

EXAMINING FIRE HAZARDS: LITHIUM-ION BATTERIES AND OTHER THREATS TO FIRE SAFETY

HEARING

BEFORE THE

**SUBCOMMITTEE ON
EMERGENCY MANAGEMENT AND
TECHNOLOGY**

OF THE

**COMMITTEE ON HOMELAND SECURITY
HOUSE OF REPRESENTATIVES**

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EXAMINING FIRE HAZARDS: LITHIUM-ION BATTERIES AND OTHER THREATS TO FIRE SAFETY

Thursday, February 15, 2024

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
SUBCOMMITTEE ON EMERGENCY MANAGEMENT
AND TECHNOLOGY,
Washington, DC.

The subcommittees met, pursuant to notice, at 10:16 a.m., in room 310, Cannon House Office Building, Hon. Anthony D'Esposito [Chairman of the subcommittee] presiding.

Present: Representatives D'Esposito, Carter, Payne, and Goldman.

Also present: Representatives Pfluger and Torres.

Chairman D'ESPOSITO. The Committee on Homeland Security, Subcommittee on Emergency Management and Technology will come to order. Without objection, the subcommittee may recess at any point.

The purpose of this hearing today is to examine the various hazards that our Nation's first responders face daily and will allow Members to better understand the particular dangers posed by lithium-ion batteries.

Without objection, the gentleman from Florida, Mr. Gimenez; the gentleman from Texas, Mr. Pfluger; and the gentleman from New York, Mr. Torres, are permitted to sit on the dais and ask questions to the witnesses. I recognize myself for an opening statement.

I want to begin by thanking our witnesses for testifying before the Emergency Management and Technology Subcommittee. In today's hearing, we will examine the hazards that first responders and fire departments across this country are confronting daily, and more specifically, the threat that lithium-ion batteries pose to fire safety. We look forward to hearing from each of you on this very important and vital topic.

Every day, our Nation's first responders embody the best of civil service. In fact, with over 70 percent of our Nation's firefighters serving as volunteers, they demonstrate true selflessness, compassion, and courage. Regardless of the danger they may face, firefighters, both career and volunteer, choose to put themselves before anything else when they put their uniforms and their bunker gear on each day.

As a former chief of the Island Park Fire Department back on Long Island, I know first-hand that successful emergency manage-

ment requires collaboration and teamwork with stakeholders at every level of Government to prepare for, protect against, and respond to natural or man-made disasters. As Members of this subcommittee, we also have a role to play in supporting our Nation's first responders.

In recent years, new technologies have come with new risks. Fire departments across this country have reported how the increasing use of lithium-ion batteries has diminished fire safety in major United States cities. In fact, injuries caused by lithium-ion battery fires involving e-bikes or e-scooters have increased by 1,000 percent over the last 5 years just in New York City alone. In 2023, brave members of the FDNY responded to 268 lithium-ion battery fires, which caused 150 injuries and 18 deaths. To illustrate this increasing trend, there were only 10 deaths associated with lithium-ion battery fires for the combined years of 2021 and 2022.

These batteries may be found in daily household items and cell phones, laptops, power tools, and more. However, compared to smaller items with lithium-ion batteries, the power in e-scooters and e-bikes contain around 50 times that of a smartphone. As a result, an explosive and long-lasting fire can occur after overcharging, damage, overheating, poor maintenance, or more of the lithium-ion batteries in an e-bike or scooter.

In January 2023, 17 children were injured and 1 was hospitalized after an e-bike caused a fire in a building that housed a daycare back in Queens, New York. In November 2023, an e-scooter caught fire in a Brooklyn home, unfortunately killing a grandmother, her son, her grandson, and injuring more than 12 others. With the increased use of e-scooters, e-bikes, electric vehicles, and mopeds, stories like these have become all too common.

However, despite the increasing danger, New York City is faced with potential budget cuts and reduced firefighting staff in 20 engine companies to accommodate the growing migrant crisis. We are all concerned about the future of first responders and fire service throughout this country.

Not only is manpower needed to immediately respond to these fires, extinguishing lithium-ion battery fires has proven difficult for fire services across this great Nation. For instance, in 2021, after a Tesla caught fire following a crash in a Houston suburb, 8 firefighters spent over 7 hours and 28,000 gallons of water, an amount the department normally uses in a month, before the fire was fully extinguished. The reality is that some lithium-ion battery fires can reignite hours later, some even days later, and traditional fire extinguishing methods do not always work by them.

The Biden administration has sought to incentivize more EV purchases through its \$7,500 tax credit. However, we need to ensure that we fully understand the dangers or risks associated with high-voltage lithium-ion batteries and the safest way for individuals and our constituents, emergency managers and first responders, to handle any potential fires. We have a duty on this committee to investigate how certain policies addressing the purchase, use, and maintenance of lithium-ion batteries impact emergency responders and fire suppression.

Americans should be aware of the risks associated with using electric vehicles, scooters, and mopeds, and every-day devices. They

should also ensure that their purchase is from a reputable manufacturer that complies with United States safety standards.

Last week, FDNY shut down an illegal lithium-ion battery operation in Queens and confiscated hundreds of individual lithium-ion cells, 25 e-scooters, and 25 electric or gas mopeds. Federal, State, and local governments must take measures to prevent unsafe manufacturers from endangering the public with cheap lithium-ion batteries.

Last, as Members of Congress, we must ensure that firefighters and first responders have the protective gear, equipment, and training needed to respond to lithium-ion fires and other threats. The U.S. Fire Administration and the National Fire Academy, the Assistance to Firefighters grant program, and the Staffing for Adequate Fire and Emergency Response grant program all aim to strengthen and equip fire emergency medical services throughout this country.

As a first responder myself and Chairman of this subcommittee, I remain committed to supporting FEMA's suite of preparedness grant programs, and I'm hopeful for a successful reauthorization of the fire grants later this year. This is a committee here in the House of Representatives that works in a bipartisan fashion. Emergency management shouldn't be partisan. We are here to keep you safe, to keep us safe, and to keep the United States of America safe.

I look forward to hearing from each of our witnesses today on how to address these challenges and improve first responders and fire safety across this great country.

[The statement of Chairman D'Esposito follows:]

STATEMENT OF CHAIRMAN ANTHONY D'ESPOSITO

FEBRUARY 15, 2024

I want to begin by thanking our witnesses for testifying before the Emergency Management and Technology Subcommittee. In today's hearing, we will examine the fire hazards that fire departments across the country are confronting daily, and more specifically, the threat that lithium-ion batteries pose to fire safety. We look forward to hearing from each of you on this important topic.

Every day, our Nation's firefighters embody the best of civil service. In fact, with over 70% of our Nation's firefighters serving as volunteers, they demonstrate true selflessness, compassion, and courage.¹ Regardless of the danger they may face, firefighters choose to put their communities first when they put on their uniforms each day.

As the former chief of the Island Park Fire Department, I know first-hand that successful emergency management requires collaboration and teamwork with stakeholders at every level of government to be able to prepare for, protect against, and respond to natural or man-made disasters. As Members of this subcommittee, we also have a role to play in supporting our Nation's firefighters and first responders.

In recent years, new technologies have come with new risks. Fire departments across the country have reported how the increasing use of lithium-ion batteries has diminished fire safety in major U.S. cities. In fact, injuries caused by lithium-ion battery fires involving electric (E) bikes or E-scooters have increased by 1,000% over the last 5 years in New York City.²

¹<https://www.usfa.fema.gov/statistics/>.

²<https://www.thecity.nyc/2024/01/30/how-to-safely-charge-store-maintain-e-bike-and-batteries/#?:text=Dangerous%20fires%20caused%20by%20the,through%20the%20end%20of%202023>.

In 2023, the FDNY responded to 268 lithium-ion battery fires which caused 150 injuries and 18 deaths.³ To illustrate this increasing trend, there were only 10 deaths associated with lithium-ion battery fires for the combined years of 2021 and 2022.⁴

These batteries may be found in daily household items and cellphones, laptops, or power tools, as well. However, compared to smaller items with lithium-ion batteries, the power in E-scooters and E-bikes contains “around 50 times” that of a smartphone.⁵ As a result, an explosive and long-lasting fire can occur after overcharging, damage, overheating, or poor maintenance of the lithium-ion battery in an E-bike or scooter.⁶

In January 2023, 17 children were injured, and one was hospitalized, after an E-bike caused a fire in a building that housed a daycare in Queens, New York.⁷ In November 2023, an E-scooter caught fire in a Brooklyn home, killing a grandmother, her son, and her grandson, and injuring more than 12 others.⁸ With the increased use of E-scooters, E-bikes, electric vehicles, and mopeds, stories like these have become all too common. However, despite this increasing danger, New York City Mayor Eric Adams, implemented budget cuts to the FDNY and reduced fire-fighting staff in 20 engine companies to accommodate the growing migrant crisis,⁹ and I am concerned about the state of New York City’s fire services.

Not only is manpower needed to immediately respond to these fires, extinguishing lithium-ion battery fires has proven difficult for fire services across the country. For instance, in 2021, after a Tesla caught fire following a crash in a Houston suburb, 8 firefighters spent over 7 hours and 28,000 gallons of water—“an amount the department normally uses in a month”—before the fire was fully extinguished.¹⁰ The reality is that some lithium-ion battery fires can reignite hours later—some even days later; and traditional fire extinguishing methods do not always work on them.¹¹ The Biden administration has sought to incentivize more EV purchases through its \$7,500 tax credit, however, we need to ensure that we fully understand the dangers or risks associated with high-voltage lithium-ion batteries, and the safest way for individuals, emergency managers, and first responders to handle any potential fires.

We have a duty to investigate how certain policies addressing the purchase, use, and maintenance of lithium-ion batteries impact emergency responders and fire safety. Americans should be aware of the risks associated with using electric vehicles (EV), scooters, and mopeds, and other every-day devices. They should also ensure that their purchase is from a reputable manufacturer that complies with U.S. safety standards.

Last week, the FDNY shut down an illegal lithium-ion battery operation in Queens, New York and confiscated hundreds of individual lithium-ion cells, 25 E-scooters, and 25 electric or gas mopeds.¹² Federal, State, and local governments must take measures to prevent unsafe manufacturers from endangering the public with cheap lithium-ion batteries.

Last, as Members of Congress, we must ensure that firefighters and first responders have the protective gear, equipment, and training needed to respond to lithium-ion fires and other threats. The U.S. Fire Administration (USFA), the National Fire Academy (NFA), the Assistance to Firefighters Grant (AFG) program, and the Staffing for Adequate Fire and Emergency Response (SAFER) grant program all aim to strengthen and equip fire and emergency medical services throughout the Nation.¹³ As a former first responder, and Chairman of this subcommittee, I remain com-

³ <https://www.cbsnews.com/newyork/news/fdny-busts-lithium-ion-battery-manufacturing-operation-in-queens/>.

⁴ <https://www.firerescue1.com/lithium-ion-battery-fires/articles/fdny-lithium-ion-battery-fire-fatalities-in-2023-will-likely-surpass-last-2-years-combined-Vzg10Aj79O6061j9/>.

⁵ <https://www.cnn.com/2023/03/09/tech/lithium-ion-battery-fires/index.html>.

⁶ <https://www.nyc.gov/assets/fdny/downloads/pdf/codes/dangers-of-lithium-ion-batteries.pdf>.

⁷ <https://www.nbcnewyork.com/news/local/e-bike-battery-sparked-fire-at-nyc-daycare-center-badly-hurting-child-fdny/4069524/#:~:text=A%20lithium-ion%20battery%20from%20an%20e-bike%20sparked%20the,a%20series%20of%20blazes%20linked%20to%20such%20units>.

⁸ <https://www.cnn.com/2023/11/14/us/brooklyn-fire-family-killed-lithium-battery-scooter/index.html>.

⁹ <https://www.cbsnews.com/newyork/news/fdny-budget-cuts-fifth-firefighter-reduced-staffing/>.

¹⁰ <https://www.nbcnews.com/business/autos/federal-regulators-warn-risks-firefighters-electrical-vehicle-fires-n1271084>.

¹¹ <https://www.nyc.gov/assets/fdny/downloads/pdf/codes/dangers-of-lithium-ion-batteries.pdf>.

¹² <https://www.cbsnews.com/newyork/news/fdny-busts-lithium-ion-battery-manufacturing-operation-in-queens/>.

¹³ <https://www.usfa.fema.gov/about/>.

mitted to supporting FEMA's suite of preparedness grant programs, and am hopeful for a successful reauthorization of the fire grants later this year.

I look forward to hearing from each of our witnesses today on how to address these challenges and improve U.S. fire safety. Thank you.

Chairman D'ESPOSITO. I now recognize the Ranking Member of this subcommittee, Mr. Carter, for his opening statement.

Mr. CARTER. Thank you, Mr. Chairman.

Before I begin my remarks, I want to say that yesterday, while many of us were reflecting on the 6 years since the Marjory Stoneman Douglas school massacre, another mass shooting took place at the Super Bowl parade. My heart goes out to all those impacted by yesterday's shooting. For those of you who first responders were there to respond, to protect, we say thank you. To the families that had to endure the atrocities and the terror of having an active shooter, our thoughts and prayers are with them. For those who were wounded and for the one that we know of at this point that lost their life, we rededicate ourselves to supporting law enforcement to make sure that this doesn't happen again. We rededicate ourselves to providing resources to make sure that people are able to come and gather at celebrations, at places of worship, at schools, at concerts without fear of someone with a weapon, with nefarious actions and thoughts might plague our community. So if we would just all remember those lives that were lost and those people that were challenged.

These acts of violence are horrific. Next year, my home district in Louisiana, New Orleans, will be the host of the Super Bowl. We owe it to our communities, our first responders, and our children to do more. We have a serious gun violence problem in our country, and I hope my colleagues will work together to pass common-sense reforms.

Now, turning to our hearing, I want to thank our witnesses for being here today. To our first responder witnesses, I want to say thank you in particular for your on-going commitment to protecting all of our communities. The threat posed by lithium-ion batteries is growing and is one that we should certainly be monitoring. The fires caused by lithium-ion batteries pose unique challenges, and New York City seems to be ground zero for these types of fires, with over 250 incidents last year alone.

Last year, while docked in Baton Rouge, Louisiana, a part of my district, a fire broke out on an oil tanker due to the thermal runaway of a cell within a lithium-ion battery in a hand-held radio, which caused \$3 million in damage. My dear friend Brian Adams, who is the State fire marshal for the State of Louisiana, brought this to my attention, and we have been working on proposed legislation to deal with this. Brian Adams is a lifelong firefighter, a career firefighter who has demonstrated his love for people, his love for policy, and his love for doing what is right, as you do as a first responder.

My colleague, Congressman Richard Torres, has been leading in the legislative work on addressing the threats from lithium-ion batteries in the House of Representatives, and I want to thank him for his leadership on this issue. I hope that the Energy and Commerce Committee will continue its work on Congressman Torres' bill in Setting Consumer Standards for Lithium-Ion Batteries Act.

I fully anticipate today's conversation with the panel to mostly be related to lithium-ion batteries, but I hope that we will also focus on the range of fire threats and oversight of programs that support firefighters. One such fire threat is climate change.

Climate change has significantly increased the frequency, intensity, and destructiveness of wildfires. Last week marked 6 months since the fires in Maui, where over 100 people died. While Maui was the deadliest wildfire we have experienced in modern history, in recent years there have been a string of wildfires that have been deadly and caused mass destruction. Six of the last 7 years, 2017 to 2023, have had catastrophic fires which resulted in fatalities, loss of infrastructure, resulting in displacement of thousands of families.

In Louisiana, last year we had an unprecedented wildfire season. Yes, Louisiana, wildfires. Doesn't usually go together in the same sentence, but, yes, we had fires in our marsh, fires going along the interstate system, fires in places we have never had them before. In August alone, we had more than 550 fires that destroyed homes and forced several evacuations.

As climate change continues to escalate, urgent actions to mitigate its impact and implement effective wildfire management strategies becomes imperative to safeguard the environment and community at risk. These wildfires are not happening in a vacuum. They are occurring simultaneously as other disasters and adding strain on Federal, State, and territorial, Tribal, and local emergency managers and first responders.

I look forward to speaking to our witnesses today about fire hazards, but also broadly about the need to prepare our communities against all threats. Our subcommittee has jurisdiction over the Department of Homeland Security grants program, which also helps first responders prepare their communities against all threats. I look forward to hearing from our witnesses on how these various grants can help fire departments improve community resilience, and how we, as a committee, as Members of Congress can use our voices and our resources to aid you in doing the job that we greatly appreciate you doing.

Mr. Chairman, I yield back.

[The statement of Ranking Member Carter follows:]

STATEMENT OF RANKING MEMBER TROY CARTER

FEBRUARY 15, 2024

Before I begin my remarks, I want to say that yesterday, while many of us were reflecting on the 6 years since the Marjory Stoneman Douglas school massacre, another mass shooting took place at the Super Bowl parade. My heart goes out to all those impacted by yesterday's shooting.

These acts of violence are horrific. Next year, my home district will host the Super Bowl. We owe it to our communities, our first responders, and our children to do more. We have a serious gun violence problem in our country and I hope my colleagues will work together to pass common-sense reforms.

Turning to our hearing, I want to thank our witnesses for being here today. To our first responder witnesses, I want to thank you, in particular, for your on-going commitment to protecting your communities.

The threat posed by lithium-ion batteries is growing and is one that we should certainly be monitoring. The fires caused by lithium-ion batteries pose a unique challenge, and New York City seems to be ground zero for these types of fires, with over 250 incidents just last year. Last year, while docked in Baton Rouge, Lou-

isiana, a fire broke out on an oil tanker due to the thermal runaway of a cell within a lithium-ion battery in a handheld radio, which caused \$3 million in damage.

My colleague, Congressman Ritchie Torres, has been leading the legislative work on addressing the threats from lithium-ion batteries in the House of Representatives and I want to thank him for his leadership on this issue. I hope that the Energy and Commerce Committee will continue its work on Congressman Torres's bill, the Setting Consumer Standards for Lithium-Ion Batteries Act.

I fully anticipate today's conversation with the panel to mostly be related to lithium-ion batteries, but I hope that we will also focus on the range of fire threats and oversight of programs that support firefighters. One such fire threat is climate change.

Climate change has significantly increased the frequency, intensity, and destructiveness of wildfires. Last week marked 6 months since the fires on Maui, where 100 people died. While Maui was the deadliest wildfire we have experienced in modern history, in recent years there have been a string of wildfires that have been deadly and caused mass destruction. Six of the last 7 years (2017–2023) have had catastrophic fires which resulted in fatalities, loss of infrastructure, resulted in displacement of thousands of families.

In Louisiana, last year we had an unprecedented wildfire season. In August alone, we had more than 550 fires that destroyed homes and forced several evacuations. As climate change continues to escalate, urgent action to mitigate its impacts and implement effective wildfire management strategies becomes imperative to safeguard the environment and communities at risk. These wildfires are not happening in a vacuum. They are occurring simultaneously as other disasters and adding strain to Federal, State, territorial, Tribal, and local emergency managers and first responders.

I look forward to speaking to our witnesses today about fire hazards, but also more broadly about the need to prepare our communities against all threats. Our subcommittee has jurisdiction over the Department of Homeland Security Grant Programs, which also helps first responders prepare their communities against all threats. I look forward to hearing from our witnesses how these various grants help fire departments improve community resilience.

Chairman D'ESPOSITO. Well, thank you, Ranking Member Carter.

Other Members of the subcommittee are reminded that opening statements may be submitted for the record.

[The statement of Ranking Member Thompson follows:]

STATEMENT OF RANKING MEMBER BENNIE G. THOMPSON

FEBRUARY 15, 2024

I want to start by thanking our witnesses for appearing before the subcommittee today. I also want to extend my gratitude to all firefighters and fire safety personnel for the work you do to manage fire response and keep communities safe across the United States.

Earlier this month, New York Governor Kathy Hochul announced a State-wide campaign banning the sale of uncertified lithium-ion batteries. These uncertified batteries have resulted in fires with numerous deaths in New York City and across the Nation.

These batteries pose a relatively new hazard, and the development of standards is an important step toward solving this important safety issue. However, we must keep in mind that micromobility devices such as e-bikes, e-scooters are credited with reducing traffic congestion, alleviating parking issues, and providing affordable transportation options especially in urban areas.

I applaud Rep. Ritchie Torres's leadership on this important issue. His bill, H.R. 1797, the Setting Consumer Standards for Lithium-Ion Batteries Act, was reported out of the Committee on Energy and Commerce with a 42–0 vote in December.

In New York last year alone, at least 18 people lost their lives from fires ignited by lithium-ion batteries. This issue extends outside of New York as well; cities across the country are grappling with fires caused by uncertified lithium-ion batteries. Setting consumer standards through H.R. 1797 is a clear step in preventing further fatalities. More remains to be done on this issue and to address the myriad of other fire safety threats, including wildfires, as well.

Extreme wildfires across the United States, such as the tragic fires in Hawaii, have caused devastation in many communities. Early 2024 is predicted to bring

above-normal wildfire risk to the northern Midwest and the western coast of Alaska. This threat continues not only in the near-term but will persist in the decades to come.

Unfortunately, many of my Republican colleagues continue to disregard the climate change risks confronting our country. Their lack of belief in climate change comes at a time when action is critical to mitigating climate risk. Sadly, the lack of will to address climate change comes at the expense of front-line workers, such as firefighters, who battle fires flamed by the effects of climate change every day.

In my home State of Mississippi, a combination of severe drought and other conditions resulted in an early and relentless 2023 wildfire season. In just 4 months, over 1,000 wildfires consumed 16,000 acres. I thank the Mississippi Forest Commission's wildland firefighters for battling these fires and saving nearly 2,000 structures.

I am also grateful for all the other wildland firefighters in the United States who have risked their lives to keep people safe from these devastating fires. With that, I look forward to hearing from our witnesses on how to mitigate threats from fire hazards.

Chairman D'ESPOSITO. I am very pleased and thankful to have such an important panel of witnesses before us today. I ask you to all please rise and raise your right hand.

[Witnesses sworn.]

Chairman D'ESPOSITO. Thank you. Please be seated. Let the record reflect that the witnesses have answered in the affirmative.

I would now like to formally introduce our very talented panel of witnesses. Dr. Lori Moore-Merrell was appointed by President Biden as the U.S. Fire Administrator on October 25, 2021, and oversees the United States Fire Administration's mission to strengthen fire services, emergency medical services, and stakeholders as they prepare for, prevent, mitigate, and respond to all hazards. Prior to joining the U.S. Fire Administration, Dr. Moore-Merrell has over three decades of experience in researching and working in the fire service and in emergency management and response, including founding the International Public Safety Data Institute.

Chief Dan Flynn was appointed chief fire marshal of the FDNY Bureau of Fire Investigation in 2021. In this role, Chief Flynn oversees approximately 150 fire marshals who are responsible for investigating the cause and origin of more than 7,000 fires in the city of New York each year, as well as arresting those who commit arson and other crimes in the city of New York. Chief Flynn joined the FDNY in 2005 and prior to that served as a police officer with the NYPD.

Mr. Stephen Kerber is vice president and executive director of the Underwriters Laboratories' Fire Safety Research Institute, where he leads a fire safety research team dedicated to addressing the world's unresolved fire safety risks to prevent future fire fatalities, injuries, and loss. Mr. Kerber is also a 13-year veteran of the fire service and served as deputy chief at the College Park Fire Department in Prince George's County, Maryland.

Chief John Butler serves as International Association of Fire Chiefs president and board chair, as well as the chief of the Fairfax County Fire and Rescue Department. Not only has Chief Butler served in the fire service, but he is also a retired U.S. Marine with 20 years of active and reserve service, including two combat tours. Sir, thank you for your service.

I thank the witnesses for being here today. Again, thank you all for the work that you do in keeping this country safe.

I now recognize Dr. Moore-Merrell for 5 minutes to summarize her opening statement.

**STATEMENT OF LORI MOORE-MERRELL, U.S. FIRE
ADMINISTRATOR, U.S. FIRE ADMINISTRATION (USFA)**

Ms. MOORE-MERRELL. Let me turn on the mic and try that again. Good morning, again, Chair D'Esposito and Ranking Member Carter. Thank you both for your well-prepared, well-informed opening statements.

To the Members of the subcommittee, my name is Lori Moore-Merrell, and I serve as the United States Fire Administrator in the Federal Emergency Management Agency. I thank you for the opportunity to testify today and to discuss the continuous and evolving threats of fire to the Nation.

The USFA's mission, as you've noted, is to support and strengthen the fire and emergency medical services to prevent, mitigate, prepare for, and respond to all hazards. Since 1974, the USFA has led national efforts to reduce the impacts of fire and disasters on our communities through education, advocating for building codes and standards, conducting data collection research, and providing subject-matter expertise for Fire Act grants, and there is more to do.

Millions of Americans witness first-hand how fire continuously poses a substantial risk across the United States. Fire is a public health and public safety problem of great proportion, and fire-fighting remains one of the Nation's most hazardous professions. On average, there are more than 1.2 million structure fires, 3,000 deaths and injuries, scores of injuries and displacements annually from fires.

These impacts are further compounded by poor implementation and enforcement of our national building codes and standards and the fire risk associated with evolving technology that makes fires more intense and more destructive. These challenges pose heightened risk to the public and to first responders who safeguard our communities, and the challenge continues to evolve.

Lithium-ion batteries, as you've noted, are found everywhere in common everyday devices; battery-powered, everyday items such as cell phones, computers, e-bikes, e-scooters, and, of course, electric vehicles. Fire risks from these devices occur when this ordinarily stable electromechanical system is destabilized and the batteries begin damaged—become damaged, used, stored, or charged incorrectly, or when they've had manufacturing defects, all which can cause a phenomenon we know as thermal runaway.

Thermal runaway typically occurs when damaged battery cells experience uncontrolled increases in temperature and pressure, often leading to fire. These batteries are changing the fire risk environment for us across America. In a traditional fire, it typically takes about 3 minutes for a room to become engulfed, but now, with the increased prevalence of lithium-ion batteries, in fires where these devices are involved, there is often only 15 seconds from the first sign of smoke to thermal runaway and explosion, with windows blown out and fire burning in homes, apartments, and businesses.

These rapid changes in fire dynamics lead to shorter escape times and shorter times to structural collapse, often bringing unknown hazards to firefighters. USFA priorities in this regard include determining the risk to the public and firefighter health from lithium-ion battery incidents, conducting consumer education campaigns about those risks, and advocating for necessary research to inform these risks as they evolve.

As you noted, the National Fire Academy is also increasing our training curriculum in order to include lithium-ion incident scene safety and suppression tactics in our increasing, existing courses.

Moving to another threat to firefighters, namely their on-the-job exposure to the products of combustion, diesel exhaust, building materials, asbestos, chemicals, and ultraviolet radiation, and certain PFAS chemicals. PFAS and other toxicants often lead to wide-ranging negative health impacts for firefighters, including cancer, heart disease, as well as sleep and reproductive disorders. To address these exposures, the Protecting Firefighters from Adverse Substances Act, or the PFAS Act, directs the FEMA administrator, through the USFA, to make available curriculum designed to reduce and eliminate these exposures, prevent the release of PFAS in the environment, and educate firefighters and emergency response personnel on PFAS alternatives, creating a public repository of tools and best practices to reduce, limit, and prevent the release to exposure of PFAS. USFA is actively working on these requirements.

Across the board the USFA is seeking new ways to address these evolving challenges by improving how we conduct, analyze, collect, and report relevant information in a timely manner. Our legacy National Fire Incident reporting system data are inadequate to do so. So the USFA is working with the Department of Homeland Security Science and Technology Directorate to develop a new, modern, cloud-based data capture system that will be known as NERIS, the National Emergency Response Information System, and will ensure that USFA and the fire service at large will ensure that we have the interoperable, secure information to better inform issues discussed today and those that arise in the future.

As we consider these challenges ahead, such as those posed by the prevalence of structure fires, wildfires in our communities, the increasing risk of emerging technology, and these forever chemicals, the USFA looks forward to working with our firefighting partners and with the Members of this committee to build a fire-safe Nation.

Thank you again for the opportunity to talk with you, and I look forward to answering your questions.

[The prepared statement of Ms. Moore-Merrell follows:]

PREPARED STATEMENT OF LORI MOORE-MERRELL

FEBRUARY 15, 2024

Chairman D'Esposito, Ranking Member Carter, and Members of the subcommittee: My name is Lori Moore-Merrell and I serve as the administrator of the United States Fire Administration (USFA) within the Federal Emergency Management Agency (FEMA). Thank you for the opportunity to testify today and to discuss the continuous and evolving fire threats to the Nation.

The USFA's mission is to support and strengthen fire and emergency medical services to prevent, mitigate, prepare for, and respond to all hazards. Since 1974,

the USFA has led national efforts to reduce impacts of fire and other disasters in our communities through education, promoting building codes and standards, fire safety advocacy, data collection, research, and grants—yet there is much more to do.

Millions of Americans witness first-hand how fire continues to pose a substantial risk across the United States. Fire is a public health and safety problem of great proportions, and firefighting remains one of the Nation’s most hazardous professions. On average there are more than 1.2 million structure fires, nearly 3,000 deaths, thousands of injuries, and scores of individuals displaced annually from fires. Although disasters such as fires can affect everyone, fires can also exacerbate pre-existing challenges in underserved communities across the country. These impacts are further compounded by poor implementation and enforcement of national building codes and fire risks associated with technology that make fires more common, more intense, and more destructive.

These challenges pose heightened risks to the public and to first responders who safeguard our communities, and the challenge continues to evolve. For example, emerging technologies like Lithium-ion (Li-ion) powered devices and harmful chemicals including polyfluoroalkyl substances (PFAS) introduce new and continued risks to our communities and firefighters.

EMERGING TECHNOLOGY

Li-ion batteries are a type of rechargeable battery that contain numerous Li cells. This ordinarily stable electrochemical system provides stored electrical energy, but mechanical, electrical, and thermal abuse and manufacturing defects can destabilize the system and cause thermal runaway. Thermal runaway typically occurs when damaged cells experience uncontrolled increases in temperature and pressure.¹ Thermal runaways can rapidly produce extremely high temperatures in a chain of chemical reactions, and this can induce thermal runaway to propagate to adjacent cells in a battery pack. In addition to heat, Li-ion cells produce flammable gases during thermal runaway that drive Li-ion fires and explosion hazards.

Li-ion batteries are found nearly everywhere. These batteries power everyday items such as cell phones and computers and they are found in e-bikes, e-scooters, and electric vehicles. Li-ion battery energy storage systems are increasingly prevalent at outdoor installations supporting utility operations and installations are expected outside commercial structures and within residences.

While Li-ion batteries are an attractive power option, fire risk increases when they are damaged or used, stored, or charged incorrectly. Combined with what we know of their complex fire risk, their recurring presence requires the fire service to turn research and data into operational considerations quickly.

Li-ion batteries and emerging alternatives constitute a significant component of the drive to reduce emissions world-wide. They are part of a complex global ecosystem of multinational agreements and organizations, geopolitical security questions, and finite natural resources. While a daunting task, the fire service has a central and critical role in ensuring policy decisions address fire safety risks.

Li-ion batteries bring complex operational challenges. Firefighters must consider the presence of Li-ion batteries in all operations, including a risk of faster flashover rates and increased temperatures. Current research shows that Li-ion batteries present four hazard scenarios for firefighters: flammable gas release, flaming, vented deflagrations, and explosions.²

These batteries are changing the fire risk environment. In a “traditional” fire it typically takes about 3 minutes or more for a room to be engulfed but now—with the increased prevalence of Li-ion batteries—there is often only 15 seconds from the first sign of smoke to thermal runaway and explosion, with windows being blown out and fire burning in homes, apartments, and businesses. These rapid changes in fire dynamics lead to shorter escape times, shorter time to collapse, and other new and unknown hazards for everyday consumers and for firefighters.

Li-ion batteries also present unusual response challenges. While Li-ion batteries are engineered to be safe, the nature of these devices means they may continue to hold a charge after being damaged, even if fully submerged in water. This phenomenon is known as stranded energy.³ Therefore, firefighters should always consider whether engineered safety systems are nonfunctional. Li-ion battery fires also

¹ Safety Risks to Emergency Responders from Lithium-Ion Battery Fires in Electric Vehicles. National Transportation Safety Board. November 2020.

² The Science of Fire and Explosion Hazards from Lithium-Ion Batteries. UL/Fire Safety Research Institute (FSRI). <https://fsri.org/lithium-ion-battery-guide>.

³ Safety Risks to Emergency Responders from Lithium-Ion Battery Fires in Electric Vehicles. National Transportation Safety Board. November 2020.

can require personnel and water resources far exceeding normal expectations, thereby stressing a department's ability to maintain resources for other emergencies.

While our communities are generally aware of risks associated with their ordinarily benign devices, it is important for the fire service to develop and deploy fire safety messaging regarding safe usage, storage, and charging of Li-ion batteries and their unique risks. As policy decisions are made regarding what can be sold in U.S. markets, the fire service must play a role in discussing the safety of these items, with a specific focus on components directly affecting the fire safety of U.S. communities.

Although research is being conducted to better understand hazards associated with Li-ion batteries and means for mitigation, more research is needed to understand the new and complex hazards Li-ion batteries can present (including exposure to toxic chemicals these batteries release), and to provide firefighters with data and information to inform operational procedures.

Driven by an urgency to meet these risks head-on and save lives, in coordination with the leadership of national fire service organizations, the USFA recently held the second national summit in 2 years, on fire prevention and control. Together, we assessed the fire problem and challenges faced by firefighters in the United States expanding our 2023 national strategy to address emerging tech. This strategy includes plans to lead and inform discussion on the fire safety of Li-ion batteries and other alternative energy sources within our communities, at all levels of government, and with industry partners utilizing the following priorities:

- Priority 1: Determine risk to the public and firefighter health from lithium-ion battery incidents.
- Priority 2: Conduct a consumer education campaign.
- Priority 3: Conduct necessary research to inform priorities and fire service response organizations in collaboration with our national labs, research institutes, and State and local partners.

PFAS AND FIREFIGHTER CANCER

PFAS and other toxicants disrupt an individual's fundamental physiology, leading to wide-ranging negative health impacts for firefighters, including cancer and heart disease, as well as sleep and reproductive issues.

Certain PFAS are known to be carcinogenic, and degrade very slowly, earning the label "forever chemicals." PFAS are often found in a firefighter's blood, their firehouses, some firefighting foams, and bunker gear. Next-generation PFAS-free personal protective equipment, along with science and risk-based mitigation programs, can lessen these risks. Firefighters are also exposed to products of combustion, diesel exhaust, building materials, asbestos, chemicals, and ultraviolet radiation.

USFA ACTIONS—PRIORITIES

The 2022 Fire Prevention and Control Summit was the beginning of a comprehensive and strategic approach to addressing impacts of fire on the Nation and PFAS as contributing factors to firefighter cancer. The 2023 Summit added fire risks from emerging technology to the National Fire Service Strategy.

As we look to the future, we need data to inform policy and regulation. We must continue our partnerships across the whole-of-fire services, across local, State, and Federal Governments, our research partners, our non-profit partners, and the industries in the electric vehicle space to determine appropriate regulations to stop deadly tragic events from occurring. Events like those in New York City since 2021 where e-bikes with damaged batteries were left to charge overnight and placed in hallways and doors—trapping people inside a burning apartment. Or incidents where people buy aftermarket chargers on-line—because they are less expensive—leaving battery cells to overcharge, which leads to thermal runaway and fire. New York has pushed forward on regulation of aftermarket chargers because of lessons learned from these incidents. It is our hope that the rest of the Nation takes heed and follows suit.

USFA is seeking new ways to address evolving challenges by improving how we collect, analyze, and report relevant information in a timely manner. Legacy National Fire Incident Reporting System (NFIRS) data is inadequate; therefore, USFA is working with the Department of Homeland Security (DHS) Science and Technology Directorate to develop a modern cloud-based data capture system and a streamlined data standard for interoperability and maximum efficiency. The new platform will be known as NERIS (National Emergency Response Information System) and will ensure the USFA and the fire service at-large will have access to secure, interoperable live data that contains outputs from the most authoritative sources. Data scientists and engineers can leverage data from this platform to con-

duct research and disseminate reports to both the fire service and decision makers at all levels of government.

Additionally, the National Fire Academy (NFA) is increasing its training curriculum to include lithium-ion incident scene safety and fire suppression tactics in existing courses. Major insights were gained from Li-ion batteries found in debris from wildfires in Lahaina on Maui. FEMA and USFA met with the Environmental Protection Agency (EPA) to evaluate a process for de-energizing cells with sustained energy after the fire. Once EPA thoroughly documents the cell de-energization, crushing, and packaging process, the USFA will develop firefighter training curriculum to include this information. NFA curriculum also incorporates training and education for the full spectrum of community risk reduction, and the NFA offers training in multiple mediums to ensure broad access. In fiscal year 2023, the NFA delivered training to over 70,000 students.

Regarding PFAS, the “Protecting Firefighters from Adverse Substances Act” (Pub. L. No. 117-248) (PFAS Act) directs the FEMA administrator (through USFA) to develop guidance for firefighters and other emergency response personnel on best practices to protect them from exposure to PFAS and to limit and prevent release of PFAS into the environment. Section 2 of the PFAS Act, requires DHS in consultation with the EPA, the Centers for Disease Control and Prevention/National Institute for Occupational Safety & Health (NIOSH), and the heads of other relevant agencies, to:

1. Develop and publish guidance for firefighters on training, education programs, and best practices;
2. Make available a curriculum designed to reduce and eliminate exposure, prevent release of PFAS into the environment, and educate firefighters and emergency response personnel on PFAS alternatives; and
3. Create a public repository on tools and best practices to reduce, limit, and prevent the release of and exposure to PFAS.

USFA is actively working on these requirements.

As we look to the challenges ahead, such as those posed by the prevalence of structure fires, the increasing risks of emerging technology, and forever chemicals, USFA looks forward to working with both our firefighting partners and the Members of this committee to build a fire-safe and more resilient Nation. Thank you for the opportunity to testify. I look forward to answering your questions.

Chairman D’ESPOSITO. Thank you, Doctor.
I now recognize Chief Flynn for 5 minutes.

**STATEMENT OF DANIEL E. FLYNN, CHIEF FIRE MARSHAL,
FIRE DEPARTMENT OF THE CITY OF NEW YORK**

Chief FLYNN. Good morning, Chairman D’Esposito, Ranking Member Carter, and the Members of the Subcommittee on Emergency Management and Technology. As chief fire marshal of the New York City Fire Department, I want to express gratitude to the Members of the subcommittee for holding today’s hearing and to Chairman D’Esposito for inviting me to discuss the dangers of fires involving lithium-ion batteries in micromobility devices.

In 2023, New York City experienced 268 fires caused by these batteries in e-bikes, e-scooters, and other micromobility devices. As a result, 150 people were injured and 18 people were killed. These staggering numbers reflect the crisis that has ballooned over a very short period of time.

We’ve seen the problem most acutely in New York. The city has a thriving delivery culture and thousands of delivery workers and messengers who use e-bikes. Many of the deadliest fires have been caused by e-devices being kept in residential homes and apartments. We have begun to see similar issues coast-to-coast in communities of all sizes. I speak with my counterparts in fire departments across the country, and many report the emergence of lithium-ion battery fires and ask for guidance on how to grapple with these issues.

To grasp the urgency of this problem, it is important to understand that fires caused by lithium-ion batteries are more intense and more dangerous than traditional fires. Upon ignition, unsafe batteries enter a process called thermal runaway. They undergo a series of explosions, releasing highly toxic gases and projecting flaming cells that can travel great distances, increasing the likelihood that the fire will spread. These fires instantly create severely dangerous conditions, rendering an escape for anyone nearby significantly challenging. This is especially true if fires occur at night when an occupant is sleeping.

Additionally, lithium-ion battery fires require large volumes of water to suppress and can reignite spontaneously, making them extremely difficult for firefighters to extinguish. They also pose uniquely grave dangers for the first responders who respond to these fires and risk their lives every day to protect life and property.

One example of the detrimental results of these fires occurred last November, killing three generations of one family in one fire. Eighty-one-year-old Albertha West, her son, 58-year-old Michael West, and her grandson, 33-year-old Jamiyl West, perished in that deadly fire because an e-bike containing an uncertified lithium-ion battery erupted in flames.

Unfortunately, these fires continued to plague our city and our Nation. In my nearly 20-year-career with the fire department, I would be hard-pressed to identify another instance in which a new cause of fires originated and in only a few years became one of the leading causes of fatal fires.

The FDNY has adjusted quickly, creating new operational procedures for responding, ensuring that devices are fully under control, and disposing of uncertified batteries and hazardous materials. We created task forces of inspectors who proactively inspect bike shops, respond to complaints, and frequently visit locations most likely to experience problems. We amended department policies enabling administrative companies to respond immediately to reports of hazardous conditions. We also created robust informational campaigns to educate members of the public about best practices for avoiding problems with their devices.

Most importantly, we have extensively engaged with our local, State, and Federal legislators seeking support for new laws to help curb the effect of these devices. At the Federal level, New York City respectfully asks Congress to pass H.R. 1797, the Setting Consumer Standards for Lithium-Ion Batteries Act, which would require the Consumer Product Safety Commission to issue a mandatory national standard for these devices. This legislation has bipartisan support and unanimously passed the House Energy and Commerce Committee, which is fitting as these deadly fires do not discriminate. We see them in large cities and small rural areas, in red and blue States alike. Americans need the protection of Congress, and we hope that this bill is called to an early vote on the House floor.

As we look forward, the experience of lithium-ion batteries serves as a critical reminder of the importance of having public safety entities and first responders at the table when policy is made. Electrification technology is exciting, and there is no shortage of

innovators striving to find better solutions. However, it is essential that we implement new technology in concert with an appropriate focus on public safety.

I thank you for your attention to this issue. I'm appreciative of the work that you are doing to pass this important legislation, and I know that I share the sentiment with the brave members of the FDNY and grateful firefighters and emergency responders across the country. Thank you.

[The prepared statement of Chief Flynn follows:]

PREPARED STATEMENT OF DANIEL E. FLYNN

FEBRUARY 15, 2024

Good morning, Chairman D'Esposito, Ranking Member Carter, and the Members of the subcommittee on Emergency Management and Technology.

As chief fire marshal of the New York City Fire Department ("FDNY"), I want to express gratitude to the Members of the subcommittee for holding today's hearing and to Chairman D'Esposito for inviting me to discuss the dangers of fires involving lithium-ion batteries in micromobility devices. In 2023, New York City experienced 268 fires caused by these batteries in e-bikes, e-scooters, and other micromobility devices. As a result, 150 people were injured and 18 people were killed. These staggering numbers reflect a crisis that has ballooned over a very short period. We've seen this problem most acutely in New York. The city has a thriving delivery culture and thousands of delivery workers and messengers who use e-bikes. Many of the deadliest fires have been caused by e-devices being kept in residential homes and apartments. We have begun to see similar issues coast to coast, in communities of all sizes. I speak with counterparts in fire departments across the country and many report the emergence of lithium-ion battery fires and ask for guidance on how to grapple with the issue.

To grasp the urgency of this problem, it's important to understand that fires caused by lithium-ion batteries are more intense and more dangerous than traditional, smoldering fires. Upon ignition, unsafe batteries enter a process called thermal runaway. They undergo a series of explosions, releasing highly toxic gasses, and projecting flaming cells that can travel great distances, increasing the likelihood that the fire will spread. These fires instantly create severely dangerous conditions, rendering escape for anyone nearby significantly challenging. This is especially true if a fire occurs at night when an occupant is sleeping.

Additionally, lithium-ion battery fires require large volumes of water to suppress and can reignite spontaneously, making them extremely difficult for firefighters to extinguish. They also pose uniquely grave dangers for the first responders who respond to these fires and risk their lives every day to protect life and property. One example of the detrimental results of these fires occurred last November, killing three generations of a family in one fire. Eighty-one-year-old Albertha West, her son, 58-year-old Michael West, and her grandson, 33-year-old Jamil West perished in that deadly fire because an e-bike containing an uncertified lithium-ion battery erupted in flames. Unfortunately, these fires continue to plague our city and Nation.

In my nearly 20-year career, I would be hard-pressed to identify another instance in which a new cause of fires originated and, in only a few years, became one of the leading causes of fatal fires. The FDNY has adjusted quickly, creating new operational procedures for responding, ensuring that the devices are fully under control, and disposing of uncertified batteries and hazardous materials. We created task forces of inspectors who proactively inspect bike shops, respond to complaints, and frequently visit locations most likely to experience problems. We amended department policies, enabling administrative companies to respond immediately to reports of hazardous conditions. We also created robust informational campaigns to educate members of the public about best practices for avoiding problems with their devices. Most importantly, we extensively engaged with our local, State, and Federal legislators, seeking support for new laws to help curb the deadly effects of these devices.

At the Federal level, New York City respectfully asks Congress to pass H.R. 1797, the Setting Consumer Standards for Lithium-Ion Batteries Act, which would require the Consumer Product Safety Commission to issue a mandatory National standard for these devices. This legislation has bipartisan support and unanimously passed the House Energy and Commerce committee, which is fitting, as these deadly fires do not discriminate: we see them in large cities and small rural areas, in red and

blue States alike. Americans need of the protection of Congress, and we hope that this bill is called to an early vote on the House floor.

As we look forward, the experience of lithium-ion batteries serves as a critical reminder of the importance of having public safety entities and first responders at the table when policy is made. Electrification technology is exciting, and there is no shortage of innovators striving to find better solutions. However, it is essential that we implement new technology in concert with an appropriate focus on public safety.

I thank you for your attention to this issue. I am appreciative of the work that you are doing to pass this important legislation, and I know that I share that sentiment with the brave members of the FDNY and grateful firefighters and emergency responders across the country.

Chairman D'ESPOSITO. Thank you very much, Chief.

I now recognize Mr. Kerber for 5 minutes to summarize his opening statement.

STATEMENT OF STEPHEN KERBER, VICE PRESIDENT & EXECUTIVE DIRECTOR, FIRE SAFETY RESEARCH INSTITUTE, UNDERWRITERS LABORATORIES INC.

Mr. KERBER. Good morning, Chairman D'Esposito, Ranking Member Carter, and other Members of the subcommittee.

Since January 1, over 375 Americans have died in home fires, including 50 children, mostly under the age of 5. Americans should feel the safest in their homes, but that's simply not the case. FSRI research shows that we have the least amount of time ever to escape as fires spread faster, due in part to the synthetic furnishings and finishes around us. We have seen a 25 percent rise in fire deaths in this country since 2012, a disturbing trend that's going to be a challenge to reverse.

The fuels we bring inside our homes are increasingly complex. Though innovative, lithium-ion batteries, for example, as you've heard, can overheat, catch fire, emit toxic smoke, and create explosive environments. From the first sign of a problem, there could be less than a minute to escape a battery fire. We must act now to address these escalating fire dangers.

Lithium-ion batteries are increasing and have resulted in injuries, fatalities, and property loss. If damaged or misused, a lithium-ion battery can transition from smoking to explosive fire growth within a matter of seconds. Even when not the initial cause of the fire, lithium-ion battery involvement can increase the intensity and magnitude of any incident.

Over a thousand documented incidents have occurred in the United States since 2021. The real number is likely underreported because lithium-ion batteries are not well-captured by the current national fire incident reporting system.

FSRI is investigating multiple facets of lithium-ion battery fires to close knowledge gaps around topics like home energy storage systems, e-mobility fire hazards, and electric vehicle fires. Further study will help us understand the fire dynamics, characterize risks, and advance emergency response protocols around lithium-ion batteries. But technology is outpacing us and we can't do it alone. The Government must collaborate with fire service stakeholders to direct research toward top safety priorities and provide increased funding to improve battery safety.

As the use of lithium-ion batteries grows, emergency calls will expose first responders to explosive events and toxic emissions beyond traditional experience. Supporting the safety of fire service

personnel requires governmental and nongovernmental partners to discover effective solutions and funding for research to equip departments with advanced tactics for battery incidents, protective equipment designed to shield against lithium-ion battery exposure risks, critical equipment otherwise unavailable due to budgetary constraints. An immediate way that we can support these asks is the reauthorization of programs like the Assistance to Firefighters grant program and the Staffing for Adequate Fire and Emergency Response, or SAFER, program. We also need to reauthorize the U.S. Fire Administration, and that's incredibly important for us to handle this topic and move forward.

Additionally, laws and regulations should integrate current codes and standards. To remain effective, current codes and standards must not be cherry-picked outside of the voluntary consensus process, and they need to incorporate the latest fire safety research. This research shows us that fire sprinklers are effective in protecting lives with the changes we see in the fire environment, including lithium-ion batteries.

The Government must work with fire service stakeholders to educate the public on lithium-ion battery fire safety practices and empower consumer regulators on product safety, including setting mandatory standards for lithium-ion batteries and e-mobility devices and closing outdated loopholes that enable uncertified devices to infiltrate our communities. Passing H.R. 1797, the Setting Consumer Standards for Lithium-Ion Batteries Act is a very important next step.

As innovations transform our world, public safety must become a top priority. We must acknowledge the need for research on risks, resources for first responders, public awareness, codes and standards, and governance so lithium-ion batteries can fulfill their purpose responsibly. By acting now on these priorities, we can address critical issues and create a safer world even as it grows more complex. Thank you.

[The prepared statement of Mr. Kerber follows:]

PREPARED STATEMENT OF STEPHEN KERBER

FEBRUARY 15, 2024

INTRODUCTION

Good morning, Chairman D'Esposito, Ranking Member Carter, and other Members of the subcommittee. I am Steve Kerber, executive director of the Fire Safety Research Institute, part of UL Research Institutes. The Fire Safety Research Institute (FSRI) advances fire safety knowledge to address the world's unresolved fire safety risks and emerging dangers. Along with our colleagues in the Electrochemical Safety Research Institute (ESRI), we take on the safety challenges associated with energy technologies. As part of UL Research Institutes, we are committed to sharing our safety insights with everyone to advance UL's public safety mission of providing safe living and working environments for people everywhere. Personally, I have been studying fire safety, with a focus on firefighter health and safety for more than 20 years. I am a third-generation volunteer firefighter having served more than a decade in the College Park Fire Department in Prince George's County, Maryland.

FIRE IS FAST—AND GETTING FASTER

So far this year, just 6 weeks in (1/1–2/9), we have lost more than 348 people in home fires. At least 50 of those deaths were children, many under the age of 5. All these deaths are preventable. Americans should be the safest in their homes, but that is simply not the case when it comes to fire safety. Research conducted by FSRI

has shown that, during a fire today, you have the least amount of time to safely exit your home than at any time in history.

This is partially because of the synthetic materials used in our furnishings and interior finishes today. It is possible that a fire starting in a bedroom or living room could go from a small flame to flashover—which is when the room becomes fully engulfed with fire—in just 3 to 5 minutes. The heat and smoke generated by flashover make conditions unsurvivable in the room where the fire starts and in adjacent rooms or hallways that are open to the fire room. This has contributed to fire deaths steadily increasing over the last decade in the United States. USFA data estimates this increase to be almost 25 percent since 2012.

The other items, or the fuels, that we bring inside our homes continue to change as well—lithium-ion batteries for example. Lithium-ion batteries have brought essential innovation to our vehicles, our grids, our communities, and everyday products that we rely on. And they are being deployed at a massive scale to drive a reduction in emissions and to improve the resilience of our national electrical grid. But they can overheat, catch fire, and cause explosions with disturbing intensity while emitting toxic smoke. From the first sign of a problem, there could be less than a minute to escape a battery fire.

Fire keeps getting faster as most of the Nation’s fire departments are ill-equipped to face the threats lithium-ion battery fires pose. That’s why we must act now to address escalating fire dangers posed by modern materials and new technologies.

RESEARCH IS ESSENTIAL

Despite on-going safety improvements such as smoke alarms and sprinklers, fires involving lithium-ion battery-powered products are increasing at an alarming rate and have resulted in injuries, fatalities, and property loss. Even when the initial cause of a fire is not the lithium-ion device, the involvement of lithium-ion batteries can increase the intensity and magnitude of any incident. FSRI is honored to support the U.S. Fire Administration and our Fire Service One Voice partners by developing actionable insights through collaborative research on this subject; however, additional research is imperative to reverse the mounting risks presented by this technology.

Experiments and fire investigations have shown that, if damaged or misused, a lithium-ion battery can transition from smoking to explosive fire growth within a matter of seconds. In 2022, a high-profile fire in New York involving lithium-ion batteries injured almost 40 people. The fire was one of hundreds of documented incidents caused by lithium-ion batteries in the United States since 2021. The actual number is likely higher because lithium-ion battery fires are not yet captured by the national fire incident reporting system. These incidents drive the need to better understand the physical phenomena of thermal runaway and the associated hazards.

As Dr. Moore-Merrell described, thermal runaway is one of the primary risks related to lithium-ion batteries. It is a phenomenon in which the lithium-ion cell enters an uncontrollable, self-heating state. We know through our research that thermal runaway can occur undetected until the situation becomes dire and there is an immediate danger of fire. This ultimately translates into shorter escape times and unknown hazards for consumers and first responders.

FSRI is actively investigating multiple facets of battery fires, including:

- Fire service considerations with lithium-ion battery Energy Storage Systems (ESS).¹
- The potential impacts when lithium-ion battery storage systems fail in homes.²
- The hazards posed when e-mobility devices (such as e-bikes and scooters) go into thermal runaway.³
- The fire dynamics and suppression challenges of electric vehicle fires.⁴

While this research is already under way, knowledge gaps remain in determining how hazards develop during lithium-ion battery incidents and creating strategies to mitigate the associated risks for Americans and first responders. Further study of materials, construction methods, and computational tools will improve our understanding of the fire dynamics in buildings so that building systems can provide in-

¹ Fire service considerations with lithium-ion battery ESS (<https://training.fsri.org/course/104/fire-service-considerations-with-lithium-ion-battery-energy-storage-systems>).

² The Impact of Batteries on Fire Dynamics (<https://fsri.org/research/impact-batteries-fire-dynamics>).

³ Fire Safety Hazards of Lithium-Ion Battery Powered e-Mobility Devices (<https://fsri.org/research/examining-fire-safety-hazards-lithium-ion-battery-powered-emobility-devices-homes>).

⁴ Fire Safety of Batteries and Electric Vehicles (<https://fsri.org/research/fire-safety-batteries-and-electric-vehicles>).

creased protection from lithium-ion battery fires. Experiments focused on lithium-ion battery incidents will characterize risks and advance emergency response protocols. We can't do it alone.

The Federal Government must collaborate with fire service stakeholders to direct lithium-ion battery research efforts toward the highest-priority safety needs. Increased Federal funding is imperative to drive research in improving battery safety as technologies advance, ensuring safe functionality of battery systems across electric vehicles, energy storage and other uses of lithium-ion batteries, and equipping fire departments to respond to battery incidents through refined tactics, specialized tools, and reduced chemical exposure risk. Targeted research initiatives and funding in these domains will provide vital progress toward comprehensive lithium-ion battery safety for both the public and first responders.

SAFEGUARDING FIRE RESPONDERS IS FUNDAMENTAL

Lithium-ion batteries present a dynamic challenge to the fire and emergency services. As use of these devices accelerates through communities, emergency responses will expose first responders to explosive thermal events and toxic emissions beyond traditional protocols. Bravery alone cannot sufficiently protect our fire service. We must have the support of the Nation's leaders to ensure the safety of America's communities and fire service personnel. Addressing these challenges will require a multi-faceted process working with a variety of partners (Governmental and non-Governmental) across many issue areas.

Congress must urgently deliver specialized resources that match the novel threats proliferating. This includes funding:

- Targeted research to equip departments with advanced tactics for battery incidents and integrating the latest science into customized training.
- Modern protective equipment and tools designed specifically to shield against exposure risks distinct to lithium-ion battery chemistry and future chemistries.
- Additional personal protective equipment and tools otherwise out of budgetary reach for resource-starved departments.

It is within your power to direct vital funding so first responders have every chance to prevail over the ever-evolving risks confronting communities across this country. Renewing support for programs like the Assistance to Firefighters Grant (AFG) and Staffing for Adequate Fire and Emergency Response (SAFER) grant programs—as well as the U.S. Fire Administration—will provide access and accountability Nation-wide. The safety of Americans begins with securing the safety of our emergency services.

EDUCATION IS CRITICAL

Both public awareness and first responder training are insufficient regarding lithium-ion battery hazards. Most Americans do not realize the fire risks the ubiquitous devices present if damaged or overcharged. And most fire teams lack the specific protocols needed when battery storage or electric vehicle fire occur.

Leaders must work with fire service stakeholders to prioritize national outreach to address these knowledge gaps. Impactful education includes:

- Mass campaigns conveying battery fire prevention through departments uniquely positioned to connect local constituencies.
- Turnkey campaigns like FSRI's Take C.H.A.R.G.E. of Battery Safety⁵ initiative designed to promote best practice consumer behaviors and potentially life-saving emergency planning through memorable guidelines.
- Accessible training materials for fire service instruction covering lithium-ion fire dynamics distinct from "traditional" fires and tailored suppression methods that integrate containment, suppression, scene turnover requirements, PPE needs, disposal, and more.

Effective messaging requires distilling cutting-edge research for public comprehension and fire service training customization. We urge officials at all jurisdictional levels to commit resources allowing departments to inform, instruct, and intervene against preventable high-risk battery incidents in the communities they serve. Hazard mitigation begins with awareness.

GOVERNANCE IS ESSENTIAL

Governance mechanisms around safety standards, trade enforcement measures, and legislative initiatives remain disconnected and outpaced by swiftly-evolving

⁵Take C.H.A.R.G.E. of Battery Safety (<https://batteryfiresafety.org>; <https://vimeo.com/884565314>).

technologies. Holistic implementation and enforcement of current codes and standards at Federal, State, and local levels will provide the foundation required to properly ensure the fire and life safety ecosystem, especially as codes and standards continue to be updated in response to new and evolving knowledge about technologies, including lithium-ion batteries.

Commercial readiness should never undermine public safeguards. The Federal Government must look to existing codes and standards organizations like UL Standards & Engagement, the National Fire Protection Association (NFPA), and the International Code Council (ICC) to ensure that laws and regulations consider the work already being done in this space. Applicable codes and standards⁶ exist; however, to remain effective, they must constantly integrate manufacturer insights with the latest fire safety research on battery hazards.

The Federal Government must work with fire service stakeholders to empower consumer regulators with product safety mandates. H.R. 1797/S. 1008, the Setting Consumer Standards for Lithium-Ion Batteries Act, would require the Consumer Product Safety Commission to set a mandatory safety standard for lithium-ion batteries in micro-mobility devices. Closing outdated loopholes that enable uncertified devices into communities is also paramount.

With coordinated governance, the promise of battery technologies can properly and safely accelerate. By infusing regulation with current competence, no innovation outpaces our ability to integrate it responsibly. We urge officials at all levels to partner with researchers and industry in establishing safety protocols.

CONCLUSION

Public safety must become the top priority as innovations central to our 21st Century lifestyles introduce increasing fire hazards. Technologies already promising to transform our vehicles, grids, and communities are now threatening them absent a new paradigm centered on safety.

But with deliberate governance, robust safety standards, and coordinated consumer education, lithium-ion batteries can fulfill their highest purpose responsibly. Implementing the necessary safeguards begins by acknowledging the urgent need for modern research, first responder resources, and public awareness reflective of contemporary risks.

Through immediate action centered on current codes, centralized funding, and community empowerment against preventable risks, we will pass to the next generation safer homes, infrastructure, and the emergency services relied upon to be ever-vigilant against hazards both known and still obscure.

Thank you again for the opportunity to share my perspective and I am happy to help this committee address these critical issues.

RESOURCES

Other important standards and codes include:

- UL 9540, Standard for Safety of Energy Storage Systems and Equipment
- NFPA 1, Fire Code
- NFPA 70, National Electrical Code
- NFPA 855, Standard for ESS and Lithium Battery Storage Safety
- International Fire Code, ICC
- International Residential Code, ICC.

Chairman D'ESPOSITO. Thank you very much, Mr. Kerber.
I now recognize Chief Butler for 5 minutes.

STATEMENT OF FIRE CHIEF JOHN S. BUTLER, PRESIDENT AND BOARD CHAIR, INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

Chief BUTLER. Good morning, Chairman D'Esposito. Let me start over. Good morning, Chairman D'Esposito and Ranking Member Carter. I appreciate the opportunity to discuss lithium-ion batteries and other threats to fire safety.

⁶For e-mobility, the applicable standards are: UL 2054, Household and Commercial Batteries; UL 2272, Electrical Systems for Personal E-Mobility Devices; UL 2849, Electrical Systems for eBikes; UL 2850, Outline of Investigation for Electrical Systems for Electric Scooters and Motorcycles; UL 2271, Batteries for Use in Light Electric Vehicle (LEV) Applications; UL 2580, Batteries for Use in Electric Vehicles.

The most important sentence I can summarize with is America's fire service is approximately 5 years behind the curve in this problem. We request Federal assistance to catch up.

Lithium-ion batteries can provide an alternate source of energy to Americans. However, they present fire safety challenges when not used or disposed of properly. A fire involving a lithium-ion battery requires a longer response time.

In addition, the fire department must package the damaged device and prepare it for transportation. The response and mitigation of these incidents requires new training for fire departments. Also, it can create a burden on fire department staffing and resources, as you mentioned earlier, with 7 hours on a fire.

We are not just challenged in the EV and mobility space with completed products. Local fire departments also must respond to incidents in warehouses, manufacturing, and recycling facilities, as we've seen. We also must respond to incidents involving the transportation of lithium-ion batteries by road, rail, and waterways.

The battery is not the lone concern. The charging components, use of third-party replacement lithium-ion batteries and large home energy storage systems, also poses challenges. Unfortunately, the increase of these batteries in our society has not led to increased response to capabilities of the fire service or rapid adoption of current fire and building codes. We need more help. I would like to thank my partners at FDNY for their leadership in this effort.

In addition, I note that this problem is not isolated to one region. It is affecting communities Nation-wide, small communities, smaller departments other than FDNY and Fairfax County. For example, in Fairfax County, we had 17 incidents involving lithium-ion batteries in 2023. They were in a variety of devices, including vehicles, mobile phones, portable chargers, and laptop computers.

As the Nation deals with an increase in lithium-ion battery fires, we need to be able to track and better understand their occurrences. Currently, the National Fire Service utilizes the National Fire Incident Reporting System to track fire-related incidents. However, this system is antiquated and must be replaced by the National Emergency Response Information System. We ask Congress to pass H.R. 4090, the Fire Grants and Safety Act. It would authorize \$95 million for the U.S. Fire Administration through fiscal year 2028. This increase in funding will allow the USFA to replace NFIRS with the new NERIS that I spoke of and will allow real-time data collection about incidents involving lithium-ion batteries Nation-wide.

H.R. 4090 also will allow increased funding for the U.S. Fire Administration and the National Fire Academy to train firefighters to respond to fires caused by lithium-ion batteries and how to safely manage and clean up the incident scene afterwards. Also, the USFA will be able to fund public education programs to promote the safe use and disposal of lithium-ion batteries.

We also urge Congress to pass H.R. 1797, the Setting Consumer Standards for Lithium-Ion Batteries Act. This legislation would require the Consumer Product Safety Commission to issue safety standards on lithium-ion batteries in micromobility devices. In addition, we ask for support for efforts to educate States, Tribes, ter-

ritories, and local communities about the importance of adopting model codes and standards.

Thank you for the opportunity to address the challenge of lithium-ion batteries and other fire safety issues. Congress can play a role in ensuring the Nation's preparedness by passing legislation like Setting Consumer Standards for Lithium-Ion Batteries Act. In addition, it can pass the Fire Grants and Safety Act. This legislation will allow the USFA to track lithium-ion batteries, develop firefighter training, and conduct public education programs.

Finally, we ask that Congress create a grant program to help local communities and fire departments prepare for incidents involving lithium-ion batteries. The International Association of Fire Chiefs looks forward to working with the committee to ensure the safe adoption of this revolutionary technology.

Thank you for giving me some time.

[The prepared statement of Chief Butler follows:]

PREPARED STATEMENT OF JOHN S. BUTLER

FEBRUARY 15, 2024

Good morning, Chairman D'Esposito and Ranking Member Carter. I am John S. Butler, fire chief of the Fairfax County (Virginia) Fire and Rescue Department and president and board chair of the International Association of Fire Chiefs (IAFC). I appreciate the opportunity today to discuss lithium-ion batteries and other threats to fire safety.

The IAFC represents the leadership of over 1.1 million firefighters and emergency responders. IAFC members are the world's leading experts in firefighting, emergency medical services, terrorism response, hazardous materials (hazmat) incidents, wildland fire suppression, natural disasters, search and rescue, and public-safety policy. Since 1873, the IAFC has provided a forum for its members to exchange ideas, develop best practices, participate in executive training, and discover diverse products and services available to first responders.

America's fire and emergency service is an all-hazards response force that is locally situated, staffed, trained, and equipped to respond to all types of emergencies. There are approximately 1.1 million men and women in the fire and emergency service—consisting of approximately 300,000 career firefighters and 800,000 volunteer firefighters—serving in over 30,000 fire departments around the Nation. They are trained to respond to all hazards ranging from earthquakes, hurricanes, tornadoes, and floods to acts of terrorism, hazardous materials incidents, technical rescues, fires, and medical emergencies. We usually are the first at the scene of a disaster and the last to leave.

DANGERS POSED BY FIRES FROM LITHIUM-ION BATTERIES

America's fire and emergency service is approximately 5 years behind the curve in addressing problems relating to lithium-ion batteries and we request Federal assistance to catch up. Fires involving lithium-ion batteries present unique challenges to local fire departments. As a result, local communities must plan for a number of complicated factors. For example, the duration of the fires can be longer: an incident involving an electric vehicle can take 4 hours and one involving a power storage unit can take approximately 24 hours to extinguish the fire and complete post-fire mitigation. Firefighters must not only extinguish the fire. They also have to pack the device and prepare it for storage to prevent secondary fires. In addition, fire departments also must plan to decontaminate their gear and address concerns about the exposure of firefighters to the toxic smoke caused by a lithium-ion battery fire. All of these characteristics of fires involving lithium-ion batteries can be a burden for fire departments' limited staffing and resources.

Thermal runaway occurs in lithium-ion batteries when the individual cells become destabilized and enter a state of uncontrollable warming. The reaction is the root cause of the fires we see from lithium-ion batteries. Often this phenomenon begins with little to no warning, which can create later complications regarding the removal of any active lithium-ion batteries from an incident scene. Thermal runaway typically presents with large amounts of smoke or gas, which is highly flammable and toxic.

These fires are not just contained to the devices they power. They can engulf the location of the initial fire, along with the surrounding dwellings. The risks posed by lithium-ion fires cannot be understated.

THE SOURCE OF FIRES INVOLVING LITHIUM-ION BATTERIES

There is a great chance everyone in this room has some sort of lithium-ion battery on their person. These power the devices which many of us rely upon. Without question, lithium-ion batteries are part of the future of a greener, cleaner society. However, our Nation's fire and emergency services have been responding to an increased number of incidents caused by fires involving lithium-ion batteries. Lithium-ion batteries are used to power electric scooters; electric bikes; hoverboards; wheelchairs; personal computers; cell phones; landscaping tools; electronic cigarettes; golf carts; energy storage systems used to power homes; all-terrain vehicles; electric vehicles (EV); commercial buses; trucks; and much more.

Our fire service is not just challenged in the EV and mobility space with completed products. With the rapid increase of cell manufacturing in the United States, many of our communities are struggling with new facilities that are part of the rapidly-growing manufacturing sector. This may be a battery plant; manufacturing facility; automobile assembly; or even a battery laboratory. Our firefighters are challenged with not just the buildings, but the transit of these materials as part of the complete ecosystem. This can include the safe transport of products by rail, road, and waterways.

The battery is not the lone concern with the operation of many of these devices. The charging components, use of third-party replacement lithium-ion batteries, and large home energy storage systems also pose great concerns. It is also worth noting the growing prevalence of home energy storage systems that use lithium-ion batteries to power an entire home. Unfortunately, the increase of these batteries in our society has not led to increased response capabilities for the fire service or rapid adoption of current and model fire and building codes. The fire service is at the initial stages of exploring the best and safest methods to respond to fires caused by these batteries. Several things need to happen to make these devices safe for all. We need more help.

LITHIUM-ION BATTERY FIRES ARE A NATIONAL PROBLEM

I would like to thank my partners at the FDNY for their leadership in this effort. Without a doubt, New York City has experienced a high number of these fires. Over the last 4 years in New York alone, there were more than 400 fires related to lithium-ion batteries. These fires resulted in more than 300 injuries, 12 deaths and damage to more than 320 structures and more than 100 non-structures. As a response to these fires, the FDNY is one of the most proactive voices calling for the necessary enactment of laws and regulations to try and remedy this situation.

Nonetheless, I would like to call attention to how lithium-ion battery fires are affecting communities all over our Nation.

- In Fairfax County (VA), we had 17 incidents involving lithium-ion batteries in 2023. They were in a variety of devices including vehicles, mobile phones, portable chargers, laptop computers, and remote-controlled cars.
- In March 2021, the Harrisburg (PA) Bureau of Fire experienced a line of duty death due to a fire caused by lithium-ion batteries found in hoverboards.
- In March 2023, the Brighton (MI) Area Fire Authority experienced 3 fires in 1 week, which involved a plug-in hybrid, a cell phone battery; and a mobility-based device.
- On March 2023, a lithium-ion battery from a hoverboard ignited a basement fire in Lodi, NJ.
- During 2023, Houston (TX) experienced more than 60 fires involving rechargeable lithium-ion batteries. These fires included lithium-ion batteries in hoverboards, scooters, and motor vehicles.
- Gainesville (FL) experienced several fires due to devices powered by lithium-ion batteries. In 2023, 2 of these fires involved surrounding structures and dwellings.
- Washington, DC experienced 8 fires in 2023 that were attributed to lithium-ion batteries. Three of these fires involved e-bikes and scooters and one involved a hoverboard.

THE NEED FOR BETTER DATA ON LITHIUM-ION FIRES

As the Nation deals with an increase in lithium-ion battery fire incidents, it is important that we can track and better understand their occurrences. We need to know the answers to questions like "What devices cause these incidents? Who are

the operators of these devices? Where are these incidents occurring, and how often?" These metrics will help us better understand how and where to allocate resources. Some representatives of the fire service are tracking this data and some States, like Florida, are beginning to require their fire departments to report lithium-ion battery fires. Yet, we still need a national understanding of the scope of the problem of lithium-ion fires.

Currently, the national fire and emergency service utilizes the National Fire Incident Reporting Systems (NFIRS) to track fire-related incidents. The United States Fire Administration (USFA) is developing a replacement for NFIRS that will include real-time data on fires. The IAFC supports the USFA's effort to develop the National Emergency Response Information System (NERIS) and urges Congress to fully fund its development. The development of NERIS will give our communities the necessary tools to track information about incidents involving lithium-ion batteries. With a better understanding of the scope of the problem, Congress and the administration will be able to allocate resources to help local fire departments respond to this growing problem.

THE NEED TO DEVELOP CODES AND STANDARDS

To prohibit the further entry of faulty lithium-ion batteries into our communities, model codes and standards must be developed, updated, and adopted. This will involve collaboration between many stakeholders, such as the fire service; Federal, State, and local agencies; research organizations; and manufacturers. There are several ways this can be achieved:

(1) Look to notable fire service organizations that are leaders in the code and standard space, such as Underwriters Laboratories (UL), the National Fire Protection Association (NFPA), and the International Code Council (ICC). The fire and emergency service needs strong partners that not only work to reduce these events from happening, but encourage the industry to develop solutions for post-incident mitigation of a fire where lithium-ion batteries are involved. Organizations such as UL, NFPA, and ICC are leading the effort to adapt codes and standards to adapt to technology using lithium-ion batteries. Further support of their work will lead to increased safety for not just consumers, but also first responders, who respond to lithium-ion battery fires. While we all know the power of using modern building and fire codes, States and communities also need support in adopting the most current codes and standards to address this rapidly-changing industry.

(2) Pass and enact the Setting Consumer Standards for Lithium-Ion Batteries Act (H.R. 1797/S. 1009). This legislation would require the Consumer Product Safety Commission to issue safety standards on lithium-ion batteries in mobility devices. A high percentage of the fires caused by lithium-ion batteries are in devices like e-bikes, e-scooters, and hoverboards. With the increased use of micro-mobility devices powered by lithium-ion batteries, it is paramount that we set safety standards to ensure that consumers are not subject to harm. H.R. 1797, as amended, advanced out of the House Energy and Commerce Committee by a total of 42-0. I urge the full House of Representatives to swiftly consider this legislation and pass it without delay. In the mean time, I urge the Senate Committee on Commerce, Science, and Transportation Committee to begin consideration of S. 1009. The sooner Congress acts, the faster we can start to prevent unsafe lithium-ion batteries from being on America's streets and in American homes.

THE NEED FOR MORE TRAINING, RESOURCES, AND INCREASED PUBLIC EDUCATION

Fire departments should work with organizations like the UL's Fire Safety Research Institute, the New York City Fire Department (FDNY), the USFA, and the IAFC to prepare for lithium-ion fires. The USFA can use the National Fire Academy and its relationship with the State and local fire training academies to train firefighters about how to respond to fires caused by lithium-ion batteries and how to safely manage and clean up the incident scene after the fire. In addition, the USFA can develop public education campaigns to educate the public about the safe handling and storage of devices and vehicles using lithium-ion batteries.

The Assistance to Firefighters Grant (AFG) and the Staffing for Adequate Fire and Emergency Response (SAFER) grants provide matching grants that can be used to help local fire departments with incidents involving lithium-ion batteries. However, both programs already cannot meet the current demand for their funds. In addition, unless Congress passes the Fire Grants and Safety Act (H.R. 4090/S. 870), these programs will expire on September 30, 2024.

We recommend that Congress develop a new program that will help communities prepare for incidents involving lithium-ion batteries. The program should fund code adoption efforts; planning, training, and exercises; and equipment. The program also should fund research into issues like firefighter exposure to toxic fumes from lithium-ion fires and how to effectively decontaminate gear that has been used in a fire involving lithium-ion batteries.

CONCLUSION

I thank you for the opportunity to address the threat of lithium-ion batteries and other threats to fire safety. While lithium-ion batteries present a promise in providing power to new forms of technology, we must take steps to prepare for accidental fires caused by them. Congress can play a role in ensuring the Nation's preparedness by passing legislation like the Setting Consumer Standards for Lithium-Ion Batteries Act (H.R. 1797/S. 1009). In addition, it can pass the Fire Grants and Safety Act (H.R. 4090/S. 870) to preserve programs like the AFG and SAFER programs and also create a program to help local communities work with their fire departments to prepare for incidents involving lithium-ion batteries. We also support increased funding for the USFA to ensure that it can improve data collection efforts and distribute training and public education to help local communities prevent fires involving lithium-ion batteries. The IAFC looks forward to working with the committee to ensure the safe adoption of this revolutionary new technology.

Chairman D'ESPOSITO. Thank you, Chief Butler.

Members will now be recognized by order of seniority for their 5 minutes of questioning. An additional round of questioning may be called after all Members have been recognized. I now recognize myself for 5 minutes.

Chief Flynn, thank you again for being here today. Just last week, the FDNY shut down an illegal lithium-ion battery business in Queens that was building battery packs for individual battery cells and replacing old lithium-ion batteries, which is in violation of the fire code. Can you explain to us and to people listening at home how you are inspecting and tracking which companies are making those unsafe batteries?

Chief FLYNN. Thank you for that question. We have a robust inspection program within the city. We team up with our fire prevention inspectors on a daily basis and go out and inspect every location that we become aware of that is selling, servicing, leasing, renting of these devices. We believe we inspected every single one within the city that we are aware of. We've conducted over 500 of these inspections just last year. Many of these businesses we've actually inspected several times.

So when we do become aware of them, we get out there and inspect them immediately. We've urged the public within New York City to call 311, which is our nonemergency number, for concerns from the public, and we pledge that we will get out there to inspect and address their concerns within 12 hours. We've also utilized our field units, our firefighting units, to help in those inspections. We want to make sure that every location in the city is safe from these devices.

One thing that limits our ability, though, is we can really only inspect these commercial locations. We cannot get inside people's homes to inspect for the safety of the lithium-ion batteries inside their homes. So, in that respect, we've moved to an informational campaign where we've had a robust informational campaign on social media, getting out to public events, meeting with religious leaders, working with our housing authority to get that word out about lithium-ion battery safety.

We want to make sure people are storing them properly. We don't want them by people's front doors or their primary means of egress of their apartment. We just want people to be safe, charge them properly, store them properly when they're damaged, dispose of them properly.

Chairman D'ESPOSITO. Now, you mentioned that you guys are confident that you have inspected every single location, obviously specific to the commercial, because, as you said, it is sometimes difficult to get into the residential. While you are investigating these locations, have you found or identified any specific trends to the lithium battery fires, for instance, perhaps batteries that are manufactured in China or ones that are repurposed? What are the patterns that you are seeing as to the cause of these deadly fires?

Chief FLYNN. We are tracking that. We are trying to track the brands of the devices that are failing, most often in the city. Unfortunately, when we do conduct our investigations, many of these products are damaged beyond recognition. A lot of that goes into interviews with the owners of these devices.

We do share that data. We have a very strong relationship with the CPSC already, and we speak to them on a daily basis. Every time we do have one of these fires and we collect evidence from that fire, we allow them the opportunity to inspect that device, to record what products are failing on a national level so they have that information. Our data collection, I think we're doing a great job of that right now. But it's pretty early on to make that determination as to where these products are coming from and what specific devices are failing.

Chairman D'ESPOSITO. Thank you. Mr. Kerber, we have heard reports from the U.S. Consumer Product Safety Commission of unsafe lithium-ion batteries being sold on sites like Amazon by Chinese manufacturers. How are industry and Government partners working together to establish safety standards, and what more can we do to assist in that process?

Mr. KERBER. So, our fellow organization, UL Standards and Engagement, has worked diligently over many years to create voluntary consensus standards that cover many of these lithium-ion battery-powered products. So the standards are there, but they are voluntary. So by moving forward with the act that's currently in play right now would force CPSC to make a mandatory requirement in order to make sure that these devices are, in fact, meeting these standards and being certified as such.

Chairman D'ESPOSITO. Thank you. My time is just about up.

I now recognize the Ranking Member, Mr. Carter, for 5 minutes.

Mr. CARTER. Thank you, Mr. Chairman.

Chief Butler, your testimony mentions challenges with collecting accurate data from lithium-ion fires, and you note that such data are not currently maintained in the national database. You also mentioned that we're 5 years behind. How are fire departments tracking these lithium-ion battery fires, and are there plans to develop a means to track them nationally? Can you give an example of the types of national data that would give a better picture of where and why these incidents occur?

Chief BUTLER. Thank you for the question. There are over 30,000 fire departments in the United States, and some have resources

that others don't. In the community I'm in, we are able to track fires related to lithium-ion at the company level and input into our local database. We have the abilities to do that. Many other places don't. Many other places don't have those resources, and, therefore, even more the reason for a national information system such as NERIS.

We can't address an issue until we understand the issue, and we're continuing to learn about lithium-ion challenges, and we need to see it from a national and international level. That's where NERIS would come into play. I'm fortunate to be in an organization that we can do a lot and feed NERIS. Many places need to start from the ground up.

I think that's the end of my response to that question.

Mr. CARTER. Yes, thank you very much.

U.S. Fire Administrator Merrill, how does the U.S. Fire Administration plan on tracking lithium-ion batteries statistically nationally? The statistics nationally, rather.

Ms. MOORE-MERRELL. Yes, sir. Thank you for that question.

At present, we are limited to media scrapes. This is how we're learning. I mentioned in my testimony our antiquated NFIRS system does not have the capability for tracking. So, local fire departments, much like Chief Butler just referenced, are tracking them either as a hazardous material incident or an electrical fire. So there's no consistency because the data system can't contain it.

So the new cloud-based platform that's being constructed now will be onboarding several departments for testing within the next couple of weeks. We will onboard an additional 50 departments in the summer, and then opening up for the Nation-wide fire departments to self-onboard to the new system. The new system will absolutely be able to not only track lithium-ion, but other emerging technologies as they arise, so that we can better understand any fire risk associated as these emerging technologies that are going to make our lives better, but they also may carry fire risks that we don't understand. So we will track them in the new system.

They'll be able to be tracked straight from the scene. We'll be able to upload videos or photos right from the scene as well, so we'll understand better about the products into the new system. So understanding data input for firefighters across the Nation is going to change once we have the new system operational this year.

Mr. CARTER. So we know that many of the every-day products that we use, from cell phones to my kids' hoverboards to all of the various things that are out there, have lithium-ion batteries. Where are the majority of these batteries manufactured?

Ms. MOORE-MERRELL. Sir, I'm afraid that's something I'd have to get back to you on. Perhaps—

Mr. CARTER. Does any panelist have an answer or no?

Ms. MOORE-MERRELL. UL may have an answer.

Mr. CARTER. No, it's OK if you don't. You can get back with me.

The other question associated with that is we know that we get on the airplane every day with lithium-ion batteries. The risk of explosion, or if, God forbid, a terrorist use of some nefarious act. Are we tracking these kind of things to make sure that we're ahead of the game in dealing with this being used in a more nefarious act versus an accidental one?

Ms. MOORE-MERRELL. No, that's a great question, sir, and it's something that is extremely concerning. As you have noted there, this part of the tracking would be able to be able to identify would that be a behavior that might evolve? Certainly, as we learn from every single incident, we're still in research mode here, very much in research mode, and incident by incident, unfortunately, is how we're learning.

There is some research funding around this that my colleagues from UL and other institutes are looking at. Lithium-ion, how the runaway happens, how these explosions happen, how the cells evolve. But also, we are learning post-incident. Every event that FDNY responds to, we learn something. So as they evolve, we're trying to track that information, compile it so we have information to carry forward.

Mr. CARTER. Great. I have got about 17 seconds left. I want to ask one other question that is very important to me.

While we are focusing on lithium-ion batteries, I don't want us to lose focus on fire threats. In August, we saw brutal firefighters—fires destroy parts of Maui, which tragically lost—led to 100 confirmed deaths. As we prepare the Nation's future threats, such as climate change, it is imperative that we prioritize community investments to improve preparedness measures against all forms of hazards. U.S. Fire Administrator, can you share with us that ensuring that climate change is being factored into all fire preparedness across the Nation.

Ms. MOORE-MERRELL. Absolutely, sir. Climate change is in the forefront of our mind. What is happening across, as you pointed out earlier in your opening statement, wildfires in Louisiana. This is a first. We're seeing the changes, everything from the atmospheric rivers in California to wildfires in places that have not historically experienced them.

One of the things that we note is that we continue as a Nation to build toward risk. In other words, we are clearing fire-prone lands, lands that have burned for hundreds of years, perpetuating the vegetation. Yet today, we're clearing them and putting structures there, people there, often with one way in and one way out. So as we build toward that risk, we must take a stand on building codes and look to the science that we know can make a difference. Fire-resistant building materials, all of those things must be upheld, and that's how we'll reduce the risks.

Mr. CARTER. Thank you. My time is far expired.

Mr. Chairman, I yield back. Thank you, ma'am.

Chairman D'ESPOSITO. Thank you, Mr. Carter.

I now recognize from New Jersey, Mr. Payne.

Mr. PAYNE. Thank you, Mr. Chairman. Administrator Moore-Merrell, in your testimony, you mentioned the next generation PFAS-free personal protective equipment, along with science and risk-based mitigation programs, can lessen the health risk for first responders. My bill, H.R. 3254, the First Responder Assesses the Innovative Technologies Act, would expedite the process for getting this next generation equipment into the hands of first responders and firefighters, ensuring they have the equipment they need to do the job safely and effectively. I want to thank the International Fire Chiefs Association for endorsing the bill.

What is FEMA doing to change its process to get equipment and systems onto the authorized equipment list and into the hands of first responders?

Ms. MOORE-MERRELL. That's a great question, sir.

As you know, PPE, or the gear, turnout gear, is a Priority 1 level for the Fire Act grants, and so it already remains there. One of the issues with having PFAS-free gear is that we need the manufacturers to actually produce it. Often the manufacturers don't produce until there's a demand, and the demand has not arisen yet because most fire departments are held to purchase based on an industry standard. So the NFPA standard that directs and is over the gear itself still has a test that the test requires PFAS in the gear in order to pass the vulnerability test for the gear. So we're working to change the standard so that we can have the departments who have to comply with the standard be able to purchase in order to drive the demand for the manufacturers to make the gear.

So right now, we're in a bit of a circular issue. It is not a grant. Grants will cover the gear that can be purchased.

One of the things that we do want to put on your radar going forward is how are we going to not only purchase gear for the Nation, but how do we dispose of the gear that has PFAS in it that exists now for every firefighter in the Nation?

Mr. PAYNE. So basically, we have a chicken-or-the-egg situation.

Ms. MOORE-MERRELL. We do currently, sir. Yes, sir.

Mr. PAYNE. OK. Thank you.

Chief Flynn, while we are discussing safety training and equipment for first responders and firefighters, I wanted to quickly discuss one of FDNY's training facilities. As you are aware, there was a shipboard fire at Port Newark in my district last July. Sadly, two brave firefighters with the Newark Fire Division lost their lives. Augusto Acabou and Wayne Brooks succumbed to the fire on a smoke-filled deck full of vehicles.

The FDNY has a ship simulator on Randall's Island that I understand is utilized throughout the year. Could you tell me more about the facility, including how many firefighters and first responders can be trained at this facility annually, and whether the number of firefighters trained annually can be increased in the costs associated with training?

Chief FLYNN. Certainly. Thank you for that question. My condolences to the community and the loss of those brave firefighters in that shipboard fire.

We do have a shipboard simulator at Randall's Island. We have many different simulations there. We even have a fuselage of a plane, so we train on all potential threats at our fire academy. We also train our probationary firefighters there. We train about 400, close to 400 in a class. So it's a very, very busy facility, but certainly we can try to address any cross-training.

I know our chiefs from special operations were in very close contact with the fire chiefs out in Newark at the time, and I know we are still in discussions with them to share how we train and the way that we train. I would be certain that we would be open to hosting others to show them our training methods and our facilities to try to benefit the fire service as a whole.

Mr. PAYNE. So right now, only FDNY is utilizing your facility?

Chief FLYNN. We train a lot of our firefighters there. We have, you know, close to over 10,000 firefighters, so it is very busy that location. But I know we do train with other agencies from time to time, and I can bring that back to the commissioner and try to reach out and get some more training for others.

Mr. PAYNE. Thank you. Mr. Chairman, I'll yield back.

Chairman D'ESPOSITO. OK, the gentleman's time has expired.

I now recognize from New York, Mr. Goldman.

Mr. GOLDMAN. Thank you, Mr. Chairman. Thank you for convening this hearing. I thank you for the witnesses for being here. As a Member from New York City, this is obviously of great importance to me.

Chief Flynn, I had the pleasure of meeting with you and Commissioner Kavanaugh a few weeks ago to discuss this issue, which, I think you even noted in your opening testimony, has risen in such dramatic fashion, where 150 people were injured last year, 18 were killed, 268 fires caused by lithium batteries, which is over 1,000 percent increase from just 2019.

I wanted to discuss a little bit a concern that I have in terms of the pathway toward some of these problems which, you know, my district in last June faced. Four people died. I was a little surprised, and I don't want to put you on the spot, I'm a little surprised that none of the witnesses know where these lithium-ion batteries are manufactured, because if we don't know where they are manufactured, how are the new mandatory regulations that the Consumer Safety Protection Bureau would be required to issue if my colleague to the left of me, Congressman Torres' bill is passed?

Chief FLYNN. So if I may, sir, we do have an answer to that. The United States does get most of its lithium-ion batteries from China, South Korea, and Japan, but there's a huge unregulated market within the United States that poses the challenge to regulators, for sure.

Mr. GOLDMAN. Right. That is where I wanted to go next, because something struck me in the meeting that we had, Chief Flynn, which is that a lot of the danger of these lithium-ion batteries comes from those who purchase them, messing with them or rejiggering them, mostly to allow them to go faster, which provides a whole other set of problems that we deal with in New York City, but it also increases the danger. Is that right?

Chief FLYNN. Absolutely. By opening these up, it creates a tremendous danger. There's really no regulation for people to repair them, so they're engaged in extremely dangerous practices. We've had several fatalities related to the repair or reconditioning of these devices throughout the city. The incident that you mentioned on Madison Street a few months ago, we believe that they were working on batteries at that location as well, which killed 4 people, tragically, in Manhattan.

It's important to note in that incident as well, there was no fire that extended to the apartments of the people that were killed there. The smoke from these devices is so toxic that if it reaches your apartment, you're immediately overcome by this toxic gas.

Mr. GOLDMAN. Right. It is important to note that that fire started at an e-bike store, so it wasn't just a charge situation.

So this raises the next question, which is, there is no question I am a cosponsor of Congressman Torres' bill, and it is essential that we get that passed. I hope my colleagues on the other side of the aisle will push their Speaker to put it on the floor so that we can get it passed. But I am worried that this black market that we are talking about, the unregulated market, is not going to be affected by this.

So, you know, I guess Chief Flynn or perhaps Chief Butler, because you guys are on the ground, what do we need to do or be thinking about to address this black unregulated market of turning up these batteries so they go faster, which causes more risk?

Chief FLYNN. Well, as I mentioned earlier, we do have an excellent inspection process within the city. So anytime we're alerted to any of these shops or makeshift commercial locations, which we've seen them pop up within housing communities—

Mr. GOLDMAN. Do you think you have enough authority and resources to be able to tackle this issue?

Chief FLYNN. We could always use more resources, of course. Our inspectors are stretched very thin when it comes to the inspecting locations that are engaged in these practices. But the reconditioning of batteries currently within New York City is currently not legal. So when we do observe these shops conducting in those practices, we do close them down or issue violations.

Mr. GOLDMAN. Well, I think you raise a very important point, which is that, yes, we can regulate, but enforcement has to be a priority. I know it is for the fire department, and I know that you are working with a task force of other city agencies, but there needs to be enforcement not only of the regulations and law as it relates to these batteries, but there needs to be enforcement of our traffic laws to prevent people from using these e-bikes going 25 miles per hour or more, often wrong way on one-way roads, which causes a tremendous public safety risk. So I thank you for being here.

Thank you for your indulgence, Mr. Chairman. I yield back.

Chairman D'ESPOSITO. The gentleman's time has expired.

I now recognize my good friend from Texas and the Chairman of the Subcommittee on Counterterrorism, Law Enforcement, and Intelligence, Mr. Pfluger.

Mr. PFLUGER. Thank you, Mr. Chairman. I appreciate you letting me waive on here and thank the witnesses for being here.

I will pick up where my colleague from New York left off, and that is, where are these batteries being made? Who is making them?

Mr. Chairman, I have got a document here that I would like to insert for the record that talks about, "Beijing's Power Play: Safeguarding U.S. National Security in the Electric Vehicle and Battery Industries."

Chairman D'ESPOSITO. Without objection.*

Mr. PFLUGER. This document talks about the Contemporary Amperex Technology Company, or otherwise known as "cattle"—CATL—and the potential, because of their outsized influence on

*The information has been retained in committee files and is also available at: <https://www.fdd.org/analysis/2023/10/23/beijings-power-play/>.

making lithium-ion batteries, to have nefarious actions inside the United States, including dependencies on them and also including the potential use for battery storage, to be able to insert malware and connect to charging stations. So that is really where I would like to go right now, is talking about EVs and the fire hazard.

Recently, in my district, there was a traffic accident that shut down a pretty major highway system for about 12 hours. So I will start with Chief Flynn. Talk to me about the risk of fires in EVs and how that impacts your organization and the impacts to other motorists and communities.

Chief FLYNN. Thank you, sir. We investigate approximately 7,000 fires a year, 2,000 of those fires within the city are car fires. So we inspect every single car fire that occurs within New York City, and we have really not seen fires in EVs up until this point.

We're aware of incidents across the world with EV fires, and we train to extinguish those fires, which is extremely difficult, of course. So we are aware of the issues in other areas. But specific to New York City, the fires we're really seeing that are killing our citizens in New York City are fires related to the batteries that are powering micromobility devices.

Mr. PFLUGER. Chief Butler.

Chief BUTLER. When a fire engine is dispatched to an EV fire on a roadway or elsewhere, potentially we could require a whole lot of water, a lot of—a high volume of water to suppress any stranded energy in the batteries or the electric vehicle, and also a protracted amount of time on the scene. So the converse of that is a community that doesn't have a fire engine or its crew in that community in its primary role and responsibility. So there is a community ripple effect with regard to EV fires. We still don't know what we don't know, and requiring a lot of water, a lot of resources for a protracted amount of time.

Mr. PFLUGER. Why does it take so long to put out fire with a lithium-ion, it is hard to say, battery?

Chief BUTLER. Dr. Kerber and others could probably get more in the weeds with regard to the science, but it's that it's a reaction that creates heat and fire and flames, and that reaction is almost perpetual at times, so that stranded energy feeds upon itself. I'm probably not saying it well, but he can say it better.

Mr. KERBER. No, Chief Butler, you're starting out very well.

So it's a lot of energy in a very small space. All of those cells, if one goes into thermal runaway, it then heats all the cells that are touching it and imagine hundreds, if not thousands of these cells together. When we put them in an EV, we highly protect them. So we typically put them in a container and bury it as low and into the middle of the car as possible and encase it so that we don't have other problems. That's what makes it so difficult to get to, to get water to in order to cool it off. Then as lithium-ion batteries go into thermal runaway, they also produce oxygen, which allows them to burn in this closed compartment and release these toxic gases. The fire department can't get to that, and we don't want them tearing it apart either, because of the high voltage concerns.

Mr. PFLUGER. Definitely some things we need to think about.

I would like to give a shout out to my home district, to Goodfellow Air Force Base, for the progress that they are making on these. They are the only—DOD's only joint fire training center. They train hundreds of fire professionals each year and are doing a great job.

The last question I will ask, and for any of you, is the nexus between terrorism, nefarious actors, and lithium-ion batteries. Anybody in the last 20 seconds, Dr. Moore-Merrell or Dr. Kerber.

Ms. MOORE-MERRELL. Is the potential there? The answer is yes. If the understanding happens and the mechanism to be able to put these batteries into thermal runaway and then leave a device in a public place, then can it explode? Of course it can. So is the potential there if that becomes known? Yes.

Mr. PFLUGER. I thank the witnesses for your time. Chairman, thanks for letting me waive on. Yield back.

Chairman D'ESPOSITO. Mr. Pfluger, thank you for joining us.

I now recognize my friend from New York, Mr. Torres. Thanks for joining us.

Mr. TORRES. I want to thank Chair D'Esposito and Ranking Member Carter for allowing me to waive on.

Poorly-manufactured and poorly-handled lithium-ion batteries are ticking time bombs in American homes and businesses. A lithium-ion battery can cause not just a fire, but an instantaneous explosion. The sheer speed and scale of the destruction it brings is nothing short of staggering. For proof, look no further than the ruins of 2096 Grand Concourse, a neighborhood supermarket in the Bronx, one of the few reduced to rubble at the hands of a five-alarm fire caused by a lithium-ion battery.

Lithium-ion battery fires are happening in America and happening with greater frequency and intensity. The growth of these fires in New York City has been exponential, from more than 30 in 2019 to more than 40 in 2020, to more than 100 in 2021, to more than 200 in 2022. In the span of 4 years, there has been a 900 percent surge in lithium-ion batteries, creating an unprecedented crisis in fire safety.

So, Chief Flynn, I know the city council has enacted legislation, but if we in Congress do nothing or do too little, is it fair to say that the crisis will simply keep getting worse?

Chief FLYNN. Thank you, sir. I remember meeting you out there at the Grand Concourse after that fire. It was a terrible tragedy. Luckily, nobody died from injuries at that fire. That was one device that took out an entire shopping center. It was a huge fire, a fifth alarm. Just to put it in perspective, that's the maximum that we have. That's the most resources we can bring to a scene.

We have regulated it within New York City, and we've seen many violations of that law that we put in place locally. We cannot regulate devices that are coming into the city from the surrounding areas.

Mr. TORRES. So ultimately, there is no substitute for Federal legislation.

Chief FLYNN. Yes. So we really need that legislation enacted to stop those products from coming in, not only to our city, but to cities around the country.

Mr. TORRES. So here in the House, I am advancing legislation, H.R. 1797, that empowers the Consumer Product Safety Commission to establish safety standards for the manufacturing of lithium-ion batteries and the e-mobility devices that contain them. I want to thank the International Association of Fire Chiefs, which was the first to endorse the bill.

Although no legislation is a magic bullet, do you believe, as I do, that safer manufacturing would prevent and reduce lithium-ion batteries in New York City and elsewhere in America? Chief Flynn, you want to—

Chief FLYNN. Absolutely. I think, as Dr. Kerber mentioned, we're really not seeing these fires in the EVs. The reason, I believe, is because they're manufactured better. We're seeing low-quality products that are causing these fires in New York City, products that are being worked on or fixed or made to go faster in New York City. These are not high-quality products that are causing these fires.

If we were to enact that standard, I believe we'll see what we see in the EVs, where we're seeing very few fires in EVs, at least in New York City I could speak for. If we had that standard, I think we would see a tremendous change.

Mr. TORRES. You spoke about the lack of quality. I sit on the China Committee, and part of the problem is the lack of safety regulation in China. Just like the flow of drug precursors from China is perpetuating opioid deaths in America, the flow of poorly-manufactured lithium-ion batteries from China is perpetuating fire deaths in America. I feel strongly that Congress should act swiftly to lower the *de minimis* threshold for imports in order to prevent poorly-manufactured lithium-ion batteries from saturating the American market.

Does anyone have an opinion on the *de minimis* threshold?

Chief FLYNN. I would say that it's as high as it is, it has certainly allowed a number of e-bikes and e-scooters to come into this country underneath that threshold and create fire safety problems that we're dealing with today.

Mr. TORRES. Administrator, about 2 years ago, I passed the United States Fire Administration Empowerment Act, which set up a Federal process for investigating the deadliest fires in America. Can you speak about just the status of the implementation of the law and the importance of the Federal role in fire safety, which historically has been seen as a local concern?

Ms. MOORE-MERRELL. Absolutely, sir. First of all, thank you for your interest in fire safety and in that bill, sponsoring that bill, because we are in the midst of rulemaking at present defining what a major fire would be as was defined or laid out in the legislation. So we're hopeful to very soon be able to exercise that authority and look at major fires and these recurring, unfortunate fires that are happening with the lithium-ion.

Mr. TORRES. I yield back.

Chairman D'ESPOSITO. Well, thank you, Mr. Torres.

We are going to now start a second round of questioning. Before that, without objection, I would like to enter into the record a letter that was received this morning addressed to myself and Ranking Member Carter from DoorDash, expressing thanks about the hear-

ing and their commitment, but specifically about this hearing and calling attention to the fire hazards posed by the proliferation of substandard imported lithium-ion batteries powering micromobility devices.

[The information follows:]

LETTER FROM DOORDASH

February 15, 2024.

The Honorable ANTHONY D'ESPOSITO,
Chairman, Subcommittee on Emergency Management and Technology, Committee on Homeland Security, U.S. House of Representatives, H2-176 Ford House Office Building.

The Honorable TROY CARTER,
Ranking Member, Subcommittee on Emergency Management and Technology, Committee on Homeland Security, U.S. House of Representatives, H2-117 Ford House Office Building.

DEAR CHAIRMAN D'ESPOSITO AND RANKING MEMBER CARTER: DoorDash would like to thank the Subcommittee on Emergency Management and Technology for holding the hearing, "Examining Fire Hazards: Lithium-Ion Batteries and Other Threats to Fire Safety", and calling attention to the fire hazards posed by the proliferation of substandard, imported lithium-ion batteries powering micromobility devices. We would also like to express our support for Representative Ritchie Torres's H.R. 1797, the "Setting Consumer Standards for Lithium-Ion Batteries Act", of which Chairman D'Esposito and committee Members Rep. Clarke, Rep. Garbarino, and Rep. Goldman are original cosponsors. It is critical that the United States establish battery safety standards for all micromobility devices so that every American can use these products without putting themselves, their families, or their neighbors at risk.

DoorDash is a technology company that connects consumers with their favorite local businesses in more than 25 countries across the globe. Founded in 2013, DoorDash builds products and services to help businesses innovate, grow, and reach more customers. DoorDash is building infrastructure for local commerce, enabling merchants to thrive in the convenience economy, giving consumers access to more of their communities, and providing work that empowers. With DoorDash, there is a neighborhood of good in every order.

Electric micromobility is a crucial component of transportation in the United States, particularly for more urban areas. However, it is essential that electric micromobility products in the U.S. marketplace are safe to use and do not create fire hazards due to their reliance on lithium-ion batteries. This issue is particularly important for food delivery workers, many of whom own these devices and use them to earn extra income. Recent fires in New York City and other major cities have highlighted the dangers posed by these products, and a multipronged solution is required to not only remove substandard lithium-ion batteries already on our streets, but also prevent the sale and import of new lithium-ion batteries that lack adequate safety standards.

DoorDash is working with stakeholders to address e-bike battery fire hazards in a number of ways. We are financially supporting the Equitable Commute Project to fund the development of the first trade-in program dedicated to delivery workers in NYC. This program runs events on a regular basis to help delivery workers transition from their existing device to a new UL-certified e-bike, and making sure uncertified batteries are properly recycled and disposed of. We've also helped educate Dashers and others in the communities we serve about safe e-bike practices, including contributing \$100,000 to the FDNY Foundation's e-bike and battery safety education campaign.

In addition, DoorDash has partnered with electric bicycle suppliers to expand access to affordable, safe e-bikes so that Americans who use the DoorDash platform to make deliveries and earn extra income have more transit options. These partnerships allow Dashers to purchase safe, discounted electric bicycles from reputable manufacturers and expand access to electric bicycle rentals. While these efforts are a productive first step, their effectiveness will be limited as long as the marketplace continues to be flooded with shoddy, foreign-made e-bikes powered by uncertified lithium-ion batteries.

Local and State solutions, however well-conceived, are also falling short. Recently, New York City passed a local safety standard requiring all lithium-ion powered micromobility devices sold in the city to be UL certified, with violators subject to a civil penalty of up to \$1,000. Despite its dedicated efforts, the city has struggled

with enforcement due to the widespread availability of substandard batteries through popular on-line marketplaces. Unsurprisingly, it is difficult to effectively reduce the flow of uncertified batteries at the municipal level when these products can still be readily purchased in neighboring communities or through the internet. Localized approaches are not effective for this type of problem, we need a national policy that can be enforced at our borders.

H.R. 1797 would do just that by requiring the Consumer Product Safety Commission (CPSC) to promulgate a final consumer product safety standard for rechargeable lithium-ion batteries used in micromobility devices within 180 days of enactment. Shutting down the flow of unsafe batteries will help make families across the country safer, and protect hardworking communities from the hazards that come from shoddy, foreign-manufactured lithium-ion batteries. The "Setting Consumer Standards for Lithium-Ion Batteries Act" is necessary to address these loopholes by ensuring that a national safety standard exists.

DoorDash will continue to work with all stakeholders and to remove hazardous lithium-ion batteries from our communities, but a safety floor must be put in place to ensure that unsafe batteries do not enter the marketplace to begin with.

We thank Chairman D'Esposito for his leadership on this issue and the committee for holding this important hearing.

Sincerely,

CARRIANNA SUITER,

Head of Federal Government Relations, DoorDash.

KURUVILLA KASSANDRA PEREZ-DESIR,

Head of Government Relations NY/NJ & Puerto Rico, DoorDash.

Chairman D'ESPOSITO. Dr. Moore-Merrell, as lithium-ion battery fires have clearly increased, they have become more dangerous and, of course, more deadly. Are firefighting organizations asking for more assistance, through our Assistance to Firefighters grant and Staffing for Adequate Fire and Emergency Response programs to prepare for these type of fires?

Ms. MOORE-MERRELL. Yes, fire departments across the Nation are eager for training. So, as I said to you, we're still in a very much research and understanding stage. Every incident provides additional information. Our colleagues in research, even sitting here at the table, Dr. Kerber and his team, have been researching. They provide training on-line. We have enhanced courses at the NFA, as has been noted, in training and tactics and understanding scene safety.

But each time that the manufacturers, particularly with the new micromobility products and even the EVs, they evolve, they change. So the training has to keep up. So every time we learn something, it's like we have to change the training. So all of these things are causing departments across the Nation to need constant training in this regard. So, yes, they are asking for that, and it is primarily understanding and training.

We're still trying to understand the impact on our gear. We've talked about PFAS. But right now, we're beginning to understand that firefighters who are fighting these lithium-ion fires, and you heard about the toxins from the smoke, well, we're seeing also that once we wash their gear, some of the toxins from these fires are not coming out of the gear. So we're still looking for research to be able to understand that impact. So we anticipate that that's going to be another issue around the gear and the safety of firefighters themselves.

Chairman D'ESPOSITO. So one of the goals of this committee since the beginning of the 118th Congress is to make sure that resources, especially when it came to grant funding, was made not only available, but that the application process was made known

to even the smaller departments. You know, coming from the NYPD, the FDNY, we are the big departments that are always recognized with grant funding. But it has been our goal, and that is a bipartisan concern that we have, to make sure that departments, even in the smallest crevices of this country, know that they have the ability and the resources available. So I know that I speak for both sides of the aisle that anything that we can do to relay those messages, to help get that awareness out, is important to us.

Mr. Kerber, your testimony stated that lithium-ion batteries present a dynamic challenge to the fire and emergency services. As use of these devices accelerates through communities, emergency responses will expose first responders to explosive thermal events and toxic emissions beyond traditional protocols.

Following the attacks on September 11, 2001, many first responders who were present that day were exposed to ash, debris, and various harmful particles that have resulted in countless not only sickness, but unfortunate deaths. It is of the utmost importance that we ensure the safety of first responders so that they can continue to do their jobs and keep our communities safe.

What type of research is FSRI conducting on the negative health effects of lithium-ion battery fires, and what can Congress do to help?

Mr. KERBER. Thank you very much for that question.

As we speak right now, the FSRI team is conducting a series of EV fires at our laboratory in Northbrook, Illinois. They spent the last 3 weeks burning different manufacturers' EVs, understanding the size of the fire, but, more importantly, working with NIOSH and other industrial hygiene experts to understand what are the chemicals that are coming off of these vehicles, at what concentrations, and what possible health effects could there be with this new challenge?

So that data has been gathered over the last several weeks. It will now be in laboratories being analyzed so we can understand what is in that smoke. Then from there, we'll work with some toxicology partners to figure out, what could the possible health effects of this be? Then from there, we start developing methodologies and practices with the fire service so they understand how to protect themselves, what equipment they need, and all of the downstream impacts that we need to prevent.

Chairman D'ESPOSITO. Thank you. My time has just about expired.

I now recognize the Ranking Member, Mr. Carter.

Mr. CARTER. Thank you, Mr. Chairman.

Dr. Moore-Merrell, I am going to come back to you because it looks like you have got somebody shared with some information on where we think the larger amount of these batteries are manufactured, as I asked earlier. Since we now have an idea that we don't know where they all come from, but we have a pretty good idea that a lot of them come from China. The concern with when we import components like this, share with me the mechanism or process that they are tested before they are put into equipment: toys, cell phones, bicycles, motorcycles, cell phones, hoverboards. Are they inspected and, if so, to what extent?

Ms. MOORE-MERRELL. So one of the things that you heard Dr. Kerber and Chief Flynn talk about was the voluntary standards that they are tested to today. So UL has a standard. There are standards that the testing, and they are labeled. The unfortunate part is that often those labels are being fraudulently applied, and so we have some fake. I know FDNY has certainly encountered some of that. So there are voluntary standards. What we need is a mandatory standard.

Mr. CARTER. So certainly we know that a nefarious actor is not going to voluntarily tell that they are doing something nefarious. We all know that.

Ms. MOORE-MERRELL. Correct, sir.

Mr. CARTER. So what can we do? What are we doing to stop that or to have a more robust checkpoint?

Ms. MOORE-MERRELL. At this point, what I'd like to do is turn to Dr. Kerber to talk about the UL standard and that testing—

Mr. CARTER. Certainly.

Ms. MOORE-MERRELL [continuing]. And what UL is doing to engage.

Mr. CARTER. Thank you.

Mr. KERBER. Thank you, Dr. Moore-Merrell.

So for over 130 years, UL has been creating safety standards and certifying to those safety standards. I think one of the big pieces that people don't realize about that process is through our colleagues at UL solutions, if you have a product that bears the UL mark, that product is inspected in where it's being created to make sure that it's being made to pass the safety standard, and there's a follow-up service to make sure that it continues to meet the standard as it is sold all over the world. So in order to bear that UL mark, not only did it pass the safety standard that was created via the voluntary consensus process, but it continues to be made to that standard. I think that is not what's happening here.

There are good organizations, good companies that are following this process for e-bikes and e-scooters today. There's many certified products that have met that safety standard as exists because it's voluntary. There's many that also have not.

Mr. CARTER. We only need one.

Mr. KERBER. Correct.

Mr. CARTER. We only need one bad one to cause someone to lose their life. Only one bad one to wreak havoc on our Nation's security. Only one bad one to wreck the whole system. So share with me this notion of voluntary. What does that even mean, and what is that process?

With no disrespect, it seems that we are trusting people that may not be trustworthy to tell us a product is good and trust but verify is probably a good notion to employ.

Mr. KERBER. Trust but verify is absolutely appropriate. I mean, so it takes the entire system to make it work. So you have to have the retailers that only want to sell certified products. You have to have consumers that only want to buy certified products by a Nationally-recognized testing lab, so they know that what they're buying at the store has, in fact, gone through this rigorous process and is safe to have in their home. So it takes many actors in order to make that system work.

Mr. CARTER. So is there a distinction between those that were voluntarily checked and those that have gone through a more exhaustive check?

Mr. KERBER. So anyone that bears the UL mark has gone through an exhaustive certification process. The voluntary component is also the consensus process by which the standards are made, where all stakeholders are brought in. Everyone is able to bring their science, bring their knowledge to the system to make sure that those standards are covering all possible and foreseeable safety hazards that might exist. So if you've gone through that process, then you're producing a safe product.

Mr. CARTER. So by what percentage would you say are products that are being used today in America that have not been UL tested but are on the products, on the shelves, in the homes of American people right now at risk, would you guess, percentage?

Mr. KERBER. I'd have to look into that. I know that—

Mr. CARTER. Does somebody just—I mean, are we talking 10 percent, 20 percent, 30 percent, 1 percent?

Mr. KERBER. Americans have hundreds of products in their home that bear UL marks.

Mr. CARTER. OK. But I need to know, because now you have distinguished for me that we have some that are really tested and some that are voluntarily tested. I think the American people—someone here, if you can't get it today, I would really like someone to report back to us some notion and some idea of what percentage of components that we have deemed to be dangerous may be on the shelves and in the homes of American people that have not been tested. Can anybody just real quickly, my time is up, but if you can't get it, will you all commit to getting it for us?

Ms. MOORE-MERRELL. We will do so, sir.

Mr. CARTER. Now, I would like that not two people ask again, and somehow you mysteriously find it, like you did when I asked about China. So thank you.

Ms. MOORE-MERRELL. Thank you.

Mr. CARTER. My time is far expended. Thank you, Mr. Chairman.

Chairman D'ESPOSITO. Thank you, Mr. Carter.

I now recognize Mr. Goldman for 5 minutes.

Mr. GOLDMAN. Thank you, Mr. Chairman.

I wanted to pick up a little bit on where I left off, Dr. Kerber, and ask you for your perspective on the kind-of secondary downstream concerns that these e-bikes especially create. We are hopeful, of course, of passing Congressman Torres' law, which would make the voluntary testing mandatory, which is a critical, vital first step. I think we are all in agreement about that.

But, again, I want to go back to this question of what to do if those are properly tested, but then are purchased and then either played with or changed or altered after that. What are your thoughts as to how we can regulate that, how we can enforce that against that?

Mr. KERBER. Modifying lithium-ion battery products is incredibly dangerous. We need to be able to make sure that those are sealed systems and are not able to be tampered with. But humans are involved, right? So we know and have seen that they have been tampered with.

There was actually a fire death in Virginia, where someone had tampered with a device that they had purchased on the internet and lost their life in that fire.

Enforcement is incredibly difficult. The fire service is incredibly understaffed when it comes to things like enforcement. It's usually one of the first things to get cut within a community. So we need to bolster those resources because it's not just a lithium-ion battery problem, it's a fire safety problem, period. Enforcement is one of our biggest challenges.

Mr. GOLDMAN. Do you think that the mandatory regulations that would arise out of the passage of this bill could be done in a way to make it to require certification of lithium-ion batteries that are more difficult to tamper with than right now?

Mr. KERBER. Absolutely. I mean, you can write any requirements into the standard, and it goes through the consensus process. Everyone agrees with it. Absolutely there's ways to reduce the chance of that happening.

Mr. GOLDMAN. All right. That's helpful to understand that on the front end that there is a way of reducing the possibility of tampering.

Chief Flynn, you had mentioned in our meeting that the fire department of New York is part of a task force to address this issue. Can you explain a little bit more what that task force is and how you are working with other agencies to address this issue?

Chief FLYNN. Absolutely. We are working with many city agencies. We go out and inspect together because a lot of these locations are engaged in other dangerous practices that we need to address.

So we employ the help of our Department of Consumer and Worker Protection to address certain issues, such as our Local Law 39, which requires devices sold, rented, leased within the city to meet that UL certification. So we have that in place already within the city. It went into effect in September 2022. So we've been out vigorously enforcing that law.

So we work with all agencies within the city. We go out, as you mentioned, NYPD is entrusted with securing the roadways related to these devices. We employ their help as well, so we do joint inspections with them.

Mr. GOLDMAN. You inspect, when you say joint inspections, you're inspecting the stores that are selling these batteries?

Chief FLYNN. Yes. We are not capable of doing street-level enforcement, and that law applies to the sale of the devices, not the possession of the devices. So street enforcement, mainly geared toward violations of the vehicle and traffic law, would be conducted by the NYPD.

Mr. GOLDMAN. Right.

Chief FLYNN. We do go out with them to these locations, though, to inspect the devices that are being sold. When they are found to not meet the requirements of the VTO, the NYPD then would take action there.

Mr. GOLDMAN. Through this task force and your work with the other city agencies, have you come up with any other ideas for how to enforce not only the certification process in Local Law 37 that you referred to, but also, you know, on the back end, to make sure that they are compliant with the certification process?

Chief FLYNN. We issue many summonses, violations. We seize devices at the time of the inspection. We reinspect. After those summonses are adjudicated at court, we go back and make sure that that does not continue. Any time that a new store pops up, we make sure we get out there as soon as we become aware of it, to inspect that location. Again, we cannot inspect people's personal residences, so we see most of our fires in those.

Mr. GOLDMAN. Well, my time is up. I would just like to say, in addition to or in reference to the letter from DoorDash that you entered into the record, I do think there is a place for the delivery companies to have a role in making sure that deliveristas who are working for them and using these e-bikes are compliant with the regulations and certifications, and that we ought to, in this committee and perhaps otherwise, investigate how we can engage with some of these delivery companies to help ensure that these e-bikes are safe.

I yield back.

Chairman D'ESPOSITO. Sounds like a good idea for another subcommittee hearing.

Without objection, I would like to enter one more article into the record. It is from the *New York Daily News*, dated December 10, 2023, titled, "Family mourns Bronx man killed in latest fire blamed on lithium-ion battery."

[The information follows:]

NEWS > CRIME AND PUBLIC SAFETY

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Family mourns Bronx man killed in latest fire blamed on lithium-ion battery



@high360rum/Instagram

Hiram Echevarria died after a fire broke out on the 10th floor of a high-rise at the Bronx River Houses on Bronx River Ave. near the Cross Bronx Expressway in Soundview. (@high360rum/Instagram)



The latest victim in a troubling trend of city fires sparked by lithium-ion batteries had no escape when his e-bike charging near the front door to his Bronx apartment erupted, [trapping him inside](#), causing him deadly wounds and injuring 13 others.

Hiram Echevarria, 39, was at home in a high-rise at the Bronx River Houses on Bronx River Ave. near the Cross Bronx Expressway in Soundview when [the bike exploded](#) about 7 p.m. on Dec. 3, officials said.



Firefighters respond to a fire on Bronx River Ave. in the Bronx on Dec. 3. (Gardiner Anderson for New York Daily News)

"I seen the flames under his door so I just ran, and I told my mom that the flames were coming out of [Echevarria's] door," said Yelitza Mercedes, 25. "I went to get my dog and cat, and the smoke filled the hallway so quickly. In less than a minute."



Firefighters respond to a fire on Bronx River Ave. in the Bronx on Dec. 3. (Gardiner Anderson for New York Daily News)

The neighbor felt the doorknob leading into Echevarria's apartment, but it was too hot to open.

"But I didn't hear any screams or nothing so we just made a run for it," said Mercedes. "It's traumatizing. I'm still suffering from it today."

Firefighters responding to the devastating blaze found the man critically injured in a bathroom in the apartment.

"He didn't burn," said Torres, 47. "He died from smoke inhalation. It was mostly the smoke."

How do different technologies such as touchless sensors and door knockers function? How



The micro-mobility device that started a fire last on the Bronx River Parkway. (FDNY)

Echevarria was rushed to Jacobi Medical Center, where he died that night.

Last year, as the city attributed [more and more fires to e-bikes and lithium-ion batteries](#), the New York City Housing Authority banned residents and their guests from keeping or charging the devices or the dangerous batteries in apartments and common spaces.

"That's the part that is hurtful because it's just an unfortunate matter," said Torres. "I think what's [going to] hurt is when people say, like, he knew he wasn't supposed to have it in the house. It was upsetting."



Hiram Echevarria is seen wearing his signature glasses. (@high360rum/Instagram)

A neighbor in the Bronx River Houses questioned where residents should store the devices, if not in their homes.

"People bring all types of bikes and scooters and equipment, but it shouldn't be there," said Christine Cruz. "But there's not a lot of places out here that they can take it to that helps support us, so they have no choice but to take it inside."

"But I guess we all just do what we wanna do still," she added. "[It's] too bad a life had to be taken because of this."

As the pandemic [swept across the city in 2020](#), Echevarria bought the e-bike that three years later would kill him.

"He's charged it before tons of times and had no issue," said Torres. "He was into welding, engineering. He fixed tons of other things for years so we didn't expect this."

"I haven't really sat with it," she added.

The couple had a 3-year-old boy, 9-year-old girl and teen boy together.

"If I could pick one of his best features, [it would be] because a user as the father" said

Echevarria was an artist and made toys, figurines and glasses by hand that he often gave away or wore himself. On Sunday, Torres showed off some of his work to a Daily News reporter, noting many pieces were lost in the fire.

"If his art is lingered around, he's sort of living forever for me," she remarked.

In the wake of the sudden death, Torres launched a fund-raiser to help her with the expenses of raising three children.

"That was my way of sort of adding to it because everybody was not prepared," she said. "He helped me a lot."

Echevarria, who was born in Puerto Rico and raised in the Bronx, had a seasonal maintenance job in city parks.

"He was known to ride on the scooter from park to park," said Torres. "He was definitely a part of the community."

The raging inferno took 78 firefighters from 20 different units to get under control and destroyed three apartments, officials and neighbors said.

As of Nov. 20, the city Fire Department had recorded 243 fires, 124 injuries and 17 deaths this year related to highly flammable lithium-ion batteries, The News previously reported.

In light of the uptick in fires blamed on lithium-ion batteries, recently proposed legislation in Albany would [mandate that shop owners selling e-bikes ramp up fire safety precautions](#).

"I think that's perfect because so many lives have been lost already," Mercedes, the 10th-floor neighbor, said. "I've heard also that people just end up buying the batteries that don't belong with the manufacturer or cheaper batteries, and that's why they end up exploding. So more regulations would be better."

Last month, [three generations of a Brooklyn family died](#) in a blaze sparked by a faulty lithium-ion battery.

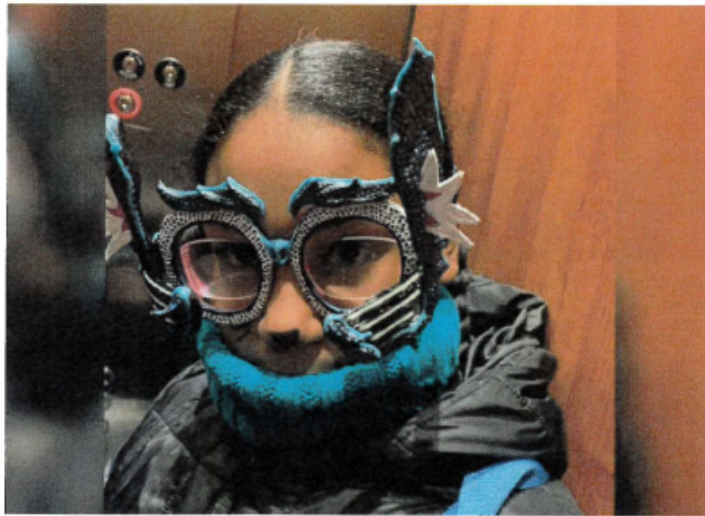
Albertha West, 81, her son Michael West, 58, and her grandson Jamiyl West, 33, all died when the fast-moving fire tore through their Crown Heights home.

FDNY Commissioner Loretta Kerasi announced in November that the city was on

In 2003, there were 125 fire-related deaths, according to officials. There were 104 in 2005 and 95 in 2007. Since then, the highest number of deaths came in 2018, when 88 people were killed in fires.

"This number is staggering and is devastating, and it underlies a problem that we have been sounding an alarm on for some time," Kavanagh said at a news conference.

With Thomas Tracy



Glasses made by Hiram Echevarria worn by his daughter, Dalia, 9. (Photos provided by Migdalia Torres)



Son Hiram, 14, sports another pair made by his late father. (Photos provided by Migdalia Torres)

Chairman D'ESPOSITO. I want to thank the witnesses: Chief Butler, Mr. Kerber, Chief Flynn, Dr. Moore-Merrill. I want to thank you for your time, for making the trip here, for your valuable testimony, and, of course, I want to thank my colleagues for their questions.

The Members of this subcommittee may have some additional questions for the witnesses, and we would ask that the witnesses respond to these in writing. Pursuant to committee rule VII(D), the hearing record will be held open for 10 days.

Without objection, the subcommittee stands adjourned.

[Whereupon, at 11:44 a.m., the subcommittee was adjourned.]

APPENDIX I

STATEMENT OF THE AMERICAN BURN ASSOCIATION

The American Burn Association (ABA) thanks the House Homeland Security Committee Subcommittee on Emergency Management and Technology for holding a hearing to address the risks posed by lithium-ion batteries and other fire hazards. The ABA is grateful for the opportunity to submit this statement for the record on this important subject.

The ABA proudly supports H.R. 1797/S. 1008, the Setting Consumer Standards for Lithium-Ion Batteries Act. We thank Representative Ritchie Torres (D-NY-15) and Senator Kristen Gillibrand (D-NY) for sponsoring this important legislation to require the Consumer Product Safety Commission to create a consumer product safety standard for rechargeable lithium-ion batteries. We also thank all of the Members of Congress who have cosponsored this legislation. The ABA believes this bill is necessary to protect individuals from poor-quality lithium-ion batteries. These batteries, found in many everyday products, pose a serious fire safety issue in homes and businesses. These fires begin quickly and grow rapidly, increasing the risk of serious burn injury for both civilians and emergency responders. The creation of a Federal quality standard ensures access to these products while mitigating fire risks.

The ABA also proudly supports H.R. 4090/S. 870, the Fire Grants and Safety Act. This bill reauthorizes funding for the U.S. Fire Administration, the Assistance to Firefighters Grants Program, the Fire Prevention and Safety Grants Program, and the Staffing for Adequate Fire and Emergency Response Grant Program. The ABA believes it is vital for Congress to ensure the U.S. Fire Administration and these grant programs are fully funded in order to prevent fires and ensure our first responders have the tools they need to keep our communities safe. We thank Representative Thomas Kean (R-NJ-7) and Senator Gary Peters (D-MI) for sponsoring this important legislation and all the Members who have co-sponsored this legislation.

We call on Congress to pass both the Setting Consumer Standards for Lithium-Ion Batteries Act and the Fire Grants and Safety Act and for President Biden to sign these bills without delay. The ABA is happy to work with Members on both sides of the aisle and the President to get these bills signed into law.

The ABA and its members dedicate their efforts and resources to promoting and supporting burn-related research, education, care, rehabilitation, and prevention. The ABA has more than 2,500 members in the United States, Canada, Europe, Asia, and Latin America. Members include physicians, nurses, occupational and physical therapists, researchers, social workers, firefighters, and hospitals with burn centers. The ABA's multi-disciplinary membership enhances their ability to work toward common goals with other organizations on educational programs. Thank you again for the opportunity to submit these comments for the record. Please do not hesitate to contact the ABA if there is anything we can do to help support research funding, policies, or regulations that prevent burn injuries and positively impact patients and survivors.

APPENDIX II

QUESTION FROM RANKING MEMBER TROY A. CARTER FOR DANIEL E. FLYNN

Question. Since 2003, cities and States have received dedicated funding aimed at countering terrorism from the Department of Homeland Security (DHS). Such funding included the Urban Area Security Initiative (UASI) and the State Homeland Security Grant Program. Currently, the proposed appropriated amounts differ in both the House and the Senate, with the Senate amounts being lower by \$78 million in total/combined. How do these grants enhance security and fire preparedness within communities? Are there changes to the grants that Congress should consider in light of current needs and challenges?

Answer. Thank you for your attention to the Urban Area Security Initiative (UASI) Grant Program. Funds from UASI have been extremely important to the New York City Fire Department (FDNY) and enable us to be a regional and national asset.

The FDNY has utilized DHS funds to build capabilities to prepare for and respond to complex emergencies—from acts of terrorism to active-shooter incidents to severe weather to COVID-19. It was DHS funds that helped the Department recover and rebuild after 9/11. They have also been critical to support the planning, equipment, drills, technology, and training needs of the FDNY to prepare for emergencies. Additionally, the FDNY has utilized DHS funds to pilot, test, and deploy emerging technologies like drones and other robotics platforms, such as the “Spot Robot.”

The FDNY has invested DHS funds in several core areas, including incident management, our Center for Terrorism and Disaster Preparedness (CTDP), regionally deployable preparedness systems, and the Counterterrorism Rescue Task Force. We have used them to build state-of-the-art training facilities and simulators, enhance port security, and cybersecurity, and to improve interoperable communications. DHS funds help pay for the FDNY Incident Management Team (IMT) which is a local, regional, and National resource that has responded to incidents around the country. Examples of recent deployments include a wildfire in your home State of Louisiana, a hurricane in Florida, and a wildfire in Montana.

In recent years, the Federal Emergency Management Agency has instituted funding requirements (for example: requiring 3 percent toward cybersecurity). In general, we want to have the flexibility to allocate DHS funds to build and sustain capabilities that address our preparedness gaps and needs. Additionally, the Port Security Grant Program (PSGP) has been funded at \$100 million in recent years. This had been a \$400 million grant program, and as an example of an impact of those cuts, FDNY has reduced our marine maintenance schedule.

We appreciate your attention to the matter, and we hope that Congress continues to fund this essential grant program.

QUESTION FROM RANKING MEMBER TROY A. CARTER FOR JOHN S. BUTLER

Question. Since 2003, cities and States have received dedicated funding aimed at countering terrorism from the Department of Homeland Security (DHS). Such funding included the Urban Area Security Initiative (UASI) and the State Homeland Security Grant Program (SHSGP). Currently, the proposed appropriated amounts differ in both the House and the Senate, with the Senate amounts being lower by \$78 million in total/combined. How do these grants enhance security and fire preparedness within communities? Are there changes to the grants that Congress should consider in light of current needs and challenges?

Answer. It is important to note that the UASI and SHSGP programs were created after the terrorist attacks of 9/11 to improve the Nation’s capability to respond to acts of terrorism. Since the grants’ creation, UASI and SHSGP have helped States and communities purchase equipment and training to prevent, prepare, and respond to acts of terrorism. These capabilities include the creation and maintenance of a

system of intelligence fusion centers; State urban search-and-rescue teams; and improved mass casualty response and hazardous materials response at the local level. Most importantly, Federal funds have served as an incentive to bring Federal, State, Tribal/territorial, local, and non-governmental agencies together to plan for acts of terrorism. These Federal funds have broken down stovepipes and improved the coordination and response to acts of terrorism, mass casualty incidents, and even all-hazards incidents like the COVID-19 pandemic.

The IAFC thanks the House for its robust funding for programs like UASI, SHSGP, and even the Assistance to Firefighters Grant (AFG) program and the Staffing for Adequate Fire and Emergency Response (SAFER) grant programs. The Senate proposes cuts to these programs, which would result in a degradation of these capabilities over time. For example, State urban search-and-rescue teams are seeing reduced funding as Federal funding for SHSGP is cut and more of the funding is allocated by the U.S. Department of Homeland Security for specific purposes.

QUESTION FROM HONORABLE DONALD PAYNE, JR. FOR JOHN S. BUTLER

Question. H.R. 3254, the First Responder Access to Innovative Technologies Act, would expedite the process for getting this next-generation equipment into the hands of first responders and firefighters, ensuring they have the equipment they need to do their jobs safely and effectively. How would H.R. 3254 improve the baseline response during emergencies?

Answer. A number of innovative technologies have been developed to help first responders, including UAS and technology to track firefighters and monitor their health. As this new technology is developed, it may not be included on the Authorized Equipment List nor be covered under existing voluntary consensus standards. H.R. 3254 sets up a uniform process for reviewing requests to purchase equipment or systems that do not meet or exceed voluntary consensus standards. The process would have to consider factors such as the use of the equipment by Federal agencies; the absence of voluntary consensus standards; the existence of international standards for such equipment; the capability gap addressed by the requested equipment; how this requested equipment better serves the needs of the applicant than other consensus-standard compliant technology; and other factors.

The IAFC endorsed H.R. 3254 because it sets up a more stringent process for reviewing applications to buy equipment using UASI and SHSGP funds, while still allowing access to innovative technologies to prepare for acts of terrorism.

Thank you again for your focus on addressing the Nation's fire problem. I look forward to continuing to work with you to protect America's citizens.

