A N C E S (CONTINUED)

Richard Kluge
Alliance for Telecommunications Industry

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Mr. Gilbert

Dottie Mazzarella
International Code Council

UNIDENTIFIED: Thank you, sir. Good morning and welcome to today's New York City Council Remote Hearing on the Committee on Fire and Emergency Management. At this time, would all council staff and panelists please turn on your videos? Thank you. To minimize disruption, please place all electronic devices to vibrate or silent mode. Thank you. If you wish to submit testimony, you may do so at testimony@council.nyc.gov. I repeat testimony@council.nyc.gov. Chair Borelli, we're ready to begin.

CHAIRPERSON BORELLI: Thank you and good morning. We'll gavel in. [gavel] Forgive the use of this gently used wooden spoon for a gavel today. I want to first acknowledge that we're joined by Council Members Maisel, Council Member-- all I see as of now.

COMMITTEE COUNSEL: Council Member Cabrera as well, Chair.

CHAIRPERSON BORELLI: And we're joined by Council Member Cabrera. Thank you both for joining us. Good afternoon. I'm Council Member Joseph Borelli and I'm Chair of the Committee on Fire and Emergency Management. Today we are conducting a

hearing on Intro. 2430 which I sponsor at the request of the Administration. This bill, the culmination of a thorough code revision process undertook by the Fire Department would amend the New York City Fire Code in relation to the advancement and regulation of energy storage systems and the adoption of current fire safety standards as incorporated in the 2015 edition of the International Fire Code. For historical perspective, in 2008, the Council enacted a new fire code for the City of New York based on the 2008 edition of the International Fire Code, a model code published by the International Code Council and amended to reflect New York City's unique character and existing fire safety standards and requirements. That same Local Law in 2008 enacted an administrative code provision requiring that every three years the Fire Commission review the latest edition of the International Fire Code and submit proposed amendments to the City Council based on that review. In accordance with this requirement, the Fire Code first undertook a three-year code review process in 2013 and enacted amendments which became known as the 2014 Fire Code. In March of 2018, the Department began the mandated code revision process which

resulted in the drafting of the proposed Local Law being considered by the Council today. The extensive revision process involved technical review, stakeholder and expert feedback, and of course, public input. According to the Department, sources of proposed amendments in the current code, excuse me, include the 2012 and 2015 editions of the IFC and selected 2018 IFC provisions. Local initiatives from the FDNY are public proposal [sic], and incorporation of existing Fire Department requirements gathered from existing rule of code interpretations. I want to thank the Fire Department and any other city agencies, as well as the stakeholders for all the work they've done and putting together this proposal. I look forward to hearing testimony regarding the different proposal contained in the bill, and we will consider changes as necessary. Thank you very much and I will allow the Committee Counsel to call the first panel.

COMMITTEE COUNSEL: Thank you, Chair Borelli. Good morning. I am Josh Kingsley, Counsel to the Fire and Emergency Management Committee of the New York City Council. Before we will begin testimony, I will remind everyone that you'll be on

mute until you're called on to testify when you will be unmuted by the host. I will be calling on panelists to testify. Please listen to your names be called. I will be periodically announcing who the next panelists will be. The first panelists to give testimony will be representatives from the New York City Fire Department. Testimony will be provided by Chief Joseph Jardin, Chief of the Fire Prevention Bureau; Julian Bazel, Fire Code Counsel; Shaji Joseph who's the Director of Code Development, and Ricard Blatus who is Assistant Chief for Fire Operations. I will call on you when it you're turn to speak. During the hearing if Council Members would like to ask questions of the Administration or of a specific panelist, please us the Zoom raise hand function, and I will call on you in order. As a reminder, all hearing participants should submit written testimony to testimony@council.ny.gov. I will now call on representatives of the Administration to testify. Before we begin I will administer the oath. I will call on each of you individually for a response. Please raise your right hand. Do you affirm to tell the truth, the whole truth and nothing but the truth

before these committees and to respond honestly to Council Member questions? Chief Jardin?

CHIEF JARDIN: Yes.

COMMITTEE COUNSEL: Mr. Bazel?

JULIAN BAZEL: I do.

COMMITTEE COUNSEL: Mr. Joseph?

DIRECTOR JOSEPH: I do.

COMMITTEE COUNSEL: And Assistant Chief Blatus?

ASSISTANT CHIEF BLATUS: I do.

COMMITTEE COUNSEL: Thank you. You all may begin.

CHIEF JARDIN: good morning Chair Borelli and all Council Members present. My name is Joseph Jardin. I am the Chief of Fire Prevention at the New York City Fire Department. I am joined today by Assistant Chief Richard Blatus of the Bureau of Fire Operations, by FDNY Code Counsel Julian Bazel, and by FNDY's Director of Code Development Shaji Joseph. Thank you for the opportunity to come before the Committee today to discuss one of the most important tools that we have to protect the lives of New Yorkers and their property, the New York City Fire Code. From the standpoint of fire safety, the last

20 years have been the safest in the City's history after decades of experience well over 100 deaths a year and some years 200 to 300 civilians have died in fires. New York City has experienced fewer than 90 civilian deaths annually since 2006. A critical part of this improvement has been the adoption of strong fire and building codes that mandate a safer built environment. New York City Fire Code regulates the manufacturing, storage, handling use, sale, and transportation of hazardous and combustible materials. It also addresses the operation and maintenance of fire extinguishing systems, fire alarm systems, and other fire prevention and mitigation devices. The code further mandates emergency preparedness in planning in all types of buildings and occupancies. The code is updated periodically in recognition of new and emerging hazards and evolving risk reduction alternatives and to implement innovative code solutions. The cyclical code development process promotes transparency and clarity for the benefit of building owners, businesses, and design professionals who are obligated to abide by it. Introduction 2430 represents a culmination of a three-year process to incorporate updates that will

enhance the safety of all New Yorkers, including the first responders who must operate in buildings and locations positively impact by the code. The 2021 Fire Code incorporates amendments that are the result of a comprehensive revision process conducted by the Department in a wide variety of partners and external stakeholders. The process facilitated by the Department's subject matter experts involved working together with representatives of the Department of Buildings, the City Council, an members of industry, professional trade and union organizations to form four technical committees, a managing committee and an advisory committee. The groups considered potential amendments sourced from the 2012/2015 and 2018 editions of the International Fire Code as well as local initiatives resulting from lessons learned since the enactment of the 2014 Fire Code. The process also included ample opportunity for extensive review and comment by the General Public, including a number of formal sessions and many informal and ad hock conversations with effected stakeholders. Following the receipt of public comments submitted via web portal in May of 2021, the Department held a public forum in June of 2021. Considerable feedback

was received and the legislation reflects the benefit of those stakeholder interactions. The code will become more user-friendly to many users. The bill, in part, reformats many of the Fire Code chapters and sections to conform with the International Fire Code. We expect that this change will improve understanding and be helpful to businesses and design professionals who are already familiar with the International Fire Code which serves as the Fire Code in many places outside of New York City. Other key areas of the revised code reflect the current global focus on energy and economic development from record-breaking heat waves to rising sea levels along our coastlines, climate change is not abstract. The Fire Department appreciates that is has a critical role to play in helping the City of New York reduce dependence on fossil fuels and achieve sustainable growth. This code addition reflects the need to implement alternative energy sources and economic development without compromising fire and life safety or emergency response. Specifically, this bill revises current requirements for stationary, energy storage systems and establishes a regulatory framework that allows the introduction of new battery technologies

and buildings while addressing the fire safety hazards associated with those technologies. Stationary energy storage systems can store and provide power for utility and building operations including storing power collected from solar panels. However, lithium ion and other new battery technologies pose significant fire safety and explosion hazards. So we have revised the code in a manner that prioritizes innovation while striking a balance with safety. We have also revised rooftop access requirements, making a series of changes based on feedback from proponents of solar power to provide for the safe and effective operation of fire fighters on rooftops during fires and emergencies while maximizing space usable for solar panels. The revised code also addresses hydrogen fuel gas rooms and biodiesel fuel storage, and it allows-- excuse me, and it creates alliances for safe fleet fueling which is the process of fueling vehicle fleets in their lots directly from tank trucks. Rules in the existing code governing fleet fueling are very restrictive, but the Fire Department's history of offering variances has shown that this practice can be done safely with diesel fuel. So, we've created a

mechanism for enabling businesses to perform this merely by obtaining a permit. This is a good example of learning from experience and amending the code to meet the needs of industry while maintaining safety. Other topics of interest addressed in the code include creating a mechanism that will allow distilleries to operate, providing relief for dry cleaning establishments via a sprinkler protection alternative for locations that were adversely impacted by environmental restrictions. The reorganization and clarification of rules governing blasting [sic] operations and establishing storage and charging requirements for powered mobility devices which are especially timely given the recent uptick in the use of motorized bicycles, motorized scooters and other personal mobility devices powered by lithium ion or other storage batteries. There have been more than 75 fires related to these devices this year alone, including fires that resulted in three fatalities. So, we want to make sure that users understand the risk of fire and take steps to mitigate. So in conclusion, the Fire Department could not have achieved the completion of this code revision alone. The proposed bill is a result of a

lot of hard work on the part of the Fire Department subject matter experts, along with participation of our partners and colleagues at the Department of Buildings, the Law Department, City Council Members and Staff, environmental advocates, distillers, design and engineering professionals, and representatives from Building Management, utilities Real Estate Unions, City University of New York, Fire and Life Safety Directors, and hospital organizations. Together, we have crafted legislation that will improve the safety of the public, better protect first responders, and enable innovative technologies that will help our city achieve aggressive climate objectives. We look forward to this discussion with the Council and we would be glad to take any questions that you have at this time. Thank you.

CHAIRPERSON BORELLI: Thank you, Chief. Thank you to everyone on the panel who is prepared to answer questions. I just to acknowledge that we're joined by Council Member Jim Gennaro who has also joined us. before we get into the Fire Code, just a couple of questions that seem to be on everyone's mind and frankly in response to the Mayor's Press

Secretary who called out a local press report as being factually inaccurate. I want to make sure we have the actual numbers from today. So how many active fire fighters and fire officers are fit for duty and/or working today?

CHIEF JARDIN: So, Council Member Borelli, for questions on this topic and others may be similar, non-Fire Code specific topics, I'm going to defer to my colleague from the Bureau of Fire Operations, Assistant Chief Blatus.

CHAIRPERSON BORELLI: Thank you.

ASSISTANT CHIEF BLATUS: Chair Borelli, currently the vaccination rate among uniformed fire officers and fire fighters stands at 77 percent. We have an approximate workforce of around 10,000. Our medical leave number today is approximately 20 percent, which would be 2,000 members. On an average day, our medical leave rate hovers around seven percent. So that is considerably higher. So as of this morning, at 10:00 a.m. this morning, our computer dispatch report indicates we have 18 fire units that are currently temporarily out of service.

CHAIRPERSON BORELLI: Out of those 18 units, how are they chosen? Is it whatever house has

the most fire fighters will pick up the slack with someone else, or-- I mean, just explain how those are being chosen.

ASSISTANT CHIEF BLATUS: Okay, so it's important that everyone understand, on a normal business day in the FDNY we have 20 units that are temporarily out of service every day. They are either directed from annual medicals, for training. The apparatus goes to our maintenance Department for oil changes, etcetera. So we are hovering around that average company unit out of service of 20. The ones that are out of service today, the 18 as of 10:00 hours are based on staffing needs. So they may be units where the medical needs was impacted that, that staffing the highest. So they are chosen to be out of service, but it's also important to note that there are no fire houses out of service. There's no fire house that is empty across the city. Everyone has at least one--

CHAIRPERSON BORELLI: [interposing] So I mean, how man-- how many emergencies the Department responds to comes from someone knocking on the front door?

ASSISTANT CHIEF BLATUS: I don't have that exact number, but it's very few.

CHAIRPERSON BORELLI: Right, but the main thing is, you know, that the truck or engine can respond to an emergency. That's really, you know, what we're concerned about, correct?

ASSISTANT CHIEF BLATUS: That is correct. There is a truck or an engine or a ladder truck in service in every building.

CHAIRPERSON BORELLI: Right, but they do separate things.

ASSISTANT CHIEF BLATUS: Correct, they do separate things. They have separate tasks on the fire ground [sic].

CHAIRPERSON BORELLI: Right. So how many apparatus are out of service today for maintenance, training, etcetera, the reasons you listed earlier?

ASSISTANT CHIEF BLATUS: Zero. Those programs have all been placed in [inaudible]. They're suspended.

CHAIRPERSON BORELLI: So, until we can get the staffing level up, in theory, we won't be doing any maintenance, oil change, training, stuff like that.

ASSISTANT CHIEF BLATUS: That's correct.

CHAIRPERSON BORELLI: Is that a problem?

ASSISTANT CHIEF BLATUS: It is not a problem. Our prob-- it's also important to note our probationary fire fighters school is still up and running. So the 300+ we just hired two weeks ago are actively in class. That program is not suspended.

CHAIRPERSON BORELLI: 300 is still 1,700 away from 2,000.

ASSISTANT CHIEF BLATUS: Oh, I'm sorry, the 300 is not part of the 2,000. The 2,000--

CHAIRPERSON BORELLI: [interposing] But as I'm saying, so we're getting-- we'll get 300 but that's still 1,700 away from the 2,000 number.

ASSISTANT CHIEF BLATUS: So you're saying--

CHAIRPERSON BORELLI: [interposing] You lost 2,000, and now we--

ASSISTANT CHIEF BLATUS: [interposing] try to replace the 2,000?

CHAIRPERSON BORELLI: Right.

ASSISTANT CHIEF BLATUS: Yeah, that-- correct.

CHAIRPERSON BORELLI: Okay. How many EMT's and EMT officers are on medical leave?

ASSISTANT CHIEF BLATUS: I do not have those numbers. I don't oversee EMS operations.

CHAIRPERSON BORELLI: Okay.

ASSISTANT CHIEF BLATUS: I can--

CHAIRPERSON BORELLI: [interposing] We know how many ambulance tours we're short?

ASSISTANT CHIEF BLATUS: I do not, but I could tell you that 88 percent of the EMS uniformed workforce is vaccinated.

CHAIRPERSON BORELLI: Okay. So, just as a procedural thing-- actually, how many dispatchers, do we know if dispatchers are vaccinated and working?

ASSISTANT CHIEF BLATUS: I do not know that.

CHAIRPERSON BORELLI: Okay. If a fire fighter or EMT or someone chooses to get vaccinated, how quickly can they be restored to their company?

ASSISTANT CHIEF BLATUS: They can be restored immediately. Our Technology Division has created an app. They upload their vaccination card, and even if they lose for some reason their vaccination card, if they upload the information,

location, type of vaccination, etcetera. It's a live system. They're immediately put back into the Human Resources system, and they're eligible for work.

CHAIRPERSON BORELLI: Okay. Has any fire operations been impacted by the staffing shortage?

ASSISTANT CHIEF BLATUS: They have not.

CHAIRPERSON BORELLI: Alright, I'm going to move back on to the Fire Code portion of our hearing. I want to recognize Council Member Brannan, and I just-- I know Chief Blatus you should probably get back to your regular job overseeing the safety of the city, so I'll just open it up very quickly to Council Member questions, specifically if anyone has one on the vaccine mandate and medical leave situation. Anybody wants to raise their hand. If not, we'll move on to the Fire Code. Council Member Cabrera, I'll recognize you.

COUNCIL MEMBER CABRERA: [inaudible]

SERGEANT AT ARMS: Starting time.

COUNCIL MEMBER CABRERA: My question is going to be for Chief Jardin. It is related to the vaccine. Would he still be around? I don't want to break your thought [sic].

CHAIRPERSON BORELLI: Yes, yes.

COUNCIL MEMBER CABRERA: Oh, okay. So, I just curious and then I'll have another question regarding to the code later on. Up to you Chair. I'm just curious, Chief, in terms of those within your unit and Fire Prevention, how many do we have out as a result of the vaccine?

CHIEF JARDIN: The vaccine mandate, this morning when I previewed the list that we have of pending leave without pay, so those that might be affected such that they would-- they did not get vaccinated. It was fewer than 10, and we think that among-- and I think it was nine if I remember correctly. We suspect that a couple may have been vaccinated but just had a challenge uploading that information. So, fewer than 10 in the entire Bureau which is normally a full-strength 650 folks.

COUNCIL MEMBER CABRERA: Okay. Thank you so much. I'll come back, Chair, for the questions related to the code whenever you're ready.

CHAIRPERSON BORELLI: Okay, and before you leave, Chief Blatus, I just did some quick math. So, 18 fire companies are closed. That's about 100 fire fighters. There's 2,000 that are not available. So how many companies-- I recognize that they're not

all working at once, but how many companies are riding short staffed?

ASSISTANT CHIEF BLATUS: None are riding short staffed at this time.

CHAIRPERSON BORELLI: None. Okay. And that would never happen because it's against the contract?

ASSISTANT CHIEF BLATUS: Well, we have mandatory staffing levels as per the contract. We also have to recognize that we fired approximately 500 fire fighters on overtime today to fill the shortages. So add the 2,000, they're not all scheduled to report to duty today, probably 25 percent are scheduled to report to duty. So, if you break that up, that's how we maintain our staffing.

CHAIRPERSON BORELLI: How many tours could a fire fighter or fire officer work in a row? Can they do a 24-hour tour and then continue to work?

ASSISTANT CHIEF BLATUS: They can work a 24-hour tour, plus six hours. That is in their contract.

CHAIRPERSON BORELLI: Are you in fallback, and what does that mean?

ASSISTANT CHIEF BLATUS: We are in fallback step three. What that does, it reduces response to non-structural alarms such as gas leaks, manhole fires, things in that category. For structural fires, instead of sending three and two, three engines, two ladders, and a Chief, we send three engines, one ladder, and a Chief, and upon verification of a second source, a second phone call, a different way the dispatcher is notified, it immediately increases to the three engines, two ladders, and one Chief.

CHAIRPERSON BORELLI: What would normally call a change in operations to fallback step 3?

ASSISTANT CHIEF BLATUS: Unit availability.

CHAIRPERSON BORELLI: Okay, so in normal circumstances, in the before times, there would be potentially a large fire in one part of the city, and then you would go into this mode to address all other fires in the rest of the city?

ASSISTANT CHIEF BLATUS: It doesn't necessarily address the fires. What fallback does is it gives the system an opportunity to reset. So the New York City Fire Department has a fairly robust

relocation, computerized relocation system, where we can distribute our resources equally across the five boroughs. So, in the interim, while an engine may be traveling let's say from the North Bronx to the middle or the south of the Bronx, south end of the Bronx, we will go into the fallback to give the system that short opportunity it needs to reset.

CHAIRPERSON BORELLI: Okay. Alright, thank you very much, Chief. We will move on exclusively with the Fire Code portion of our hearing now. Thank you.

ASSISTANT CHIEF BLATUS: Thank you.

CHAIRPERSON BORELLI: So, Chief Jardin and Julian and everyone else, let's just go with the other stuff. So, just take us through the stakeholder process. How did you all identify who the relevant stakeholders would be to participate as advisory committee members?

CHIEF JARDIN: So, Chair Borelli, this process endeavored to be as open and transparent as possible, engaging all interested and potentially affected parties, businesses, parts of industry, and so forth. So, for process questions, I'm going to-- and very technical code questions, you're going to

see me defer to our code counsel Julian Bazel. So I'm going to start by doing that. She can explain how we got to the point we're at with engaging stakeholders in the process. Julia?

JULIAN BAZEL: Thank you, Chief Jardin. This is the third time we've undertaken a code revision process. We did it with the-- what led up to the 2008 Fire Code, and then we did for what led to the current fir code, the 2014 Fire Code. So we have a little bit of experience in this. The process involves of reviewing the changes in the model code as well as addressing what we call local initiatives, issues that have arisen since the last code cycle. And our process begins with the Fire Department's Code Specialist, including fire officers and chief inspectors, engineers, and others reviewing the model code and discussing what we think would be appropriate standards for New York City? The-- when we move it out of the internal, we develop draft amendments. At that point we begin to engage others outside of the agency. And of course, we being with our partners, the City Council, and they; City Department of Buildings, and we brief them and explain to them what we're trying to do and have

discussion about that. In terms of the initial external engagement, we have what we call an advisory committee of stakeholders, which I guess was probably the focus of your question. And the people that we turn to, or I should say not the people, the organizations that we turn to, are they trade associations, union organizations, and professional organizations who do business with the Fire Department on an ongoing basis. They're the one who are knowledgeable out the Fire Code, who have an interest in developing the Fire Code who are knowledgeable about the model code or other national standards who would, you know, have a lot of technical expertise. And so are committed to this process of having a substantive conversation and giving us input on what we're proposing as code changes. That's not to say that we're not interested in the opinions in the general public, but it's very hard to manage a code revision process with an unlimited number of participants. So we begin with our advisory committee. We have detailed presentations. We invite written comments that we respond to everything in writing, and we have discussions. At the same time there were certain

industries that we need to bring in because of new or requirements in the fire code that, you know, that would involve an industry that's not previously been involved, which in this case it was distilleries. We separately reached out and detailed questions with those industry representatives. Once we complete this process and develop a draft, and that's what it is, it's still a draft. We then invite public comment, and we post this on our web site. We send it out to all industry part is that we've identified as well as our normal rule-making distribution listen list, and then we had a public forum in this case in on June 15th. It lasted for about four hours, and we not only listen to what people are saying, we engage them, we respond to them. All of this process is about explaining what our thinking is and what the changes are and why they're needed. And in term of comments, why we agree with the comments, or if we don't agree with them, why we think that they may not work in New York City. So, we do have a very interactive process. In addition, we are talking to others who are-- can represent the members of the public industries. And I would also emphasize that we don't select the representatives on our advisory

committee. We reach out to organizations, who as I said are the ones who interact with the Fire Department and are knowledgeable, and they select their own representatives. So--

CHAIRPERSON BORELLI: [interposing] [inaudible] companies [sic] involved?

JULIAN BAZEL: I'm sorry, could you repeat that?

CHAIRPERSON BORELLI: Are there any telecom companies involved?

JULIAN BAZEL: Yeah, and this time we did not have a telecom representative. What happened was that when we initiated the process, we really didn't see much that would be relevant to telecom, and by the time it came up it was well into the process, but, you know, they are-- certainly were able to comment through the public process.

CHAIRPERSON BORELLI: So, just go through the-- briefly-- the process where you picked and chose which new IFC provisions or local initiative were going to be included as proposed amendments and which weren't?

CHIEF JARDIN: Do you feel that Julian?

JULIAN BAZEL: Yeah. Sure. Well, we look at every amendment that the IFC has made, and we adopt many of them, but various chapters have been amended to for New York City's specific-- to adopt New York City's specific provisions, and as to those, we consider whether any changes are needed based on experience since the last code revision. We also invite all of our advisory committee members, the managing committee members and the public always has this ability through our website. We invite all of them to submit proposed code changes, and we have adopted-- so some of the code changes were, you know, originated with our advisory committees or other members of the public.

CHAIRPERSON BORELLI: And does the Department look at codes outside of the IFC and other jurisdictions for inspiration on some great ideas?

JULIAN BAZEL: Yes. You know, on some issues, and certainly with regard to distilleries, which is a brand new thing, we looked at codes in Denver and elsewhere. We looked at industry standards. We spent a lot of time looking at industry standards. There's where a lot of these things reside, you know, that-- as you know, the Fire

Code incorporates by reference something like 100 or so industry standards.

CHAIRPERSON BORELLI: So, just again, to just-- so we're still at 40,000 feet and I'm sure we'll get into the weeds later. So, how does the Department basically balance the safety interests on certain code provisions with potential economic and operational impacts on industry? Like how do you-- is there a rubric? Is there a-- is it just a gut feeling. Is it-- explain, just explain what the choice would be.

JULIAN BAZEL: Well, I think we should start with the expectation that obviously we are focusing initially on fire safety requirements and what makes sense in New York City and what's needed in New York City. But we're very sensitive to the fact that, you know, fire safety regulations like any set of regulations do have a significant impact on the regulated community. And we have ongoing discussions in the normal course of business with all industries, and we, you know, we're aware of what many of the concerns are, and those are some of the local initiatives that we developed. Plus, this is what we hear from the stakeholders. And I have to

tell you, sometimes the things that we think are-- would be a concern to industry often are the things that are concerned to industry. They've raised things that we would not have thought would be an issue. So it-- that's-- this whole process is all a discussion and-- but we're definitely well aware. Now, is there's a formula? There's no formula. I think that we-- in discussions with our advisory committee members or other groups that, you know, associations that we deal with, we get a good feeling for what their concerns are. And what we're-- obviously we're not looking to create a situation that makes it impossible for them to, you know, conduct their business or even-- we certainly don't want anything that is unduly burdensome. And we've been doing this for a long time, and I think we have a fairly good sense of where to draw that line, and I will say that, you know, if you looked at what we started out that came out of our technical committees and what's being presented to the Council, there's a lot of significant changes on those areas that are clearly evolving and developing areas, and there's a lot of room for discussion and a better understanding. A lot of the well-established areas,

there really is not too much, and people are comfortable with what we're proposing, or we've already incorporated or addressed their concerns.

CHAIRPERSON BORELLI: Certain provisions of the proposed code are incorporated from existing Department guidance, probably most notably the clear path requirements. How does the Department utilize guidance and bulletins [sic] to implement regulations that otherwise would be contained in the Fire Code, and are individuals subject to violation from noncompliance with the Department guidance if they're not in the Fire Department?

JULIAN BAZEL: Chief, should I take this again?

CHIEF JARDIN: Yeah, certainly.

JULIAN BAZEL: Okay. So, no matter how carefully drafted the Fire Code or any set of rules or regulations was. Rules and regulations are drafted. There's always issues that come up about how they will be interpreted and how they'll be enforced. We have an ongoing relationship, certainly in the rooftop area. I'm sure you're aware that, you know, eh rooftops in New York City are valuable real state. There are a lot of people competing to put

things on the rooftops, telecommunications, solar or emergency power installations, HVAC installations, and residents' recreational use of the rooftop. All of these things are going on on our rooftops. And we-- so issues come up from time to time as to is there a way that the Fire Department could accommodate certain developments, or how should certain features be considered in term of enforcement. So, with the clear path requirement, and I think is probably the one you're referring to and the one that most clearly illustrates this. The solar industry likes to lay out their solar panels in arrays, you know, fairly in rows, and the requirement that there be no obstructions in the clear path have created some issues for them on smaller buildings, brownstone size buildings and because there could be a skylight here or a bulkhead there, an exhaust pipe here, or scuttle there, it made it difficult. And since these are all building features that we would want our clear path to provide access to. We worked out-- working in consultation with CUNY, which is the city's solar coordinator, and which interfaces with the solar industry on many levels. We ended up coming up with a policy and we put out as guidance

the fact that these permanent building features could encroach to some degree into the clear path to facilitate the installation of solar panels. And we incorporated that into an FAQ which, you know, a Fire Code Guide posted on our website. We presented that also to the Department of Buildings for their information and made it aware to them that this is something that was a reasonable-- this would not be deemed to be an obstruction, and that has been the practice for some time. In this code revision in response to public comment, we actually agreed to incorporate that guidance and bring it right into the code as a specific code provision. So, it sort of shows how this process works even when we're not doing Fire Code itself, but our enforcement and interpretation process ends up feeding into code revision.

CHAIRPERSON BORELLI: Let's stay with rooftop access and solar installation. How do New York City rooftop access regulations align with the IFC? How do they align with other jurisdictions, and just, you know, what are the biggest differences between us and those two essentially areas of code, and what justifies the divergence from New York City?

CHIEF JARDIN: So, let me just start, Chair Borelli, and then I'll turn it over to Julian, but-- and I think we'll find that, you know, there might be supposition that our code would be more strict than other localities, other jurisdictions, which I don't know that that's true, but let me just kind of overview why it's important for us to establish clear access lanes and ability from a Fire Department operational perspective to rapidly access rooftops and maintain ample space to conduct efficient and safe operations when there. So we have a position in a ladder truck referred to as the Roof Fire Fighter position, and the role of that fire fighter is to rapidly access the roof, because we know through experience and many building pipes, the upper floors are quickly contaminated regardless of where the fire is in the building by smoke and heat, and the occupants, those on those floors are in a perilous circumstance, and what needs to be done right away is ventilation, what we call vertical ventilation typically by opening a bulkhead door, a roof bulkhead door or removing a scuttle cover or a skylight, and nothing shall deter that individual even if that roof fire fighter sees a person at a

window, perhaps, right? The role of that fire fighter is to get to the roof rapidly, so we want to reduce impediments or anything that would prolong the opportunity for that fire fighter, that first arrive fire fighter to get in that position, because that's going to be better for everybody, right? Not only that person who we know is in trouble, but others that we don't see, as well as facilitate the ability of our fire fighting forces inside to gain entry to conduct search and fire fighters operations. So that's a concern over impediment, right? And I saw you posted a video to Twitter showing a building fire somewhere in the City and it kind of highlighted how inherently dangerous our operations are in general, but especially for that roof fire fighter, no visibility on the roof. There are already, as Julian pointed out, other appurtenances on the roof including cell sites and HVAC equipment and such. So we-- while we want to certainly allow for the evaluation of sustainability alternatives and smart energy policy moving forward, we want to do so in a way that will ensure that we can continue to operate safely and effectively. The solar panels as well, potentially provide a hazard in that you can never

turn that off, per say, right? So you can never go flip a switch and remove the electrocution possibility affiliated with that. So we want some space for our folks to operate safely as well. And as, you know, I think you're aware, we made several life-saving roof rope operations or roof rope rescues last year alone. At Medal Day, several members were awarded medals, so we need access to facilitate that operation among others. so that said, I'll turn it over to Julian maybe to address specifically the point you asked about, you know, how we compare with other jurisdictions in that regard. Julian?

JULIAN BAZEL: Yes. I don't think it's correct to say that we're necessarily stricter than other jurisdictions. Certainly, the IFC has more--

CHAIRPERSON BORELLI: [interposing] I don't know if anybody said that.

JULIAN BAZEL: Okay. Okay. The IFC has a-- provides for a set of aisles around it. Let me just give you a little bit of very brief background on where this came from. You know, after 911 especially there was a huge explosion of cell communication installations throughout the City, especially on lower buildings because they were

closer to the street and they could fill in gaps in cell areas, cell service areas, and you may recall that many of the buildings just had rows of cell towers along the power grid, and that made it unsafe, difficult and unsafe for fire fighters to get onto the roof and dismount from the area ladders and avoid contact with it. And that was the original impetus at that time of developing rooftop access and making sure we could get-- our fire fighters could get over the power pit [sic], come down in a safe landing area, and then our basic requirement, Fire Code requirement was simply a clear path six feet wide from the front of the building to the rear of the building, and some point on the building from side to side. And the purpose of that clear path is as Chief Jardin just explained, both surveillance and firefighting operations, as well as fire fighters' safety, and the access that we're looking for is typically to, as I indicated earlier, the bulkhead and the fire escapes and various things. Now, we-- since then there has been an explosion of other uses of the rooftop, including of course solar. And again, we're not in any way targeting solar. We're not trying to prohibit solar or restrict solar or any

other roof top user. We're just simply trying to maintain some basic access. No, this particular cycle we were trying to expand our access to some parts of the building that is often very obstructed, which is the rear of the building and the sides of the building that are not facing on the street. In order to gain access to windowed areas on that will [sic]. We may need to conduct firefighting operations. And, you know, so-- and the process worked the way that the process is supposed to work. We put a proposal in. we received comment to our Advisory Committee to our CUNY representative that was-- and we-- we were told that this would have a very significant-- the additional provision that we put in there would have a significant impact on solar installations and making that difficult, especially on small buildings like Brownstone-style buildings. And so we made significant changes in the Advisory Committee and we tried to accommodate their concerns. After we came out of the Advisory Committee and posted it for public comment, we thought we actually had addressed some of the industry concerns about this, and then at the public forum we clearly heard that there was remaining concerns about it. And in

response, as you asked earlier, how do we balance it? We said well it looks like although we would like to expand some of our access this time around on existing buildings. We decided to forgo that in light of the, you know, urgent needs and the important local law and public policy objectives of expanding solar. So we backed off on existing buildings and we instead limited the provision only to newly constructed buildings.

CHAIRPERSON BORELLI: But then, just to clarify, for an existing building that is constructed today-- I'm sorry, a new building that's constructed today, does that fall under the existing building six months from now?

JULIAN BAZEL: No we would probably be applying this to, in most cases, just-- a newly constructed building would be a building that has a-- gets a Department of Buildings work permit after the effective date of the code. So, it wouldn't-- it wouldn't-- If they have a work permit now--

CHAIRPERSON BORELLI: [interposing] Any changes-- any change or alteration would have to then follow the--

JULIAN BAZEL: [interposing] Well, yeah. It depends on what kind of alteration y9ou're talking about. I mean this was-- this came up about those kinds of alterations to existing buildings, and you know, there were so many different kinds of alterations. In some cases you would have to remove all the solar panels anyway to make the alteration, and others you wouldn't. So it's a little hard to say--

CHAIRPERSON BORELLI: [interposing] Right, so I guess my question is, if buildings constructed in 2022, it's a new construction, but if they apply in 2024 for permits to install solar panels on the roof, which, I guess, set of rules are they going to follow?

JULIAN BAZEL: so you're saying it's not a newly constructed building. You're saying existing, a new installation in the future.

CHAIRPERSON BORELLI: A new installation in the future on a building that's constructed past the point of our adoption of these rules.

JULIAN BAZEL: I think we would treat that as a--

CHAIRPERSON BORELLI: [interposing] Correct me if I'm wrong, but few buildings are installed with solar on their initial construction. I would say the majority of them are done after the fact.

JULIAN BAZEL: Yeah, well, I think we would say that wit newly constructed buildings, you know, the designers are much more aware of potential rooftop uses now and, you know, it'd be surprising if they weren't participating where they might put solar panels or other kinds of installations on the rooftop. So they would, you know, they presumably are taking the considerations in it, in our discussion with real estate interest, we -- that's our understanding, that they're considering these things in any new development You know, the question you raise, I'm not sure of the answer at this moment. I think I'd have to consider and look back at how we drafted the code and see how it would apply.

CHAIRPERSON BORELLI: Can you give us just a layman's interpretation of the top line changes to rooftop access requirements from existing to proposed?

JULIAN BAZEL: Chief, should I take that?

JOSEPH JARDIN: Please do.

JULIAN BAZEL: Okay, so basically the-- I guess the most significant changes or the one that received the most comment was this access to the perimeter on windowed sides of the buildings that are not fire [inaudible] successful, they're not on the street where we would be-- have access from the street. We will require that on existing buildings-- I'm sorry, newly constructed buildings of 100 feet or less, we would require reasonable access from the clear path to those areas. So that doesn't mean that the clear path has to go to each and every side of the building, but that where the clear path is installed in accordance with our current requirements, that it would be possible to reverse from that clear path some adequate path where a fire fighter could get through to those areas to the maximum extent [inaudible]. I mean, we recognize that some buildings are just going to have installations on the sides of buildings that are going to obstruct access to that side, you know, such as windows, scaffolding, or certain other possible HVAC units, things of that sort. That is one thing. Another thing is on a new requirement on buildings

more than 100 feet high, we would want a clear path to the sides of the building. These are now taller buildings which typically have larger footprints and can be designed to provide adequate access to those sides. Another issues that was significant that came up in the-- for public comment, was the need for adequate power put [sic] railings to support fire fighters dismounting from aerial ladders and we had-- as we have from on a case by case basis now where people are putting up glass barriers or other kinds of relatively lightweight barriers. We've been asking for some kind of well-constructed solid railing that fire fighters can step onto and step down from onto the rooftop in order to ensure fire fighter safety and facilitate firefighting operations. So those are some of the significant changes.

CHAIRPERSON BORELLI: Does the propose Fire Code treat encroachments by solar panels definitely than other building features, HVAC, pipes, skylights, those sort of things. If so, why?

JULIAN BAZEL: Yes, yeah. So, I mean, the whole idea of the clear path is to give us a clear path. It's to give us an unobstructed path,

and obviously if you let-- not just solar panels, but if you, you know,-- if it's not clear then it's going to be a challenge to our fire fighters. Again, as Chief Jardin indicated, we're not going out on a nice sunny day, and we're talking about fire fighters in bunker gear carrying tools. You know this is-- you need adequate space especially when you're traversing rooftops that have many hazards, including unprotected drop-offs. So, what we did with the encroachments precision was to accommodate the available rooftop space by allowing permanent building features to be in the clear path, because as I indicated, the fire fighters will possibly need or typically need access to some of those features. But if we allow everything into the clear path, then we don't have a clear path. So, we have worked-- I should explain to you that in many cases the rooftop applications come in and the nature of the variance, because the rooftop is already not in compliance. I don't think people really recognize that many existing buildings the rooftops are completely obstructed. They are unsafe or difficult to traverse for anybody, not just fire fighters, and when we-- when people come in for variance applications, it's--

sometimes it's really impossible to get the entire roof into compliance with Fire Code requirements. So, it's a negotiation about what could be provided and where things could be placed, and this discussion is had with solar, represented solar installers as well. We've worked with them to try to facilitate where their solar installations can go while ensuring that we can get where we want to go. And as I said earlier, where there's sort of a large issue that's not site specific, CUNY has-- usually is in contact with us and we try to work something out and put it as an FAQ in our Fire Code Guide.

CHAIRPERSON BORELLI: So, what's an example of where you worked with them, meaning the solar industry, on addressing a change that they suggested?

JULIAN BAZEL: Well, I mean, certainly the encroachments provision is one of them we had issues about, vent pipes, and we've had issues about where the access can't be provided, whether-- you know, we've allowed steps, you know, step up, step down. We-- you know, the-- there are areas where access is very limited because of the design of the building, and we've even allowed, you know, the clear

path to be reduced. [inaudible] case by case basis as needed on particular buildings.

CHAIRPERSON BORELLI: Excuse me a second. I'm having an internet issue. Okay. So, on rooftop access, what are the changes specifically then to telecommunication industry apparatus?

JULIAN BAZEL: There were a couple of technical things about markings, I believe. I think the one issue that came up late in the process and is one of the more significant provisions from our perspective, but I think one that would your constituents and residents and others in buildings would be happy with is the issue of protection against cell tower radiation. You know, the Fire Code-- New York City laws including the Fire Code do not establish safe standards for cell towers or other radio frequency communication. This is all established by the FCC and there are OSHA regulations when you are putting up transmitting antennae's, and if they are of a certain power, and it's not safe to approach them, the telecommunications companies are supposed to quarter off the area, put up a sign, and quarter off an area that the public is not supposed to enter. And what we have found is that-- and it's

very hard for us to know because if you're walking past the cell tower, if a fire fighter is crossing a roof and walking past the cell tower. It's impossible to know what, you know, what power it's forecasting what's it's-- what the hazards are unless you actually feel some electricity and tools or on the metal on their ear. So, we are requiring that when plans are submitted for telecommunications, roof top telecommunication installations, we would just want to make sure that they indicate compliance with FCC and OSHA standards with regard to those areas and if there are any transmitters that require areas to be quartered off for public safety, that they are quartered off for public safety.

CHAIRPERSON BORELLI: Alright, let's go into energy storage systems. Can you give us sort of the 40,000 foot--

JULIAN BAZEL: [interposing] Yeah.

CHAIRPERSON BORELLI: take on the change now to regulate emerging technologies on energy storage?

JULIAN BAZEL: Chief, do you want to say anything or should I jump right in?

CHIEF JARDIN: Well, I'll just start by saying, Chair, that yeah energy storage systems certainly presents a concern to us in general. It's still an emerging technology. We're still learning much about the potential in terms of threat to the environment, if you will, especially the built environment. There have been a number of incidents worldwide involving energy storage systems, and you know, large scale energy storage systems, including one just a couple of years ago in Surprise, Arizona that injured a couple of fire fighters very seriously, as well as injured a couple of others. so as this technology emerges and finds its way, you know, into more mainstream usage, we simply want to ensure that it's done in a safe manner, and I think we've been at the fore, if you will, at the front of leading a look into this, and in fact, we conducted-- we facilitated an industry gathering a couple of years ago, even before that, that incident in Arizona that I referred to, on this topic and other sustainability topics to bring in stakeholders from the fire service as well as effected industries to contemplate, right, what the hazard was, where it's going, need for further research. So, I'll just say

that, you know, I think we're dealing with this responsibly. The code changes that you'll see reflect that notion, and in terms of this and other sustainability efforts, there was at that conference that I referred to, that one-day conference on sustainability issues. One of the presenters put up a slide with an image of a steamroller approaching, and somebody with his hand up trying to stop the steamroller. Well, we don't want to be that person with the hand up stopping the steamroller. So I'll just say that with the energy storage, we simply want-- and other sustainability issues we want to manage, it's evolution wisely in a safe matter. With that, I'll turn it over to Julian.

JULIAN BAZEL: Thank you, Chief. Okay, well let me just start that by saying that right now energy, stationary energy stored systems can be installed outdoors in many locations, including rooftops with treated rooftops as outdoors for these purposes. So the doors are already open. We did that by opening-- by promulgating a rule about a year and a half or maybe two years ago now, and so as the Chief indicated, the Fire Department really has been very involved in this issue, has taken the lead in

developing safety standards for this new technology. This code revision incorporates what we've learned and what we have started to do with outdoor systems in terms of developing appropriate design installation, operation, and maintenance standards for such systems. What we are doing beyond that in this code revision is opening the door to an installation of these energy stored systems in buildings, indoors. And of course, indoors present much more challenging safety issues for this kind of system which right now lithium ion and some of the other technologies presents some significant fire and explosion hazards. What we are trying to do here is allow the technology to come in to provide all the important energy and environmental benefits that these systems can provide, but in such a way that we the Fire Department believe that we can manage an incident that should it occur. And unfortunately, if when we ever stop-- if we ever think for a second, well, we're being too restrictive and should we, you know,-- maybe we're overdoing it, there is almost within a matter of days or weeks an incident somewhere around the world that highlights the hazards, and they are significant. I would have to

say that in our discussions with some manufacturers of these systems, it's not entirely clear to me whether they're ready to go indoors. Certainly one of the people we spoke to told us that they're not ready. We were talking about an outdoor system that has received a certificate of approval from the Fire Department, and I was saying, "Well, you know, are you ready to go indoors with this system?" And they said no. I think there was-- everyone recognizes there are significant hazards, but having said that, we-- there are, you know, really smart people and tons of money invested in finding solutions to these technology issues, and it could be tomorrow when someone announces a solution to thermal runaway and some of the other technical issues. What we have done and what's reflected in this code is adopt a method of evaluating. It's not just the manufacturer says it's good or the Fire Department says it's good. we have developed working with national standard making organizations throughout the country, you know, FBA [sic], Underwriter's Laboratories, Federal Government, State Government to develop testing methodologies for the batteries so we can-- and essentially destructive testing to see what happens

when they fail, and what the hazards that are generated at that point so that both the manufacturers and their designers and the Fire Department and its engineers can see whether or not those hazards can be mitigated and what the manufacturers have done to mitigate it, and whether it's safe to bring them into a building, generally, a commercial building as well as one and two-family homes. And that's the process we created in addition to a variety of our safety features to ensure that once installed, they're going to be operated and maintained safely. For example, all of these energy stored systems are remotely modified -- I'm sorry, remotely monitored by an energy storage system, managing system so that they can monitor whether there's any problems with their performance and in some cases shut them down remotely. We're going to have a certificate of fitness which would most likely be a storage system installer who's knowledgeable about the installation, to be our point of contact, to be responsible for ongoing maintenance, and notification to the Fire Department for [sic] familiarization [sic], and in the event of an incident, notification to the Fire Department so that

we can respond and talk to knowledgeable people about what's going on with the battery system, what the correct course of action is, and all of--

CHAIRPERSON BORELLI: [interposing] [inaudible] Are we using the same UL standards of testing as every other city and state in the country?

JULIAN BAZEL: I can't say to that. Certainly, all the national standards are now looking towards these UL testing-- testing and listing [sic] standards. Yes, that'll be sort of the state of the art, and everyone recognizes their importance. Usually, there's a testing process that results in what's called a listing, which is an approval to you of a particular product as meeting the UL standards and related standards and certifies that it's performing within certain parameters.

CHAIRPERSON BORELLI: And are those tests and standards and parameters, again, the same here as they are elsewhere, or are we sort of unique in what we're doing?

JULIAN BAZEL: Well, that part of it I think is pretty standard. What we are doing is here may be somewhat different from the national standards. What we have done is we have treated

energy sources in sort of the same way that we-- that the Fire Code and the model Fire Code tree [sic] as this materials generally. These are chemical-- electrochemical devices. They have hazardous materials and present similar hazards as hazardous materials generally, and we are using what's called the maximum allowed quantity, MAQs, to keep the installations lower in the building where they're more accessible for fire fighters and by establishing maximum power, equivalent to maximum quantities of hazardous materials so that the size of the systems is appropriate. Now, if this doesn't-- in some cases it's maybe more liberal--

CHAIRPERSON BORELLI: [interposing] [inaudible]

JULIAN BAZEL: [inaudible] in other cases we're more strict, but the bottom line is is that-- as I said a moment ago, what we want to feel comfortable is we're opening the door to these systems, but we want to be comfortable that we created a framework that will be able to manage any incident that will occur, and that starts with a well-constructed room. We're working with the

Building Department and developing battery room construction, a robust-- a sprinkler system, a gas--

CHAIRPERSON BORELLI: [interposing] But, so are there any--

JULIAN BAZEL: [interposing] [inaudible]

CHAIRPERSON BORELLI: Are there any available systems today, battery systems that are able to be installed in a building the day we promulgate these rules?

JULIAN BAZEL: Possibly, possibly. I don't think that--

CHAIRPERSON BORELLI: [interposing] So, I mean, just to be--

JULIAN BAZEL: [interposing] Contractors have not come to us--

CHAIRPERSON BORELLI: [interposing] We're promulgating-- wait, wait. So we're promulgating rules that we're not even sure a battery system could provide us?

JULIAN BAZEL: No, no. I mean, there are battery products out there. It depends on what they're being used for and where they're going to put them. the manufacturers who will come in and submit their product and show what their performance stances

[sic] are, and then they will indicate whether or not, you know, what kind of uses they intend to use and where they intend to put them. We're not-- you know, we're opening the door for them to come in and present this to us. and I think at this point in time basically there's no mechanism to bring these in, except on a case by case basis and then we would be applying these national standards. We're creating a framework. All manufacturers and installers, as much as they may have reservations about government regulation, they all want a framework that tells them here's what you need to comply with so they know where to go. They know what they need to and where to go, and that enables them to design systems that can be brought into buildings. So the regulatory framework is very critical and early development in an industry that's in the early stages of development, and I think we actually have not-- other than in some limited settings, we've I think received more support than criticism about what we've done here, because I think there's a recognition. Certainly, building owners are very aware that although there's a tremendous benefit to be gained from these systems. At this stage in their

development there's still some significant hazards, and they're not necessarily rushing to put these in willy-nilly.

CHAIRPERSON BORELLI: No, and I certainly agree with you that overall the adaptation of batteries for buildings is going to be one of the greenest things this city has done as a policy in maybe a decade. I mean, is there a different set of standards for different battery systems or battery types, [inaudible] lithium ion versus lead versus nickel, etcetera?

JULIAN BAZEL: So, all of the-- all different types of battery systems present different hazards. Lead acid batteries have been around for a long time, and their performance is well understood, and they're being used in many buildings right now in terms of for emergency power or uninterruptable power supplies. But we're being technology agnostic here. We're not trying to push on technology or another. However, in those buildings where, you know, battery systems may be needed. We-- that are not necessarily-- you know, they could be combustible construction. They may not be sprinkler. They may not be the type of building that you would put high-

hazard occupancy in. in those settings we carved out an exception to make sure that you can still put in lead acid in order to provide essential emergency power or other power needs. At the same time, however, we have open the door potentially to bringing these new technologies into those buildings as well based on their test results. But in the modern office setting, you know, combustible construction-- I'm sorry, non-combustible construction like sprinklers and all the other safety features. Any one of these battery systems can-- if they meet the design requirements, and within the framework that we created could come into the building. Once we have evaluated their performance and when they fail and determined that they're-- those hazards can be mitigated.

CHAIRPERSON BORELLI: And lithium batteries could go into residential buildings, small residential buildings?

JULIAN BAZEL: Potentially they could. Again, just want to emphasize that right now they can be installed outdoors in backyards, side yards. They can be installed on a rooftop on flat buildings, and we would be allowing them on external walls and

garages under the new Fire Code. In terms of coming into the dwelling unit, that's where we want to be sure that the performance of these batteries is such that it would be safe to do so. As you know, most one and two family homes are not-- don't have all the fire protections that commercial buildings do. They're typically combustible construction. They're not strengthened [sic] in most cases, and so you know, they have a lot of combustible materials that, you know, combustible furnishings and other combustible stuff.

CHAIRPERSON BORELLI: Will there be a monitoring requirement for residential buildings?

JULIAN BAZEL: Yeah. Well, not the monitoring that we normally have for fire protection systems which is a central station. We were-- we have been given to understand and this code reflects the industry practice right now with this technology is, every battery system including the smaller ones that serve as one or two-family homes, are remotely monitored probably to some kind of wireless system by the manufacturer or whoever they, you know, retain to perform that just to make sure that, you know, there isn't something happening. This code-- and you know,

the future rules and understandings of the industry will require if the industry becomes aware that these batteries are moved into an area that could potentially a serious failure of the system that they will call 911 and notify us of that so that we can respond appropriately.

CHAIRPERSON BORELLI: On the telecommunications side, some providers express concern that the new regs will burn existing infrastructure, specifically that utilizes lead and nickel batteries. How will that-- they need it for back-up power, frankly. So how would that work and how is this changed now [sic]?

JULIAN BAZEL: I'm not sure what they're referring to. As I said earlier, we carved out a number of exceptions for lead and nickel batteries that will enable them to be installed even in places where we're not right-- the code would not allow as-of-right installation--

CHAIRPERSON BORELLI: [interposing] I mean, specifically, below-grade installation.

JULIAN BAZEL: Okay. So, this is a general fire safety issue. The Fire Codes in general, again I'm using the analogy for hazardous

materially, and generally, you know, discouraged below-grade storage of hazardous materials and other fire safety hazards because in the event of a fire it's very difficult going down into a fire. Heat and smoke rise, and you know, going down into a fire as well as anyone who's in a below-grade area will have difficulty getting out of the low-grade area. But putting that aside, so we are generally prohibiting it, but we've carved out some exceptions, certainly for utility facility substations and so forth, that would be something that, you know, since they often operate in below grade areas, that would be something that would be allowed. As far as other below grade areas, I think we will-- we've given ourselves discretion to see what the immediate were, and you know, whether-- and we would be able to approve it as appropriate. And again, assuming that the hazards could be mitigated at that location.

CHAIRPERSON BORELLI: So, just jumping back now to residential buildings. So we're going to have essentially a requirement that is an outside monitor to some degree, I guess some sort of a system to monitor batteries on small residential buildings without a central station. How would the Department

ensure compliance? Will we have to start doing inspections of residential units?

JULIAN BAZEL: No, we-- as we normally do, we carved out one or two families from an inspection requirement. We do have a notification upon installation so that if the local fire company wants to familiarize themselves as a location and certainly as there is an incident and it has to be decommissioned, that might be something that we'd be involved in. But we generally out-- our policy is not to conduct inspections in one or two-family homes. So, you know, for one and two family homes we would not be doing inspections. However, the certificate of fitness holder [sic] is responsible for that installation would be expected to conduct I believe an annual inspection and make sure that everything is physically in place and operate-- and appears to be normal in addition to the remote monitoring.

CHAIRPERSON BORELLI: So, that would be the same, theoretically, company doing the remote monitoring, would file a certificate of fitness and just ensure that the system is working properly.

JULIAN BAZEL: You know, this is an evolving industry and we don't-- we haven't gotten involved in parsing out who's going to do what. Essentially what the Code says is the owner of the building in some cases, probably not in the one or two-family homes. The manufacturer that's selling the product and the installer that's installing the product sort of have to develop an appropriate arrangement to address all of these issues. As we understand it at this point in stage of development, the manufacturer that's selling probably the batteries, certainly to one and two-family homes will probably be the party that's monitoring them remotely at this time. The certificate of fitness holder will probably be the installer. In some cases, the manufacturer may have its own installers to do its own installation and other businesses. There's the different companies that manage that process. This is sort of what happens right now with fire alarm systems. You may have a fire alarm installer who does the installation and then connects you up with a central station that will do the monitoring, and then the central station becomes aware that there's some problem with the system. The central station

notifies the installer and one or both notify the owner and say, you know, we need to come out and fix something. So, we are not, sort of, you know, telling this business, this evolving industry, how it should run its business and what it's most efficient business model. We are simply-- want to be sure that with this product at this stage in the development that we keep businesses that are responsible for installing it, monitoring it, and maintaining it are basically coordinating with each other. Everyone knows who's responsible for what and at an appropriate point in time, if there's a problem that they make a notification to the Fire Department so the Fire Department can respond. The Fire Department has access to the C of F holder who is familiar with the particular installation, as well as potentially it really is a serious incident, a subject matter expert that can tell them what to expect. I should just explain one thing. I mean, with a lead acid battery system typically or in every case, when you go there and you switch off the power or disconnect it from power, the reaction ends. You still have mitigate whatever hazards have been created, whether it's a fire or a gas condition. You know, the

chemical reaction is over and the situation can be contained. With lithium ion batteries and some of the other new technology with thermal runaway [sic], you may go there, the thing is smoking. There is really nothing that the Fire Department-- if you turn off the power it doesn't matter because these things are eternally generating the chemical reaction. There's nothing to do at that point. Putting water on it won't' help because it's encased in a cabinet. So the Fire Department really needs to monitor it and get an indication of what might be happening in the next half an hour or hour, and whether they should put water on it to cool, but once the fire-- obviously, once there's a fire that water will be applied either by a sprinkler system of our Fire Department to cool it and prevent fire spread. But this is a much more difficult situation than your typical battery installation that we deal with today.

CHAIRPERSON BORELLI: so, what's the justification then for permitting below-grade indoor installation of energy systems but R3 zoning, but not other ones?

JULIAN BAZEL: Well, again, the basement-- below-grade areas in one or two family homes are

often very inaccessible. It's true there are some basements like in the, you know, street level of brownstones that are relatively accessible from the street. There's a separate entrance. But in general, when we think of basements and cellars they've had to get into and if a fire occurs in those areas, it's going to be hard for the Fire Department to get to it quickly and effectively put out the fire. And then I have to emphasize, which as you know and as I think people are increasingly aware. Whereas, in other jurisdictions in general, people consider basements and cellars as unoccupied spaces, but in New York City that's not the case. There's a lot of occupied basements. Putting a power system in a basement where you have the fuel oil tank and the furnace or you have your gas connection, and/or gas connections where you may have unfinished walls so you don't have sheetrock protection of the structure where its un-sprinklered [sic], of course, in most cases. This is not the ideal location to put an energy stored system at. Now having said that, most likely where we'll start to see these things coming in first is in new construction. Once, you know, the battery systems are developed and the manufacturers

are confident that they have a system that is safe to operate in doors. You know, new construction can be designed to make an appropriate place for these batteries, to provide appropriate fire separations, almost certainly a sprinkler head or two or three depending on the battery and location. Possibly they made need ventilation depending on whether or not how successful the manufacturers have been in addressing the out-gassing [sic] of a plombul [sp?] or other gases. So all of that is something that will evolve, and given the market demand to solve some of our-- to reduce fossil fuel consumption and to promote energy efficiency, to capture energy from solar installations, which obviously, as you know are being promoted through law as well as for economic reasons. All of this really is a big push to get these things developed, and I assure you, there are a lot of smart people all over the world with a lot of resources, putting a lot of time to solving these problems, and it would be very surprising to me if in the next months or years these-- some of these problems are either solved or at least mitigated to the point where building owners-- forget about the Fire Department, but the building owners themselves,

certainly the sophisticated knowledge of the building owner are going to be ready to put in battery systems. Now, one and two families, it's a small battery system in, you know, in a closet-sized space. And when you're talking about high rise buildings, you're talking about very large installations, even you know, substantial portions of floors of batteries. And as we've seen with lithium ion batteries on a consumer products scale, even a small battery can have a very significant hazard impact, and this would now be really large installations.

CHAIRPERSON BORELLI: Alright, let's move on to distilleries. So, can you give us a general idea of what, if any, the current regulations for distilleries are in New York City?

JULIAN BAZEL: Chief, do you want to say anything, or should I just launch right in?

CHIEF JARDIN: No, on these specific code-related questions, Julian, if you wouldn't mind.

JULIAN BAZEL: Yeah. So, when we adopted the 2008 Fire Code, there were no distilleries, to our knowledge, in New York City, and there were some old provisions about distilleries that sort of were-- in the old Fire Code that were left to expire, and we

went with the International Fire Code which basically treated all distilleries and distilleries we're talking about the stone [sic] spirits [sic] which are alcohol with a flammable that are flammable as opposed to beer and wine which are typically combustible at best. So they have a much lower flashpoint. We treated them like any other flammable liquid, which for all practical purposes, if you are following the Fire Code to the letter, you really couldn't construct a distillery in New York City. It just-- the restrictions were so limiting that distilleries couldn't open. What happened then is that these distilleries were open. They sort of came in under the radar. They were not necessarily in compliance with Fire Code requirements, and when we became-- were made aware of them, we realized that we needed t actually loosen up Fire Code regulations to some degree to allow distilleries to operate, an important, you know, economic developing industry and helping promote the New York City economy. The problem with distilleries from a fire safety point of view is that they are heating. In the manufacturing of whiskey and other kinds of distilled spirits, they're heating a flammable liquid, handling it,

bottling it, storing it. All of those have significant fire safety hazards, and like, because they're somewhat volatile when they're-- as flammable liquid, when they're heated they put out vapors, flammable vapors potentially, and if they're not properly handled and they achieve a certain concentration, you can actually have an explosion. So that's really what the concern is. Now at the same time we've been having discussion with the Department of City Planning about the desire of distilleries to operate in mixed occupancy buildings. So, unlike distilleries in other parts of the country where you see those very large distilleries out in the country in Tennessee or Kentucky, you know, where hundreds of barrels and huge stills. In New York City, what we understood the likely evolution of this industry was in the nature of the brew pub, a tasting room or a bar in which people could come and sample the wares [sic] with the distillery in the back, you know, through a glass window where people could learn about distilling and see the equipment and get to know it. So with that objective, we began to develop regulations that would facilitate the construction or the installation of distilleries in mixed occupants--

mixed occupancy buildings, not in detached buildings in an industrial park far away from all potential vulnerable occupancies. And so we developed a set of regulations for small, medium, and large distilleries that would enable them to operate to have much higher quantities of flammable liquid than other flammable liquid buildings and businesses.

CHAIRPERSON BORELLI: So, that's existing facilities. Can you give us sort of the overarching changes that will-- everything will change because there are none. But can you give us the-- it's sort of the overarching idea of what distilleries would expect to be permitted to do in terms of size and requirements?

JULIAN BAZEL: Yes. So first of all, I want to make clear that what the Fire Code is addressing are newly constructed distilleries. We recognize that the existing distilleries were constructed under standards that will be different than what's in the Fire Code, and we've separately raised with them provisions that would address existing distilleries and basically accommodate some of their existing requirements. But fundamentally, what we're trying to do is limit the quantities both

in the aggregate in the entire building as well as in what they call fire areas, which are rooms with the fire separations. We are going to regulate the installation to make sure it's safe and to review the equipment that are being used. We are going to require, as is pretty standard, a sprinkler, sprinkler system as well as potentially some kind of exhaust system which would be required. Every building has a ventilation system, you know, a new building typically, unless they have very large windows and-- but depending on how they are operating, they may need an exhaust system that's activated by a flammable gas detector. And we have usual permit and certificate of fitness so we have a point of contact to make sure that people are knowledgeable about it. I will emphasize that in developing these regulations, we-- during the advisory committee process, we separately met with representatives of the-- New York City representatives and New York State Distillers Guild to understand their issues and concerns. We made many changes to address tier business practice and what they thought was necessary for their business operations. And then after, we invited them to

participate in the public forum, and then even after the public forum, we've been talking to them about remaining issues. you know, they have asked us at this point to consider some additional comments that would address-- provide a little bit more flexibility in some of the design requirements, and we have indicated that we are seriously considering that and might be willing to make a couple of additional changes in the code to adjust those concerns. But the-- throughout this process we had been working with the industry and trying to make this workable, but what we've emphasized to them is we're not talking here about the giant factory-type facility. If someone wants to build on of those in New York City, notwithstanding the very high real estate prices, we would expect that to come in as an individualized application and we would probably more inclined to adopt some of the industry practices and standards for distilleries. But we-- what this code is addressing are the tasting rooms and the small to medium distilleries and mixed occupancy buildings where you're going to be surrounded by possibly places of assembly, by stores, public open areas, public spaces, outdoor public spaces. We need to

maintain appropriate levels of security for new-- of safety for newly constructed distilleries.

CHAIRPERSON BORELLI: Thank you. and I do hope you stick on for sort of the public commentary portion of today's hearing only because, you know, unlike some hearings that get dominated by the public generally speaking, we know there will be a lot of technical suggestions based on industry insiders from a host of different industries. You did expertly predict my next question. The one I will ask now is about the fee. Why is there a 210 dollar fee to operate an established distillery? So it's 210 dollars for 8,000 gallons and it's 105 for every additional 5,000. Who came up with the math on this and why-- why do we need a fee structure?

JULIAN BAZEL: As you-- as I'm sure you know, facilities like this we typically have a Fire Department permit, and the purpose of the permit is not just to collect the fee. The purpose of the permit is to put this on our radar so that we're aware of the existence of it, our fire fighting forces also becomes aware of the presence of it, and we do-- permits are typically associated with an annual inspection by Fire Department inspector to

ensure that the facility is being maintained in accordance with the codes. So 210 dollar is our standard fee rate of one hour of inspectional time. now, the actual fees for this particular installation are pretty much copied from what we have for flammable liquid facilities in general, and that the reason why we have sort of incremental fees is because, you know, the $210 is your basic inspection and permitting and so forth, but when you have very large facilities with, you know, many, many gallons of flammable liquid, the inspection takes longer, so we add an increment of a half an hour, pretty traditional increment of a quantity of hazardous material.

CHAIRPERSON BORELLI: Let's move on to scooters. So e-bikes and scooters basically, just tell us about the balance that you guys struck between the safety of some of these charging and battery operating devices versus the desire for the city as a policy goal to encourage people to use them, and how will we enforce compliance with rules in smaller residential buildings?

JULIAN BAZEL: Chief, do you want to talk about some of the fires we've had with the bikes?

CHIEF JARDIN: Oh, yeah, just, Chair, if I could, and I mentioned it in my testimony prior to Julian giving you some of the specifics on how the code is looking to regulate some of this technology going forward. within the last year we've become aware of sort of almost a spike, right, in lithium ion related batteries very often affiliated with personal mobility devices, scooters, and bikes, and you know, and other small devices as well as other lithium ion powered devices, could be power tools, could be other things, right? But generally the scenario is during charging very often there's damage to the battery itself. Could be a mix of batteries installed on the device or batteries removed from the device and simply being charged in place, but within the last year since we started counting and we've given that responsibility to our Bureau of Fire Investigations, our Fire Marshals, we're upwards of 80 so far and we don't know or trust that that's a truly reliable count. We suspect it's larger than that. These are the ones that we know about and are reported to our fire marshals by our units on the scene. So-- and they're happening in many different circumstances, in apartments-- just over the weekend

I happen to be working, had a report of several batteries being charged, I think on 61st and Fourth Avenue in Brooklyn. Don't know if it was the battery or the panel overloaded charging the batteries, but we had a fire that originated in that area, right, and it caused extensive damage. So--

CHAIRPERSON BORELLI: [interposing] I have a basic question that maybe I should know the answer to. If one of the batteries that are charging by an e-bike or something overheats and starts a fire, are the adjacent batteries and other mobility devices next to it under increased risk for, you know, exploding or inflaming?

CHIEF JARDIN: Well, generally speaking I would say yes. The concern is with that battery itself, right, the one individual battery. And Julian mentioned the phenomenon earlier, thermal runaway where because of the dense power location in that individual cell, it's got, you know, considerable potential to ignite those other cells directly surrounding it. So, it's more when you're talking, those cells touching one another I think you have the concern of, you know, a rapid proliferation. Just any combustible in vicinity of that fire is

going to be prone to igniting, right? Ignition and then further fire development, but so I just wanted to point out that we're recognizing this is a concern, and again, another sustainability-related item we're looking to manage in a responsible way. We did-- we have noted we have three fire deaths so far this year related to fires involving lithium ion batteries in some form or another. So, this is kind of a first step at coming up with an approach to dealing with the hazard. There probably is opportunity going forward to better define as we better understand, facilitate more researches to what are the appropriate-- not only operational effort, but perhaps regulatory efforts which, you know, you're going to explore more with Julian. But Julian, if you could answer the Chair's question regarding, year how we're doing it in this edition of the code.

JULIAN BAZEL: Yes, just an answer to your question, I think the answer is yes that the hazard that is generated by an individual battery or a device definitely puts the adjoining batteries and devices in jeopardy. The whole issue here which is true both for these small batteries as well as the

much larger building size ones is, you know, the heat and the flames that can be generated can cause other devices to fail. I mean, that's sort of the, you know, the Achilles heel here. And that's important to emphasize, even if the installation is working normally and everything is fine, you know, fires happen in buildings, certainly in one or two families we have a lot of fires, and even in other kinds of buildings we have significant fires. Exposing these kinds of systems to fire or other kids of physical damage, you know, if there's some collapse or something that causes physical damage to the battery, you can, you know, trigger very serious consequences. So the answer to your question is yes. Now, more generally, when we propose this Fire Code amendment we weren't really thinking about the fires that-- all the fires we're having now. There had been a significant fire in a repair and maintenance facility where, you know, there were a lot of these bicycles and/or batteries, some of these bikes and other devices you can remove the batteries and just charge the batteries. You could have hundreds of batteries in one place, and it's like any, you know, your classic, you know, fire hazard in a one, two- family

dwelling. It's like you have overloaded circuits. You have extension cords. You have combustible materials. You have, you know, not professionally designed installations. So if one of these batteries is weak link or the charging, very importantly, the charging equipment is not the proper charging equipment for the battery and it causes it to overheat. It's working fine. It's working fine. It charges up to its limit, but it doesn't know to stop, so it keeps on overcharging and overcharging and before you know it, it's going to thermal runaway and that can generate-- spread to other batteries, potentially cause explosions and create significant damage. So what were the-- all we attempted to do in this Fire Code was not-- you know, to solve this, the larger problem about technology. Some of that will have to be addressed through federal regulation of consumer products as I think happened to some extent after the hover board fires a couple of years ago. What we are requiring in here is that the charging equipment, you should use the proper charging equipment, charging equipment that's been approved in accordance to UL standards, and if you have six or more of these devices that you're charging in a

single room, then the room should meet certain fire safety standards. Now having said that, there's a few exceptions. First of all, we're not attempting to regulate. We have people charge their own personal, you know, bike or their own scooter, or whatever kind of device. Obviously, that would be unworkable and intrusive. You know, if you're going to be charging a device in your presence or under your supervision, wherever you have a place, suitable place, hopefully a proper electrical outlet that has enough power to provide the necessary power, and you're going to monitor it under your supervision, it's not subject to this regulation. Additionally, in one or two-- in dwelling units, whether or in one or two-family or apartments, you know, we recognize that, you know,-- unfortu-- for better or worse, you know, hopefully this technology gets improved very quickly, given all the fires we've seen, but we didn't-- you know, we allowed up to five devices in a dwelling unit. Those are the people that have a couple of bikes or they have a disability scooter or a wheelchair or some other kind of hover board it whatever. There's so many different devices now that are going to be using these batteries. We have some flexibility.

Now, obviously, we don't want people which does seem to be happening using their apartments--

CHAIRPERSON BORELLI: [interposing] We can't inspect that anyway. We can't--

JULIAN BAZEL: I'm sorry?

CHAIRPERSON BORELLI: We can't really force compliance anyway. We're not going to people's apartments and counting scooters.

JULIAN BAZEL: Right. Well, the Fire Department is not coming into your apartment to inspect it, or else-- I guarantee you everybody would be getting a violation for something, because everybody's got all kinds of unsafe conditions in their apartments. But yes, we don't do that. But what we do think will happen is by creating some standards for storage and charging rooms, which you know, the current bike rooms in apartment buildings or the current bike rooms in office buildings. You know, right now people are storing bikes in them. In the future we wouldn't be surprised if people would say, "Can you put some power in there?" so at the end of the day we can-- or in the morning, and the officers come in to work and, you know, plug in our e-bikes and then we can-- we're all powered up when

we're ready to go home or vice versa at the residence. We expect to see that. So we're creating some regulations to make sure that there are safe-- that can be done safely in a room where you might have 20 or 30 or even more bicycles, and obviously this avoids power strips and extension cords and keeps some suitable separations. We have some physical distances, but we're expecting that there will be like cubbies and specially designed charging facilities that people will be able to purchase that are non-combustible that will maintain some separations between all of these devices. And what has happened already, we've already gotten people coming to us and saying are there standards for these-- for our bike rooms, so that for buildings to enforce this, they can say look,-- they can-- I mean, you know, the Fire Code is the minimum fire safety standard. The building owners or co-op boards or whatever don't think it's too dangerous for people to be charging these bikes in their dwelling units, and the decide to create this kind of safe bike storage or charging room. They can tell people you have to store it and charge it down there, and that may help

meliorate the problem, at least until the technology issues are resolved.

CHAIRPERSON BORELLI: Sorry, I muted myself. Fire protection systems, the proposed amendments include new requirements related to monitoring fire extinguishers systems. Can you explain the changes and whether a central monitoring is required for R3 zonings.

JULIAN BAZEL: Are we talking about-- you're talking about fire extinguishing systems?

CHAIRPERSON BORELLI: Yeah, tell me about Fire Code Section 904.

JULIAN BAZEL: I don't-- I don't believe that we require fire protection systems to be central station monitored in one or two families [sic]. I could confirm that, but--

CHAIRPERSON BORELLI: [interposing] I think it-- it's a pretty big confirmation. I mean, I think that's a-- that might be a--

JULIAN BAZEL: No, I-- typically, those are-- commercial buildings are monitored by central stations, but no, I don't believe so, but I will-- Shaji, do you-- can you weigh in on that? Could you answer that question? You have to unmute.

DIRECTOR JOSEPH: Yeah, I'm back on. Chair Borelli, I think we have an exception built-in to the proposed code to allow one and two families you know, when they install a fire protection system or a fire extinguishing system, not to have central station monitor.

CHAIRPERSON BORELLI: And just to be clear, central station monitoring, though, could be off-site. It could be a system monitoring from the provider?

DIRECTOR JOSEPH: That's correct.

CHAIRPERSON BORELLI: What's the intent behind requiring additional five-year testing of systems?

JULIAN BAZEL: So, the-- we're talking about fire alarm systems.

CHAIRPERSON BORELLI: Yeah, [inaudible]

JULIAN BAZEL: So, one of the issues about fire alarm systems, which has always been of a concern to the Fire Department is that we go through great lengths to make sure that fire alarm systems are properly installed and, you know, correctly operating at the time of installation. This is a critical fire safety system. Fire alarm systems are

key to making-- alerting people to fire in a building or emergency alarm systems to carbon monoxide or other types of dangers in the building, and it's-- so it's really important that they work and they work properly on all floors in all locations. And however, having made sure of that, and we do a final inspection after installation and then we give a letter of approval for this system. We require in the Fire Code that the building owner, you know, have periodic inspection and testing of the system in accordance with National Fire Protection Association Standards by a professional, but we don't really follow up on that at this time. I mean, there are a lot of fire alarm systems in New York. This is-- but we finally decided that we really need to be sure that building owners and their contractors are doing what they need to do, and so we're going to have a five-year certification to make sure that-- by a qualified professional who will confirm that at least once every five years-- they're supposed to be going there on an annual basis and in some cases even more frequently than that. But--

CHAIRPERSON BORELLI: [interposing] These standards were all aligned with NFPA standards?

JULIAN BAZEL: Absolutely, yes. I mean, as a practical matter, the NFPA, although it-- we're not quite sure what the five-year certification will necessarily involve, but as a practical matter, probably everything we're going to ask for they should be doing every year. We're only asking for once every five years. So it shouldn't really create-- I mean, maybe they will ask them to do something more than the NFPA, some additional task or something, but it shouldn't create a significant additional cost or burden on building owners that they currently have under the NFPA standards.

CHAIRPERSON BORELLI: Is it necessary for every fire command center to have a printer? I mean, are we outdating ourselves?

JULIAN BAZEL: Well, I'm glad you mentioned that because that is a perfect example of sort of the commonsense input that we do get through our code division process. When you have a fire in a high-rise building, for example, there's a lot of points of data that are coming in, and having all these chiefs and other building people standing around looking at a panel which may be fairly small and may not be able to show all this information is

not actually the best way for them to understand what's happening, and you understand that as a fire spreads it's activating a fire alarm here, a sprinkler there. So our thinking was, let's get a printer and you could actually print out a few copies of this and everyone could sort of eyeball, quickly see where the fire is spreading to or where devices are being activated. But we did get a comment at our public forum in response our public forum that said that, as you said, a printer may not be the easiest thing. We may-- it may be hard to install. It's an open area. So they suggested that it might be possible instead for the building to give everyone an iPad or some kind of, you know, tablet, and so everyone could be looking at the information on their tablet, and that actually would be easier for them to manage than putting in printers and running wiring and so forth. And we did, we amended the Fire Code to say a printer or other approved device.

CHAIRPERSON BORELLI: Let's move on to dry cleaning, somewhere I have to go today as a matter of fact. Can you just explain again, layman's terms, changes to the automatic sprinkler requirements?

JULIAN BAZEL: Yes. So, in the past, before 2008, these dry cleaning installations typically need BSA approval or many cases needed BSA, Board of Standards and Appeals approval, and they had certain sprinkler requirements associated with that which the Building Department enforced. In 2008, when we adopted the model code, we went with what the model code provided for which is that in dry cleaners, dry cleaners should be fully sprinklered [sic]. Now this wouldn't apply to existing dry cleaners. It would be newly constructed dry cleaners. They should be fully sprinklered just like almost every occupancy these days is fully sprinklered, except for some one and two-family dwellings. However, that normally anticipates that you're going in. You're opening up your business. You have raw space, and you're going to put sprinklers in and the buildings equipped to provide sprinklers, and it's all sort of normal business. So standard operating procedure for a building. What has happened with dry cleaners is that they have been mandated by environmental regulations to discontinue their existing equipment that uses certain environmentally-unfriendly cleaning agents, mainly

Perc [sic], as it's called, perchloroethylene, and as a result they've had to alter, remove the dry cleaning equipment. And that by removing, that constitutes an alteration under the Building Code, and the Fire Code and that meant that there was triggering a false sprinkler requirement in existing buildings. And we agree with the industry that that could be very burdensome in many of the buildings in which dry cleaners are located. They're often located in apartment buildings. Many older apartment buildings don't have provisions for sprinklers and certainly mid-stream it would be very costly for a dry cleaners to shoulder that cost. So what we did in consultation with the dry cleaning association, we developed appropriate guidelines for installation of new dry cleaning equipment which would now only be protected by limited sprinkler protections for the equipment itself, not for the entire space. And the reason why we felt comfortable doing that is over the years, the dry cleaning equipment itself has gotten safer. Although they are now using a slightly somewhat combustible cleaning fluids because of the undesirability for environmental reasons of non-combustible cleaning fluids, the dry cleaning

equipment has been developed to operate what I call inherently safe. Either it doesn't allow enough oxygen to allow the cleaning agent to ignite, or it has sensors that immediately shut down the process if the fluid starts to heat up, or it has built in fire extinguishing agents. So if it starts a fire, it extinguishes the fire. So given that the equipment is substantially safer than it was in the past, and given the economic burden on the dry cleaning industry of trying to fully sprinkler their spaces, we-- in existing facilities. We worked out a set of guidelines and started implementing it by variance, and now we're bringing those variance requirements into the code itself, so it would be as-of-right.

CHAIRPERSON BORELLI: Aright. Keep muting myself. So, does the allowance now of partial sprinkler systems mitigate a cost and then we-- do you see this-- do you see the implementation of these rules overall as increasing cost to dry cleaning establishments, or is the allowance of partial sprinkler systems going to mitigate that somewhat?

JULIAN BAZEL: I would say almost certainly will mitigate it. I mean, one or two sprinkler heads can be run-- or typically two

sprinkler heads unless you have more equipment, multiple equipment, then you have more sprinkler heads. They can be run off the domestic water, you know, the water that's used for drinking and cleaning, and because it's a limited amount of water that needs to be drawn. So you don't need a major installation. It can be done relatively simply by a plumber, and this is what the-- in the past had been done, and we've been talking to the dry cleaning industry and they were very happy with what we ended up with. You know, they really felt that we were very responsive to their needs. It did take us a while before we sorted out all the-- how this would work and all the specific requirements, but once we did that, starting I think last-- some months ago. I can't even remember the-- it's been at least three or four months, maybe more. You know, dry cleaning establishments have been coming in and we've been issuing variances, and that's enabled them to remove their Perc systems and put in new systems without triggering very expensive and complicated filings. I mean, they still have to do filings with the Department of Buildings to replace the equipment, and that's really where the big cost is.

CHAIRPERSON BORELLI: Let's just stay with cost, and this is probably my final topic. I'll open it up to questions from others before we move on to the public testimony. So appendix A lists 108 individual fee costs and codes, 18 of those have changes. They also have a scope. They expand the scope really. They offer fee increases and they add new items for fees. So why was it important that we-- do you believe this will add revenue to the Fire Department's revenue collection, and why was it necessary to change the fees at this point?

JULIAN BAZEL: Yeah, well, we-- basically this is-- the only fees that we have there are-- other than some things that might have been reorganized or clarified, basically the fees are new fees associated with new requirements. So, for example, the stationary energy storage system or distillery. These are new requirements in the code, and we typically provide a fee to support the staffing that's necessary to administer whatever the code requirements are. Some cases then we have to review plans or we have to do inspections or to witness tests. You need to have some fees to do that, otherwise, it's-- can't provide the staff. as

you noted from the outset, it's important that we maintain staffing so that we can ensure that building owners are compliant and-- but the fees that we-- just to reiterate, in every case, you know, our fees based on, you know, almost virtually every case the fees are based on standard $210 an hour kind of inspection. The same framework that we have pretty much all our fees, and in general I think you would-- most people would agree that Fire Department fees are on the low side compared to most of the agencies in terms of the services we provide. They're-- our fees are pretty--

CHAIRPERSON BORELLI: [interposing] You're the best worst. Let me-- just so-- our Committee Counsel, who's always a sharp guy just pointed out Section 90435 about the fire extinguisher monitoring, it does not mention a one to two-family exemption. So that's certainly a change that we picked up on now that we're going to really demand that you guys change, but I think you would agree, and you did agree in concept as we were speaking about it, but the section doesn't have that.

JULIAN BAZEL: we will-- we will take a look at that. Maybe it's somewhere else, but I don't

think we normally expect to see that [inaudible] monitored [sic]. But as I said earlier, we'll double-check and we'll get back to you and confirm or correct whatever we send you.

CHAIRPERSON BORELLI: EMS response incurs a cost, but and their costs have risen, but 80 percent of the fees in the revisions don't change from the 2014 Fire Code. So, is there-- do we need to-- and I'm asking kind of as devil's advocate. Do you think we should increase the cost more?

JULIAN BAZEL: Well, not at this time. If we were going to do that, I think we would need to do a cost analysis and see where fees could be changed. Maybe, you know, some could be raised and some could be lowered, but I'm not prepared to address that, because as far as I know we are recovering our costs and, you know, at this time I don't think we're asking for a fee increase, a generalized fee increase. Now, to the extent that we are making-- if we need changes, we do have the ability to adopt fees by rule.

CHAIRPERSON BORELLI: I have no more questions. Committee Counsel, are there any members that are queued up? Oh, I do have one more question,

sorry. Fire inspector staffing-- the staff was budgeted but not hired. Why is there still a delay in inspectors? You're muted.

JULIAN BAZEL: That would be Chief Jardin.

CHIEF JARDIN: Yeah, thank you, Chair. So, I just want to try to understand your question. So you said that we've been approved to hire inspectors and why aren't we hiring. So we have a number of vacancies across the landscape of the bureau in terms of inspector vacancies. Most of them are fire protection inspectors affiliated with our units that do, you know, what you might term conventional fire inspections, our district offices that go out and do mostly permit inspections, our [inaudible] unit that goes into restaurants to take a look at automatic extinguishing systems and putting duct protection in there, both fuel inspectors, high rise inspectors. So we do have a number of vacancies and approval to hire them. We're working on putting a small class together off an existing list. I think that will yield somewhere in the vicinity of 10 inspectors, fire protection inspectors. There was just a test administered in the end of September--

CHAIRPERSON BORELLI: [interposing] I'm talking about alarm inspectors.

CHIEF JARDIN: Oh, okay, so fire alarm inspectors specifically. So as I said, we have two fire alarm processes that will yield an approved installed fire alarm system. First, the plans have to be submitted, reviewed and approved by our fire alarm plan review folks, and they're part of our Technology Management Unit. They're engineering type of personnel, and then once a plan is approved, then an applicant can apply for an inspection, and our fire alarm inspection unit comprised of electrical inspectors will go conduct the inspection. So, I think your question is they've been approved, why haven't we filled those vacancies. It remains an agency priority. There's a weekly meeting between I believe it's City Hall staff, OMB, and Fire Prevention staff, as well as Budget and HR folks, and we're working feverishly to fill those vacancies. As you probably are aware and I think we've gone over this before. Just looking over like a four-year arc. Back in FY 2017 we received 14,936 fire alarm plan submissions. Fiscal Year 21, 18,577, and at the rate we're going to well eclipse that for Fiscal Year 22.

So, good point you make that, you know, we're unfortunately not where we'd like to be in terms of turnaround times.

CHAIRPERSON BORELLI: And correct me if I'm wrong, but some of the things that were said today by the Administration would actually indicate a need for more plan examinations in general, correct?

CHIEF JARDIN: Well, we need to fill vacancies, which I think is the point. You know, that's, you know, an overarching need is to fill vacancies that have been persistent for a number of years. This hasn't emerged over the last year or so. It's a challenge. We've done-- we've made changes internally to work with industry to try to facilitate better plan submissions which would allow maybe approval on the first go-around. Unfortunately, only 10 percent of the plans we review get approved on the first try. You know, and only another 15 to 20 percent get approved on the second try. So that contributes to the bigger numbers. That said, we--

CHAIRPERSON BORELLI: [interposing] [inaudible] in 2017, I think, or 2018 to require all plans to be submitted or allowed to be submitted online. Has that been-- has that given any

improvement in time, or? And is there something else we can do to expedite some of the work?

CHIEF JARDIN: So, we've taken a step internally to hopefully incentivize folks submitting plans to get it right earlier, first or maybe even second time, rather than the third or fourth time in that. Plans will come in with only three deficiencies or fewer can be fast-tracked on the next submission, right? So we guarantee we'll get that reviewed and hopefully approved within a week. While the electronic submission process which has been implemented like you said now for over a year, almost two years, has facilitated our intake. We still have to deal with the need to review those plans and ultimately get a good set of plans reviewed. Where that electronic process has facilitated our efforts is in the scheduling of inspections. That has made us a little more nimble and a little more efficient in terms of reducing inspection wait times, right? Now, where are we at today? I think we're-- inspection wait time is eight weeks in general. However, without the electronic scheduling alternative that would be worse if we were going with the system we had back then. So--

CHAIRPERSON BORELLI: [interposing] Well, thank you guys, I think that's all I have for you. Committee Counsel, is there any--

JULIAN BAZEL: [interposing] I just wanted to add one thing in response to the issue raised earlier about the exception from central station monitoring. My aide [sic] definitely has tracked down that section of-- you should take a look at Section 907.15 which has an exception for sprinkler systems in group R3 occupancies as well as any single and multiple station smoke alarms which are typically found in group R3's [sic].

CHAIRPERSON BORELLI: Thank you.

CHIEF JARDIN: And Chair, if I just could-- I don't know if I'll have an opportunity. I really would like to compliment the work of our co-development staff, Julian and his folks, in making every effort to engage with stakeholders. Many hours were spent engaging and listening. I know I spent several sessions with the Mayor's Office of Sustainability, and hearing from them in terms of the concerns of the community, if you will, of the industry, and I just want to, you know, compliment them on their great work trying to incorporate all of

what they heard in a responsible-- and reflecting it in a responsible revision to the Fire Code.

CHAIRPERSON BORELLI: Thank you very much. I just wish we could include our fire pits in this. That's my [inaudible]. But Committee Counsel, would you call the first panel?

COMMITTEE COUNSEL: Thanks Chair. We're going to start with Daric Schlesselman from the Distiller's Guild. We'll follow Derek by Tom Porter, as well. So, Daric, you could begin. I think we've going to limit testimony for the public for three minutes. So try to be concise, and then we'll have questions and answers from Council Members after that. Thank you so much.

DARIC SCHLESSELMAN: would it be possible to actually start with Tom Potter, and then I'll follow up with him?

COMMITTEE COUNSEL: Either way is fine. Go ahead.

DARIC SCHLESSELMAN: Thank you.

SERGEANT AT ARMS: Starting time.

TOM POTTER: Just like to thank the FDNY for their efforts in reaching out to the craft distilleries in our city. The modern era of craft

distilling in New York City began about 10 years ago when the first wave of new artisan distilleries began opening up in Brooklyn and the Bronx. Since that time, a growing number of us have been operating in our communities, crafting innovative and award-winning spirits, operating neighborhood tasting rooms, and building a formidable, national, and even international reputation. In those 10 years there has not, to my knowledge, been any fire-related incidents, or in fact any major safety issues at all with any of us. Collectively, we have operated tens of thousands, perhaps hundreds of thousands of hours in a safe and responsible manner. That's not to say that changes in improvements in the Fire Code aren't warranted. The current Fire Code does not speak to the experiences of small urban distilleries or to the changed nature of New York City manufacturing. The current code is meant to keep the city safe from the dangers of the old giant ethanol factories which once operated here, but those are long gone. The current code does not speak to the much more modest operations of modern craft distillers. The proposed code offers several excellent features, including establishing certificate of fitness criteria for

distillery operators. That's a proposal that will make a very positive difference in industry safety and is not prohibitively expensive to implement. But as written, the proposed code contains other features that could potentially wipe the industry out. It's my belief that of the more than dozen distilleries currently operating in New York City, there's only one that meets the strictest interpretations of the proposed code, and that distillery was built by a global spirits giant, which could and did spend several million dollars on consultants and architects and engineers. It's a marvelous distillery, but completely uneconomical to operate, except as a show place loss liter [sic] subsidized by a distant billion-dollar home office. No smaller home-grown operation could afford to meet a strict interpretation of the proposed code. One of the questions Chair Borelli asked at the beginning of this hearing was, "How does the FDNY balance the City's need for fire safety and for economic vitality?" I recognize that is not a simple question. My colleague Derek will speak to some of the particular proposed code issues that concerns small distillers and some of our particular

suggestions. We believe there are alternative ways to reach the safety goals that we share with FDNY at a more affordable cost. With some common sense modifications, we think our industry can maintain high fire safety standards, but still have--

SERGEANT AT ARMS: [interposing] Time.

TOM POTTER: [inaudible] room to thrive. Thank you.

COMMITTEE COUNSEL: Yeah, Mr. Porter [sic] you can continue, or Daric, if he wants to continue the conversation on that topic, however you deem appropriate. I think [inaudible] to get those comments out. Thank you.

DARIC SCHLESSELMAN: Thank you very much. My name is Daric Schlesselman and I own a small distillery in Brooklyn, and today I'm here as the Vice President of New York State Distiller's Guild on behalf of our New York City members. As my colleague Tom mentioned in his comment, we applaud the Fire Department for recognizing that small businesses like ours are different than industrial plants, and we have appreciated the Fire Department's willingness to work with us as they have developed this new code. While there have been great strides in developing

this code to allow our businesses to continue to safely operate in the City, we believe there are a number of sections that add unnecessary burden to distillers without adding public safety. We would-- we have continued our discussions with the Fire Department in recent weeks since the code has been submitted to the council, and we believe that framework to address most of these items has been developed. In particular, the particular areas of the code that we would like to address are the details regarding the exhaust ventilation in various areas of the distillery, the provisions regarding environmental controls in the distillery, the steel manufacturer's certification provisions, the restrictions to barrel storage the lack of design flexibility on electrical classifications, and where certain classifications of electrical equipment are allowed, the limits on the amount of finished good we're allowed to store on-site, and the limits on the storage of packaged goods-- I'm sorry, that's the same as-- oh, I'm sorry-- the limits on the storage of packaging goods, you know, the cardboard and empty bottles, as well as the-- on a minor note, the storage of grain. There's one item though that bears

a little bit more mention in this setting. One of the physical factors that makes regulating beverage alcohol different than regulating other flammable liquids like say gasoline is the fact that water-- that alcohol is water soluble. The difference between a flammable liquid and a non-flammable liquid is simply the addition of water. The current fire code considers all alcohol concentration the same. So a gallon of alcohol at 95 percent is treated the same as a gallon of alcohol at 35 percent, and yet the difference in hazard between those two gallons is dramatic. The Fire Department has been resistant to adopting the idea that different concentrations of alcohol in the distilleries should be treated separately, and we would love to see that the new proposed fire code based the maximum allowable quantities on alcohol concentration rather than simple gallons. We believe that New York City could revolutionize the way Fire Code across the country is addressed for each alcohol, and we would-- these changes would not only make the business of craft distilling more robust and successful, but it would also increase public safety at the same time. We

will submit details of this in a written format to the Council in the next couple days. Thank you.

CHAIRPERSON BORELLI: Thank you. Please do that.

COMMITTEE COUNSEL: Chair Borelli, do you have any additional questions, or should we move on?

CHAIRPERSON BORELLI: I actually had a question to Tom. What is the commercial distillery that's operating?

TOM POTTER: Great John's Distillery in Manhattan. It's owned by Proximo, the Mexican spirits giant.

CHAIRPERSON BORELLI: I'd rather come visit your place. Thank you.

TOM POTTER: Thank you very much. We hope you do.

COMMITTEE COUNSEL: Thank you both. We look forward to reading that written testimony as well. The next panel will be discussing solar industry questions. We'll start with Catherine Von Berg, followed by Michael Brusic followed by Mark Rodriguez [sp?].

SERGEANT AT ARMS: Starting time.

CATHERINE VON BERG: Thank you for the opportunity to make comments. I have submitted more formal comments, so I will make general comments with regard to the code. specifically during the opening comments, Chief Jardin and others have mentioned installations like Surprise, Arizona and other fires and incidents from e-bikes to hover boards that really speak to the difference in chemistries amongst lithium-ion batteries. As a manufacturer of lithium-ion batteries that have eliminated cobalt, the prime cause of thermal runaway, my request is that the codes really pay attention to the test data and findings coming out of 9540 and 9540A. Chemistry matters. Chemistry matters form factor. Whether the cells and the chemistry are housed in cylindrical pouch of prismatic, as well as the size of the installation and the quality of manufacturing. Simpliphi Power has gone through 9540 and 9540A testing from the cell level, module level, to now unit level and has demonstrated unequivocally that unlike cobalt-based lithium-ion chemistry, lithium iron phosphate does not have the dangerous profile that others have referred to generically as lithium-ion batteries. My request is that the committee pay

attention to different chemistries and the safety profile that those chemist4ries create, and in an installation, how those different safety profiles of different chemistry interact with size, capacity, and voltage to create safe or unsafe installations for the public. The balance of public safety with the need for resilience in the form of curricular [sic] back-up power is only going to increase as utility aging infrastructure and catastrophic climate change weather events continue. We have a solution. We have testing to back up the different types of safety profiles that the committee seeks. I have again submitted comments and as a company we will be submitting and have already submitted our test results from UL19-- excuse me, 9540A. As a company we spent over half a million dollars on 9540A tests and 9540 in addition to 1973 and 1642. Please look at the 9540A test results and consider them in these codes that are currently being written. Thank you.

COMMITTEE COUNSEL: Thank you for your testimony. We'll move onto Michael Brusic followed by Mark Rodriguez, followed by T.R. Ludwig.

SERGEANT AT ARMS: Starting time.

MICHAEL BRUSIC: Good afternoon. This is Mike Brusic from Sunkeepers Solar. We are a solar energy storage installer based in New York City and working primarily in New York City. I want to start by thanking the Fire Department for soliciting and taking into account stakeholder feedback in this process. There were some very positive changes that happened from the initial draft of the code to what we have today. We wnt to highlight a couple of areas that we feel like can still use improvement in the rooftop access and energy storage sections of the code. Specifically, in the rooftop access system there's a requirement that perimeter barriers be five inches wide and support 350 pounds. This requirement applies to buildings constructed after the date of the code change or to any building which holds a work permit for the installation of perimeter barriers. We have no issues with doing this for new construction, but there are solar projects that require the installation of perimeter barriers. It is very cost prohibitive to build what is essentially a para [sic] pit [sic] wall on an existing building, and making that a requirement would result in those solar projects likely not happening. Therefore there are

no improvements to rooftop access and no solar [inaudible]. So we would request that that only apply to new construction buildings after the date of this code change. We also feel that the code requires additional clarification on the definition of what exposures are considered accessible by fire apparatus. There's not a clear definition of that in the code and it has big ramifications for where perimeter landing zones needed to be located, which in turn affects the available area for solar [inaudible] systems. And lastly, there's a new requirement, 504.5 stating that buildings over 100 feet have a clear path to each exposure. There was a mention that these buildings typically have large rooftops, but that's not always in the case. In New York City there are many buildings that are-- have high aspect ratios. They are tall, but have a small footprint area. And we would request also that tis requirement only apply to new construction buildings after the date of this code change. Lastly, in the energy storage section, we would urge the Fire Department and the Department of Buildings to consider adopting a national standard such as the 2020 edition of 9540. That would supersede--

SERGEANT AT ARMS: [interposing] Time.

MICHAEL BRUSIC: the current COA process.

COMMITTEE COUNSEL: Thank you for your testimony. Move on next to Mark Rodriguez, followed by T.R. Ludwig followed by Alex Shapanka.

SERGEANT AT ARMS: Starting time.

COMMITTEE COUNSEL: Mark, you may--

MARK RODRIGUEZ: Thank you very much. First I'd like to thank the City for the opportunity to participate in this process. I definitely appreciate the outwardness in the ability to participate. In regards to equipment approval in 608.5 and the marking requirements in 112.3, it's kind of a question, but does the City foresee a scenario where a product has past the UL product safety standard, but the City does not allow its use? And then the question would be what criteria would the City use to base this determination? And then how would actually these individual marking work for products in R3 construction? Because the reality is that current products listed to accepted safety standards perform extremely well under duress. The testing protocol forces DSS [sic] to go on a thermal runaway regardless if they could do so without

external assistance. Newer building codes further bolster their performance through separation, limitation and ratings and density and consideration for fire-resistant construction and occupant egress. The permitting process with the Building Department is the proper method of determining installation approval without the need for special programs or processes. Thank you for your time to participate.

COMMITTEE COUNSEL: Thank you for your testimony, Mark. We'll now move on to T.R. Ludwig followed by Alex Shapanka. T.R., go ahead.

SERGEANT AT ARMS: Starting time. I believe your audio might not be working currently. We'll move on and if you want to get that set up we could try to loop back to you. Connecting to audio, okay. Mr. Ludwig, are you there still? Okay. We'll come back to you once you get your stuff figured out. Alex Shapanka?

SERGEANT AT ARMS: Starting.

ALEX SHAPANKA: Alright, thank you. Can you hear me? Great. Thank you Councilmen. Good afternoon Chair Borelli. My name is Alex Shapanka. I'm the Vice President of Policy at the Real Estate Board of New York. The standards set in the Fire

Code are essential for New Yorkers to be able to safely reside, work, and socialize throughout the five boroughs, and the Fire Department's continual review and updates to the City's fire safety requirements for businesses and buildings is necessary to ensure that New York's regulations remain current and account for recently identified fire risks and hazards, including certain new technologies. REBNY shares FNDY's goal of improving public safety and thanks FDNY for its partnership and willingness to work with the industry throughout the code revision process. FDNY worked with industry representatives including REBNY seeking feedback on relevant sections of code and collaborating on technical changes for the past year and change. In particular, we appreciate FDNY's extensive engagement and conversations around fire operations in high rise mega structures, building rooftop access and stationary energy storage systems. The changes to these sections demonstrate considerable effort from FDNY to accommodate the design technology necessary to allow for these buildings to comply with the municipal and state resilience and sustainability efforts. Moreover, we believe the latest proposed

code language will improve the fir safety standards with appreciable disruption to continue building development and operations. This sort of long term engagement demonstrated from FDNY with different subject matter experts to work through far-reaching and technical regulations is kind of-- is the archetype of good governance, and as the City continues to work to improve life for New Yorkers, it should follow FDNY's approach by inclusive, measured, and address issues holistically rather than through disjointed ask [sic] rate of legislation. REBNY broadly supports the code changes to the Fire Code, and we look forward to our continued collaboration as the code is finalized and implemented. We're eager to assist FDNY with outreach and education to ensure compliance with the changes. Thank you.

COMMITTEE COUNSEL: Thank you for your testimony Alex. Next we'll have Mike McGovern, followed by Leslie Snyder [sp?], followed by Arthur Goldstein [sp?].

SERGEANT AT ARMS: Starting time.

UNIDENTIFIED: Mike, you're up.

COMMITTEE COUNSEL: Looks like we might have two Mike McGoverns. I'll unmute the other one. Go ahead sir.

MIKE MCGOVERN: Thank you. Good afternoon. Thank you, Chair Borelli, FDNY, for allowing us to participate today. On behalf of DISH Wireless I respectfully request that prior to a vote on the Fire Code amendments dated October 13th, 2021, that you and the Chief of Technology Management with FDNY meet with DISH to discuss the impact and implications of this new proposed rule. I oversee the deployment of DISH's wireless network in New York City. DISH is an FCC licensed provider of wireless services and a new entrant into the market. DISH is made forcible commitments to construct and offer 5G broadband service to at least 70 percent of the population of the United States by June 2023. To reach this ambitious milestone, we plan to deploy our network in New York City and surrounding tri-state area. Our successful deployment in New York will create jobs for New Yorkers with regards to installation, construction, and retail, and will provide affordable telecommunication services to facilitate better access to emergency services,

healthcare, classrooms, and greater connectivity overall. However, the delay in meeting the FCC mandated build-out schedule is likely to subject DISH to significant monetary penalty and potentially result in a loss of DISH's wireless spectrum in New York City. This would jeopardize affording New Yorkers the benefits of a new entrant into the wireless market. DISH is planning to build between 900 and 1,200 sites in New York City by June of 2023. So far, DISH has entered into over 100 leases for rooftop wireless installations and is actively negotiating many more. This year, we estimate submitting more than 600 applications to FDNY. As a result of our volume and timeline demands, DISH is disproportionately impacted by the proposed FDNY regulatory requirements. DISH has no control over existing installations owned or operated by other carriers. This has no pre-existing 5G wireless rooftop installations, and has every incentive to comply with the Fire Code. If DISH is forced to bring other carriers existing facilities into compliance resulting delays would cause DISH to be at risk of not being able to meet its build-out milestones. We would welcome the opportunity to have a meeting with

you to discuss this at your earliest convenience. The contact information will be provided and we'll follow up with documentation. Thank you.

COMMITTEE COUNSEL: Thank you for your testimony. Looks like we're going to try to loop back to T.R. Ludwig if he is available with the sound.

T.R. LUDWIG: I think so. Can you hear me?

COMMITTEE COUNSEL: We can. Go ahead.

T.R. LUDWIG: Super, okay. Thanks so much. Sorry about the technical difficulties, and if you could unmute Arthur Goldstein as well. So my name's T.R. Ludwig, CEO, Cofounder of Brooklyn Solar Works. We're a local solar installer based in Brooklyn. I also represent NYSIA which is the New York Solar Industry Association. Appreciate the opportunity to speak here. I do appreciate all of the changes and adjustments that have been made on the previous draft codes. There are a few things which I'll run through very quickly, some of which are extremely technical, but I'll bring it high level. In terms of the perimeter access, we think that's a great change, but requiring it on new

buildings I think gets into a question of semantics. Those buildings that are new are soon going to be old, and therefore, I think from here on end we need to be very clear about Local 92 and 94 goals and deploy as much solar as we possibly can. That will increase the energy independence in New York City and will also create jobs. So I think we're all in agreeance that's [inaudible] going, and [inaudible] try and keep some of these requirements out of the new proposal. We echo the barrier requirement. I think that is something that could kill projects at this point, and so I would ask that that be [inaudible] any new buildings [inaudible]. and then on the rooftop piece, in terms of the equipment that's being allowed and the encroachment down to four feet, things like roof-mounted heating and other obstacles are being allowed to go down to a four-foot clear path. Why not solar? Solar's a new technology and therefore has a disadvantage, but why can't that also be four feet? That would be our comment on the rooftop. Very quickly on energy storage [inaudible] residential system effectively kills small residential systems. Ninety-nine percent of all [inaudible] all residential buildings are below grad.

I think we need to take a closer look [inaudible] be considered as something that can be allowed. Anything beyond that, I guess we'll have to work with that. [inaudible] same thing, sprinkler system being required in a small, residential home that just doesn't seem practical, to be honest, and so I ask that we look at that as well. The remote monitoring we discussed and 9540A, I would just say the main issue thee is that we're talking about different chemistries here as Catherine alluded to, and so I'd ask for a special look at that, and then 9540A as a process is quite costly. So we're costing ourselves time here as we require that [inaudible], and to date, there has been no residential scale lithium-ion battery deployed to New York City, which is not consistent with the 500 megawatt goal of New York City for [inaudible].

CHAIRPERSON BORELLI: T.R., can you just clarify what you mentioned to me in our previous meeting about the testing difference between what the Fire Department is proposing and what is standard elsewhere?

T.R. LUDWIG: Yeah. Well, so in terms of the standards, there is underwriter laboratory

standards that products get tested to code 9540, and that is a rigorous standard very well understood. Separately, there's a test, a destruction test which is 9540A, and that 9540A test looks at, as you put these batteries under duress how that goes into the thermal runaway, and the test is required to cause the batteries to go into thermal [inaudible]. The issue there is that a lot of these batteries don't actually do that, especially certain chemistries. And so what it does is it causes this requirement of going through massive testing with labs frankly that aren't prepared to conduct these tests, and I've personally observed this over many years trying to get a 9540A test done. It seems like we may be getting there, but we've lost four or five years' worth of time requiring these 9540A tests. That test may eventually get rolled into the 59540 UL standard. We hope it does, and if that's true then, you know, then we could get in a better spot, but it's not currently that way, and as a result there's been, you know, many years' worth of time where we just don't have any of these standards in place, and therefore can't comply with the previous requirement even for outdoor storage. There just aren't any vendors that

have this 9540A burn test data. So, it's a catch-22 and unfortunately it just means that no residential storage has been [inaudible]

CHAIRPERSON BORELLI: So in sum, we have a-- we have a situation where we're going to set the standard too high and not be able to actually implement some of the green energy innovation we're hoping too, which is the point of the whole-- the reason why we're doing this.

T.R. LUDWIG: Yeah, I mean, so far that's the way it's been. You now, things may catch up, as Julian has said many times as possible, but at the same time if you're looking at small residential systems, you know, I think we need to make the assumption that if we're allowing, you know, electric car that 60 kilowatt hours, 100 kilowatt hours with batteries into a dwelling that--

CHAIRPERSON BORELLI: [interposing] In the garage.

T. R. LUDWIG: Yeah, and 20 kilowatt hour stationary system should certainly be less dangerous in that regard.

CHAIRPERSON BORELLI: Thank you.

COMMITTEE COUNSEL: Thank you for your testimony. Next will be Leslie Snyder followed by Arthur Goldstein, and then Richard Kluge.

SERGEANT AT ARMS: Starting time.

LESLIE SNYDER: Not able to unmute-- Good afternoon. Can you hear me?

COMMITTEE COUNSEL: Yes we can.

LESLIE SNYDER: Good afternoon Chair Borelli and members of the Committee on Fire and Emergency Management. My name is Leslie Snyder. I'm a partner in the law firm of Snyder and Snyder. I'm here today on behalf of New York [inaudible] limited partnership doing business as Verizon Wireless and T-Mobile USA Inc with respect to the public hearing on the proposed amendments to the New York City Fire Code. Our particular focus is with respect to the changes opposed to Section 504.4.10 entitled Roof Top Telecommunications installations. As wireless carriers with rooftop installations in New York City, Verizon Wireless and T-Mobile request a modification of the last sentence of Section 504.4.10.3 of the code. The sentence states that documentation of compliance shall be submitted to the Department with rooftop access applications and upon request in

connection with rooftop access inspections. Referring to documentation of compliance with applicable FCC requirements in connection with RF safety. We ask that the term "documentation of compliance" be changed to "certification of compliance." This change achieves the same objective, namely that the Fire Department is assured that the carrier complies with the FCC requirements while avoiding inevitable confusion and disputes about what constitutes sufficient documentation of compliance. Without this change, the requirements likely to become an impediment and cause unnecessary delays to the vital deployment of wireless infrastructure in New York City. This deployment is vital to New York City since reliable wireless service which is critical at this time when residents and businesses rely more than ever on their ability to access wireless services for all types of purposes, including business, taking classes, and accessing healthcare and emergency 911 services. Both T-Mobile and Verizon Wireless are FCC licensed providers of wireless services, currently providing essential infrastructure to New York City residents, businesses and visitors. As a condition of their

licenses, these wireless carriers must comply with the FCC regulations governing RF emissions, including the FCC safety standards. The FCC has exclusive jurisdiction over matters related to the environmental health effects of RF emissions. Local governments are broadly preempted from regulated a placement, construction, and modifications of wireless facilities based on RF emissions. So nothing more than a certification of compliance with FCC requirements should be required by the city. I thank you for giving me the opportunity to present this public comment. Please note, that as stated today by Fire Code Counsel Julian Bazel, there were no telecom representatives invited to participate in the code revisions, and therefore, Verizon Wireless and T-Mobile would welcome the opportunity to have a meeting with the Fire Department and the committee to discuss the changes prior to any adoption. Thank you.

COMMITTEE COUNSEL: Thank you for your testimony. Arthur Goldstein followed by Richard Kluge, followed by Bruce Johnson.

SERGEANT AT ARMS: Starting time.

ARTHUR GOLDSTEIN: Good afternoon. I just want to make one further point with what T.R. Ludwig, my client, testified to. Regarding the clear path on roofs, it always troubles me when words defy logic, and the compromise, which we appreciate, allows for clear path requirements on existing buildings but will require different clear path-- clear paths on new buildings. Well, as soon as a new building I opened, in theory it's old at that point, and a roof is a roof. So think it defies logic to have one standard for existing and one for new. If it's safe on the existing, it should be safe on the new. Thank you for the opportunity to testify.

COMMITTEE COUNSEL: Thank you for your testimony Arthur. Next will be Richard Kluge followed by Bruce Johnson followed by Mr. Gilbert form Superior Protection Services. Richard, you may go ahead.

SERGEANT AT ARMS: Starting time.

COMMITTEE COUNSEL: Richard, I know that you're on the telephone. Are you able to unmute? I'm asking you to unmute. Please accept that if you're available. Okay, we'll come back to you if

you're able to-- oh, Richard raised his hand. Okay, let's see.

RICHARD KLUGE: Chairman, can you hear? Chair Borelli, can you hear me?

COMMITTEE COUNSEL: Yep, go ahead.

RICHARD KLUGE: Okay, thank you. Thank you, Chair Borelli and committee members. The Alliance for Telecommunications Industry Solutions or ATIS is leading developer of standards for information and communication technology and services companies. ATIS develops standards on a broad range of important issues, including 5G and the internet of things. Industry subject matter experts work collaboratively in ATIS' open-industry committees such as the Sustainability in Telecom, Energy, and Protection committee or STEP. ATIS STEP develops standard and technical reports for telecommunications equipment and environments in the areas of energy efficiency, environmental impacts, power, and protection. These include ATIS 307, the standard for fire resistance criteria, ATIS 330, the standard for valve regulated lead acid batteries used in telecommunications environments, and ATIS 003, battery enclosures, and room [sic] areas. ATIS STEP

understands that the City of New York is revising its Fire Code and that the revised code will among other things regulate new energy storage systems such as those based on lithium-ion batteries. STEP is concerned that the proposed revisions could negatively impact the use of telecommunication's battery plants which have a long history of safe operation. These low voltage battery plants provide safe and highly reliable back up power to the vital telecommunications infrastructure. Such deployments have been granted special consideration in model building and Fire Codes so that networks reliability is not negatively impacted. Instead of evaluating telecom battery plants under the New York City Fire Code, ATIS STEP believes that lead acid and nickel cadmium batteries utilized within telecommunications power plants should continue to be considered telecommunications equipment. Therefore, these plants should be evaluated solely under the NFPA [sic] 76 standards for the fire protections of telecommunications facilities. ATIS STEP urges all involved to ensure that the amended New York City Fire Code does not negatively impact the reliability and availability of communications networks.

Telecommunications carriers have historically collaborated closely with the Fire Department of the City of New York to establish installation requirements specific to telecom battery plants within the City. Such past collaboration has helped assure the safety of telecom equipment installations, including necessary standby batteries without the ability for central network reliability. In this letter we look forward to working with you further. This letter is signed by John Fuller and Ernie Gallow [sp?] for the Chair and Vice Chair of ATIS STEP. Thank you.

COMMITTEE COUNSEL: Richard, thank you for your testimony. Next we'll hear from Bruce Johnson followed by Mr. Gilbert, followed by Dottie Mazzarella. Go ahead Bruce.

SERGEANT AT ARMS: Starting time.

BRUCE JOHNSON: good afternoon, Chair Borelli and members of the Committee. My name is Bruce Johnson and I'm a Regulatory Services Regional Manager for UL. UL appreciates the opportunity to provide comments today on the proposed Local Law to amend the New York City Fire Code. Since its inception in 1894, UL services a mission of promoting

safe, living, and working environments for people everywhere. Grounded in science and collaboration, UL's work empowers trust and pioneering in innovative new technologies from electricity to the internet. We help innovators deliver safer, more secure products and technologies for a wide range of research, standards development, testing, and certification services that enable the safe adoption and the use of these new technologies. UL values the longstanding collaborative relationship it has with FDNY and we would like to recognize and commend its Fire Prevention staff along with the many volunteer subject matter experts that worked on this code update for the city Fire Code. In general fire and building codes need periodic review and updates to align with the national model codes that are updated on a three-year cycle. These code updates serve as an opportunity to incorporate appropriate safety provisions and address new and innovative products, construction methods, and materials to ensure that public safety concerns are addressed. This bill revises the current Fire Code commonly referred to as the 2014 Fire Code with new fire and life safety requirements that mitigate fire hazards identified

since the current Fire Code was last adopted by the City Council. The updated Fire Code will add safety requirements for the new technologies being deployed in New York City such as lithium-ion battery energy storage systems and e-mobility devices such as electric scooters and e-bikes that are also powered by lithium-ion batteries. The improper charging of these e-mobility devices has been linked to numerous fires in New York City and nationwide, causing injury, death, and significant property damage as mentioned during the FDNY's testimony. The new 2021 New York City Fire Code will add 17 new references for UL standards that provide for safety, performance testing and certification to various products, fire protection and life safety systems that are installed and used in the building environment. Systems and equipment covered through third party certification one by approved testing laboratories to recognize safety standards, provides a reasonable assurance for the electrical fire safety of those devices. Standards for product safety such as those published by UL holistically and effectively addressed safety of emerging technologies. I thank you for the opportunity to present our testimony today, and I'm

available to answer any questions that the City Council may have or provide additional information regarded to UL or the UL standards being referenced in the new Fire Code. Thank you.

COMMITTEE COUNSEL: Bruce, thank you so much for your testimony. Next, we'll move to Mr. Gilbert followed by Dottie Mazzarella. Mr. Gilbert, go ahead, sir.

SERGEANT AT ARMS: Starting time.

MR. GILBERT: Good afternoon. Good afternoon and welcome and thank you Chairman Borelli, and I'd also like to start-- thank Josh Kingsley [sp?] for the opportunity to testify today, having to do with the change in the Fire Code. First of all, I do see they incorporated a change which I requested to allow other technology than a printer. I just wish they would have acknowledged the fact that this change has been made. The other item which I'd like to address is the five-year test. The five-year test which they're applying to fire alarm systems is a requirement for sprinkler systems due to the fact they're unsupervised and arc [sic] radio systems [sic]. Fire alarm systems according to the NFPA 72 of Chapter 14, the 2010 code shortly to be the 2006

code adopted by the City of New York have all the rules and regulations to requiring regular inspections on fire alarm systems dictating the inspection period and the need to do so on an annual basis. This requirement which is being impended here I think is redundant and doesn't have any justification, because as I stated, fire alarms are supervised, the maintaining. There's a procedure, a schedule, and I don't see the need for unnecessary legislation requiring something that is currently in place and doesn't apply as it does in the other categories. I suggest they reconsider this and consider leaving the current requirements of NFPA in place which is more than sufficient in order to do what's necessary here. I do appreciate the change and consideration. Chief Jardin and Shaji Joseph, and Julian Bazel took the-- incorporating the change having to do with the printer, because printers are somewhat passe [sic] technology, and this allows changes in the future, but I also think in the other case redundancy isn't necessary as it applies to the inspection on the fire alarm systems and procedures [inaudible]. I hope this is a consideration. Thank you and have a good afternoon. [inaudible] bye.

COMMITTEE COUNSEL: Thank you so much for your testimony. Next we'll move to Dottie Mazzarella, and I believe if anyone else wants to testify, please use the Zoom raise hand function. Afterwards we'll turn back to Chair Borelli to close out the hearing. Go ahead Dottie.

SERGEANT AT ARMS: Starting time.

DOTTIE MAZZARELLA: Thank you. Good afternoon Chairman, members and staff of the Council Committee on Fire and Emergency Management. My name is Dottie Mazzarella. I'm the Vice President of Government Relations for the International Code Council. The ITC is a member-focused association dedicated to helping the building community provide safe, resilient, and sustainable construction through the development and use of model codes and standards used in the design, construction, and compliance process. I appreciate the opportunity to submit testimony in court of Intro. 2430 to amend the New York City Fire Code based on the 2016 International Fire Code with, of course, New York City amendment. I most recently submitted testimony in support of Intro. 2261 to update the City's construction code based on several other international codes also with

New York City modifications. Intro 2261 was passed by the Council on October 7th, and since the codes are meant to work together, it's critical that Intro 2430 also quickly passes City Council. The international codes are currently adopted at the state and local level and all 50 states, D.C., Guam, the Northern Mariana Islands, the U.S. Virgin Islands, Puerto Rico, and also here in New York City. The I codes are also used internationally in the Caribbean, Central America, the Middle East, Georgia, and Mexico. The I codes are revised and updated every three years by a national consensus process that strikes a balance between the latest technology and new building products while providing for most recent advances and public and first responder safety and installation technique. The I codes are correlated to work together without conflict to eliminate confusion in building design or inconsistent enforcement. The ICC code development process is an open inclusive process that encourages inputs from all individuals in groups and allows those governmental numbers, including representatives from the FDNY to determine the final code provision. The technical and practical expertise of New York

City fire and building officials, design professionals, builders, contractors, labor, and all other organizations interested in building safety are vital to your adoption efforts and as well as ours. I commend the Fire Department for its inclusive and transparent process to update the City Fire Code, and I am very happy to be here virtually today to support this effort. Thank you very much.

COMMITTEE COUNSEL: Thank you so much for your testimony. Seeing no other hands raised, I'm going to turn it back to Chair Borelli now.

CHAIRPERSON BORELLI: Thank you everyone for your testimony and thank you for the Administration for the four years or so of work that went into this, and it's nice that we can see the finish line on the horizon, but there is still a little bit more work to do. I'd like to incorporate some of the changes that have been suggested into the code, and we will go back to the Administration I'm sure with some changes in the next 10 to 14 days, I imagine. And with that, we will gavel out. So this concludes today's hearing.

[gavel]

C E R T I F I C A T E

World Wide Dictation certifies that the foregoing transcript is a true and accurate record of the proceedings. We further certify that there is no relation to any of the parties to this action by blood or marriage, and that there is interest in the outcome of this matter.

Date December 3, 2021