Good morning Chair Ariola, Chair Gutierrez, and all Council Members present. My name is JP Augier and I am the Deputy Commissioner for Dispatch Operations & Public Safety Technology at the New York City Fire Department. I am joined today by Denise Werner, Deputy Assistant Chief in charge of Emergency Medical Dispatch. Thank you for the opportunity to speak with you about the Fire Department's Emergency Dispatch System.

New York City's 911 system is by far the largest in the country. The processing of emergency calls is a collaborative effort between the Police Department and the Fire Department. Police Communications Technicians answer every call and direct them to police, fire, or EMS dispatchers based on the nature of the call. The Fire Department receives and processes approximately 1.8 million calls each year for fire, medical or other emergencies requiring Fire Department activity.

Calls to 911 enter the system through one of the City's two Public Safety Answering Centers. The first – PSAC I – is located at MetroTech Center in Downtown Brooklyn. The second – PSAC II – is in the Pelham Parkway section of the Bronx. The centers themselves are examples of highly secure environments, each mirroring the other in emergency dispatch capabilities for all five boroughs and designed to provide continued 911 services, even in the direst of circumstances our city may face. Similarly, the activities of the city employees who work inside – members of the Police Department, Fire Department, and the Office of Technology and Innovation (OTI) – provide multiple layers of operational redundancy, which ensures that their lifesaving work will continue even when faced with potential technological or human disruptions. This is true of the physical components of the systems as well as the processes by which the members complete their work. My testimony today will focus on the FDNY's portion of this system, which handles calls related to fire and emergency medical incidents.

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Broadly speaking, the FDNY's 911 infrastructure consists of three integrated systems: call handling, computer-aided dispatch (CAD), and radio. Each of these components includes multiple subsystems that support various aspects of FDNY 911. Fire dispatch and EMS dispatch utilize separate CAD systems, each designed to serve their respective missions. Both are hosted on the New York City Public Safety Network, which is managed by our partners at OTI. Working closely with colleagues at NYC Cyber Command, the FDNY systems have been layered with security measures and are monitored around the clock. The Fire Department maintains a high level of resiliency by ensuring that we are redundant and diverse across all critical aspects of the FDNY 911 system. We upgrade systems and subsystems on a continuum, making sure that we stay current and ahead of a shifting threat landscape.

The EMS CAD was originally launched in 1977 and has received several version upgrades over its lifespan, the latest occurring in 2017. This legacy system is now slated for replacement to achieve greater system availability, increased functionality, and an architecture compatible with next generation 911. I am happy to report that work is underway on the EMS CAD replacement process. The Department has begun documenting technical and functional requirements for the new system and we expect development to begin early next year.

The Fire CAD system is a new system. When it was launched in August 2021, it replaced Starfire, a 45-year-old legacy predecessor. Fire CAD is superior to its predecessor in every way, providing the FDNY with the premier CAD system in use anywhere in the world today. Its performance has been exceptional, though as with any new system, it has not been without issue. We experienced a few challenges early on that we were quick to remedy and highlight, though, in some circumstances, the issues were misinterpreted in the media. I am grateful to have an opportunity to discuss the system today and I want to take this moment to highlight the redundancies and safeguards that are built into FDNY 911.

There are many reasons that a 911 system may experience service interruptions, including surging call volume, technical failures, or human error. Often, downtimes are planned to conduct maintenance or to make software adjustments to the system. Not all interruptions require dispatch

operations to be moved off primary systems; however, when that happens, we experience delays in dispatch processing and response. Whether an interruption is planned or unplanned, 911 system administrators anticipate these occurrences and have developed robust procedures and back-up systems that can be enacted at a moment's notice. Through vigilant planning, preparedness, and comprehensive training, the dedicated men and women of FDNY dispatch operations and information technology work tirelessly to minimize interruptions, downtimes, and latencies.

A recent high-profile interruption to FDNY dispatch operations – the incident that prompted today's hearing – occurred on October 12th at PSAC I in Brooklyn. Two technicians from a trusted New York City contractor were admitted to the building to troubleshoot an issue involving the link between the FDNY datacenter and the Department's offsite disaster recovery datacenter, which is currently under development. One technician worked in the basement at the technology point of entry and the other technician worked in the FDNY datacenter, which is in a secure room on an upper floor.

The datacenter, like all other datacenters, contains an Emergency Power Off function. This function exists so that if a circumstance ever arose where first responders needed to access the room – say, a fire or a flood – the entire power system could be shut off quickly for their safety. To activate the emergency power off sequence, a person must depress two different buttons, each separately shielded and enclosed in a hardened protective housing that is labeled "EPO" for "Emergency Power Off." At approximately 11:00am, when the technician working in the datacenter attempted to exit the secure room and had difficulty opening the door, he wrongly assumed that the door was electronic and that he needed to push a button. He removed the hardened protective cover of the first button marked EPO and pressed it. When it did not release the door as he expected, he inexplicably removed the protective cover from the second EPO button and pressed that as well. As a result, all power was removed from the datacenter, the adjacent monitoring room, and the radio room.

By design, this emergency power removal included all auxiliary power sources such as battery back-ups and generator power. The FireCAD system, with its updated design and built-in redundancies, automatically transferred to operating from PSAC II in the Bronx with no downtime

or latency and remained up and operational for the duration of the incident. However, EMS CAD did experience an outage, due to it being an older system, far less agile and lacking the same innovative backups as its Fire counterpart. EMS CAD does not have the capability for an automatic transfer to PSAC II; such a transfer requires human intervention.

FDNY's Bureau of Information Technology immediately became aware of the issue, as several systems lost power or were affected as a byproduct of the power outage. Members of the bureau quickly assembled onsite (many work directly across the street) and met with building engineers and OTI to determine the root cause of the interruption. The EMS CAD team simultaneously moved the CAD from the PSAC I server to the PSAC II server and began bringing the CAD back online. Upon investigation, building engineers traced the interruption to the activation of the Emergency Power Off function. They systematically restored power to the datacenter one section at a time. Technicians worked to methodically bring FDNY 911 systems back online in a sequence that minimized issues and downtime of the most critical infrastructure.

While this interruption was unexpected and presented challenges, the layers of redundancy and diversity that are built into the FDNY 911 system did the job that they were designed to do. Every primary critical system that was knocked offline that morning was immediately mitigated with a technical or operational alternative. Within minutes, all dispatchers were functioning on our secondary radio system. EMS dispatchers quickly pivoted to the manual processes for which they train on a regular basis. Field units communicated with dispatchers via radio. As a result, all 911 calls for fire, medical, or other emergencies were answered, and resources were dispatched.

We never want to experience unexpected outages, but we train for them so that when they inevitably occur, we're prepared and able to deal with them. When we take the system offline for a planned outage, we intentionally staff up to provide additional resources and to give more individuals an opportunity to experience those backup protocols in a controlled environment. We drill on those procedures and we ensure that, when there is an interruption, risk is minimized, and we are able to solve the problem and return to normal service as quickly as possible.

We have worked with OTI to put additional safeguards in place at the EPO buttons themselves, including more expressive signage and an alarm, to avoid such an egregious error from reoccurring in the future. In this incident, the FDNY teams involved in restoration did exceedingly well to assess the situation, manage the incident, and implement restoration protocols that ultimately brought all primary systems back up as quickly as possible. Systems that were co-located and set up for automatic failover did so seamlessly. For as much as an outage like this was disruptive, it was a positive outcome that the systems in place performed as it did. We will continue making changes to improve our systems, and we will continue training for all possibilities, so that we're ready to face any development, no matter how unlikely.

Again, I am grateful for this opportunity to speak with you all today and happy to take your questions at this time.

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