

The table below provides responses to questions posed during the 6/5/2018 webinar on NYC’s Permitting & Interconnection Guide for Outdoor Lithium Ion Systems. The full Guide can be accessed [here](#).

1	When will guidance for indoor systems be published?	We are targeting March 2019 for the release of guidelines for indoor Li-ion ESS permitting.
2	Do Li-ion systems need air-conditioning?	While air conditioning specifically is not mandatory, a temperature-controlled environment is needed for the batteries. This means having a system in place that prevents thermal runaway - which may include air conditioning or liquid cooling. When submitting an application, you must submit specifications, including safe temperature operating ranges, and you must be able to demonstrate how you will maintain the system within those ranges. Methodology is not prescriptive.
3	Will the presentation be available after the webinar?	Yes – you can find a recording of the webinar <a href="#">here</a> .
4	How long will the permitting process take for small systems, and what would be the cost to the consumer? Thanks	A timeline is not committed to by either agency, since the process depends on many factors such as battery size, building construction, location, site review from the AHJ, etc. For cost information, see the tables on pages 7, 9, 11, 13 and 20 in the Guide.
5	Who should I talk to about having li-ion cells assessed according to UL 9540A?	NYC recognizes any National Recognized Testing Lab (NRTL), or a lab associated with an NRTL, to conduct testing. A list of NRTLs can be found on the OSHA.gov website <a href="#">here</a> . However, UL 9540A is a very new testing methodology, and not all labs may yet be prepared to perform testing.
6	Can you provide the contact for Technical Assistance?	CUNY is providing technical assistance support for permitting under a NYSERDA-sponsored initiative; please reach out to <a href="mailto:DGhub@cuny.edu">DGhub@cuny.edu</a> . Questions regarding market rules and opportunities and energy storage customer questions can be directed to the appropriate contact listed <a href="#">here</a> .
7	Why are fees so high?	Fees are set by the AHJ in order to cover the review costs. The DG Hub team in working to find ways to reduce the fees and 'soft costs' of installing storage.
8	Has the DOB also approved small systems being installed adjacent to the building?	The DOB will review all ESS systems regardless of size. DOB has provided approval for small systems sited adjacent to buildings if certain protections are observed. These protections are outlined in the guidelines.
9	Regarding the ground level sprinkler connection for rooftop systems, how does that	For a 40 story commercial building, if ground level interconnection is not possible, the system may be

	apply to a 40 story commercial building? What if you have multiple systems on one roof?	interconnected to the building's suppression system. If multiple systems are on one roof, the FMEA must reflect this. For medium and large systems, a sprinkler system would be required for each.
10	How deeply intertwined is storage interconnection with inverter hardware and relay settings? Are there limits of responsibility?	We have seen batteries and controls designed such that multiple inverter types can be paired with them with relative ease. The responsible party is the applicant and energy storage system developer; the inverter must comply with standards (UL 1741, emergency stop, and others), but these will be verified by the developer.
11	What about frequency monitoring 24x7?	Although frequency monitoring is encouraged to support interconnection, it is not a mandatory criteria for safety.
12	Are FMEA templates available?	It is recommended that IEC 60812 is utilized as the standard by which FMEA's are designed. They must be approved by a professional engineer in NYS.
13	Are NFPA and OSHA engaged in this work?	Participants in NFPA 855 are engaged in this work. OSHA is not directly engaged at this point, but their certification of NRTL is key to the success of the program. OSHA may be engaged further as discussions continue to indoor systems.
14	The Guide states that the OTCR-2 is to be submitted in person or via mail but today's webinar mentioned it could be submitted digitally; where would we submit this document online?	At the time of publication of the Guide, OTCR-2 applications had to be submitted in person or via mail; this may have changed recently and you can contact OTCR to see if email submissions are being accepted - see OTCR contact information in the guide on page 8.
15	Are battery chemistries other than Li acceptable?	Other chemistries are acceptable such as Flow batteries, Lead Acid, NiCad, etc. You must follow a similar process of submitting the OTCR-2 application to the DOB OTCR in order to move forward with a submission.
16	Are there plans to create thresholds for small indoor lithium ion ESS? Will <20 kWh batteries be allowed indoors?	Yes, thresholds will be provided as with outdoor guidelines. It has not been determined yet whether the size threshold for small batteries will be the same for indoor installations as it is for outdoor installations.
17	Are you able to go thru the permitting process without full UL approved battery packs, knowing it will be certified in the weeks or months ahead prior to installation?	You can submit an application with UL certification pending, but it must be received prior to installation. UL 9540 does allow field certification, and exceptions may be made for this on a case by case basis. FDNY has noted a willingness to allow a grace period for UL 9540A testing, with submission of test data up to a year past receipt of approval and installation. Test results might require retroactive installation of additional safety measures or equipment.

18	What are the requirements for transportable energy systems?	Transportable ESS must go through the same process as standard systems; it is recommended that a standard set of criteria for deployment locations are specified and approved, and a mobile suppression design is developed, allowing for local hook up as appropriate.
19	How is the 9540A test performed? Are the actual system components required for the test? Is it a destructive test?	9540A is destructive testing. It induces thermal runaway via a variety of methods on a cell, then module, and then full rack. As appropriate, it then will test a full rack with suppression, and to measure impact on surrounding containers.
20	Can you please quantify the difference between small and large systems?	A small system is less than 20 kWh. A large system is greater than 250 kWh. Medium systems fall between these two sizes.
21	Regarding rooftop, the slides showed a 3' extension from system perimeter, but the guidelines doc states a 5' extension. Which is correct?	The 5' extension from system perimeter noted in the Guide document is the correct figure.
22	What about Proprietary information?	Proprietary information is handled confidentially by the AHJ and will not be released to the public. It is in the vendor/developer's best interest to be open and forthcoming with the AHJ, but it is not necessary to release trade secrets.
23	The guide states that the system needs UL 1741, UL 1973 and UL 9540 certification. Do these certifications need to be generic (full UL listing) or can they also be site-specific? (I understand that in this case any site needs to get a unique evaluation).	A generic listing is acceptable for systems under 250 kWh. However, for larger systems, UL 9540 does need to be site specific.
24	What does outdoor mean? Rooftop for sure, but also add-on to the side of the building? (Minimum distance to streets, building, etc.)	Outdoor refers to both rooftop and ground-mounted outdoors. ESS systems may be permitted adjacent to the building, given appropriate mitigation measures are put in place, or testing demonstrates its safety. See provisions in the Guide, pages 15 and 18.
25	This guide covers ESS that are used for purposes other than emergency power supply or uninterruptible power supply (UPS). What about these systems (or systems which do UPS plus additional use-cases)?	All battery systems, UPS or otherwise, must go through a permitting process.
26	For the 9540A test – did I understand correctly that the operator needs to donate one cell, one module, one pack and one entire systems	Correct; but it is one rack (not pack)

	to perform the test? (so the first system is technically gone/burned completely).	
27	Right now, there is no possibility to install li-ion battery storage systems inside buildings in NYC?	Correct, currently indoor li-ion batteries are not permitted indoors in NYC. We are targeting March 2019 for release of indoor li-ion permitting guidelines.
28	Is there an estimated date when NYSERDA is planning to offer a storage incentive?	The recently-released <i>New York State Energy Storage Roadmap</i> contains information about planned storage incentive rollouts, including a PV-plus-storage incentive that the NY-Sun program will implement by Fall 2018, followed by a new program for standalone or paired storage that will be determined through Public Service Commission proceeding. Access NYSERDA's Energy Storage Roadmap <a href="#">here</a> .
29	For a small energy storage system - could the system be built into a rack outside the window (fixed on the side of a building) if it complied with the fire suppression, height limits, etc.?	This would be unlikely; it is recommended that ground mount or rooftop mount be pursued.
30	With regard to siting requirements and site-specific zoning: will storage systems and their enclosures be considered "structures" in NYC's zoning code? E.g. do installations have to comply with zoning setbacks for "small structures"?	Currently, ESS are not yet defined/treated within NYC's zoning codes (whether as structures or anything else). The NYC Zone Green 2.0 initiative is looking at this issue and proposing that the definition of MEP (Mechanical/Electrical/Plumbing) be amended to include batteries. It is unlikely that ESS and their enclosures will be treated as structures due to the fact that safety requirements prohibit any occupancy within an ESS container.
31	Can storage systems be installed on rooftops of any height? Or is there a height restriction?	There are no height restrictions. Installations on rooftops below 100 ft must comply with requirements of NYC FC 504.4.
32	Do the battery storage units go in front of or behind the meter?	ESS can be either – behind the meter (BTM) refers to those used by a specific customer/building, whereas front of meter (FTM) refers to a utility-owned system.
33	How do these regulations impact hydrogen fueling stations if at all?	These are two separate topics – the Li-ion outdoor permitting guidelines don't pertain to hydrogen fueling stations