

The Field Inspection Reference - 2017 NEC is used by NYSDERDA's Energy Storage, Bulk and Retail, Program's third-party Quality Assurance Contractor to evaluate the quality of the battery storage installation. Approved builders are encouraged to utilize this reference throughout the installation process for each project to ensure compliance with NYSDERDA's Energy Storage Program rules and requirements.

		<b>Requirement</b>	<b>Defect Category</b>	<b>Code Reference</b>
<b>Overall Observations</b>	Program	Program compliant means is present for customer to verify system electricity generation.	Minor	Energy Storage System Program
		As built system capacity must match the submitted and approved plan.	Incidental	Energy Storage System Program
		As built system capacity must match the submitted and approved plan.	Incidental	Energy Storage System Program
		Existing Service Panel is not a split bus (FPE Stab-Lok, Push-O-Matic etc.,).	Critical	Energy Storage System Program
		All Material and equipment must be new and undamaged, per NY Sun program requirements.	Major	Energy Storage System Program
		Installed Battery manufacturer shall match Program records.	Incidental	Energy Storage System Program
		Installed Battery model number shall match Program records.	Incidental	Energy Storage System Program
		Installed Battery quantity shall match Program records.	Incidental	Energy Storage System Program
		As per Program requirements, any roof damage must be repaired prior to installation.	Minor	Energy Storage System Program
		Site address must match site address submitted.	Critical	Energy Storage System Program
		Current Transformers are installed and meet Program requirements.	Major	Energy Storage System Program
		Energy Storage System Discharge Test is required.	Major	Energy Storage System Program
		Battery storage system includes a manual (system description, operating and safety instructions, maintenance requirements, safe battery handling requirements and recommendations).	Minor	Energy Storage System Program

		Requirement	Defect Category	Code Reference
<b>AC Combiner</b>	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		AC Combiner circuit conductors are properly sized for expected current load.	Critical	NEC Article 310.15
		Grounded (neutral) conductor is properly identified.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor properly identified.	Incidental	NEC Article 200.7
		Grounded conductor(s) are insulated from metal enclosure surfaces and the ground terminal inside combiner box.	Major	[NEC Article 250.24(A)(5)]
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Minor	NEC Article 110.3(B) and 110.12
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		In exposed work, conductors are protected from physical damage.	Major	NEC Article 334.15(B)
		The length of the free conductors within the enclosure shall meet or exceed 6" requirement.	Minor	NEC Article 300.14
		The neutral conductor is connected at its own dedicated terminal isolated from metal enclosure.	Minor	NEC Article 408.41
		Conductors are properly sized for rated terminals.	Minor	NEC Article 110.3(B)
		Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor
	AC conduit is adequately supported.		Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
	Conduit below grade is installed with provisions for movement.		Minor	NEC Article 300.5(J)
	Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.		Incidental	NEC Article 300.7(A)
	Conduit thermal expansion fitting is properly installed to allow for movement.		Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
	The conduit is grounded (when required).		Major	NEC Articles 250.4(A)(3)
	Conduit does not meet the conditions to be used as conductor support.		Incidental	NEC Article 300.11(C)
	Electrical	AC Combiner is suitable for environment.	Major	NEC Articles 314.15 and 110.3(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Equipment must be installed in accordance with it's listing and manufacturers instructions.	Minor	NEC Article 110.3(B)
		Equipment must be sufficiently rated for expected voltage and/or current.	Critical	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Minor	NEC Articles 110.12(A) or 408.7

		Requirement	Defect Category	Code Reference
<b>AC Combiner (continued)</b>	Grounding	Where operating voltage is 250V or greater and enclosure knockouts are not listed to carry fault current, metallic conduit is properly bonded to maintain electrical continuity around eccentric and concentric knockouts.	Major	NEC Articles 250.4(A)(5) and 250.64(E). Ground fault path cannot include eccentric or concentric knockouts, per NEC Article 250.97
		Grounded conductor(s) terminal lug is properly installed.	Major	NEC Articles 110.3(B) and 250.4
		Grounding electrode conductor is continuous.	Major	NEC Article 250.64(C)
		Grounding electrode conductor is sufficiently sized.	Major	NEC Articles 250.66 and 250.166
		AC Combiner is properly grounded.	Major	NEC Articles 250.4, 250.8 and 250.12
	Labeling	The sum of the ampere ratings of all overcurrent devices on panel boards, both load and supply devices, excluding the rating of the overcurrent device protecting the busbar, shall not exceed the ampacity of the busbar. The rating of the overcurrent device protecting the busbar shall not exceed the rating of the busbar. Permanent warning labels shall be applied to distribution equipment.	Incidental	[NEC Articles 110.21(B) and 705.12(B)(2)(3)(c)]
		Every circuit and circuit modification shall be legibly identified as to it's clear, evident and specific purpose or use. The identification shall include an approved degree of detail that allows each circuit to be distinguished from all others.	Incidental	NEC Articles 110.21(B) and 408.4(A)
		The manufacturers name, trademark or other descriptive markings must be visible on all electrical equipment and, where required by the code, markings such as voltage, current, wattage or other ratings must be provided. All markings must have sufficient durability to withstand the environment involved.	Incidental	NEC Article 110.21
	OCPD	AC Combiner Overcurrent protection is sufficient.	Critical	NEC Article 240.4
		Energy Storage System Backfed breaker is properly sized at, or above 125% of inverter output current	Major	NEC Article 240.4
		Circuit Breaker shall be installed and used in accordance with any instruction included in the listing or labeling.	Major	NEC Article 110.3(B)
	Structural	Equipment shall be firmly secured to the surface on which it is mounted and used in accordance with any instruction included in the listing or labeling.	Major	NEC Articles 110.3(B), 110.12 and 110.13(A)
		Combiner box is installed with the appropriate clearances.	Minor	NEC Articles 110.26 and NEC 110.27(A)

		Requirement	Defect Category	Code Reference
<b>AC Disconnect</b>	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		ESS AC output conductors are appropriately sized for expected current load.	Critical	NEC Article 310.15
		Grounded (neutral) conductor is properly identified.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor properly identified.	Incidental	NEC Article 200.7
		Grounded conductors are isolated from enclosure and ground terminal.	Major	NEC Article 250.24(A)(5)
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Minor	NEC Article 110.3(B) and 110.12
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		All conductors of the same circuit shall be contained within the same raceway.	Minor	NEC Article 300.3(B)
		In exposed work, conductors are protected from physical damage.	Major	NEC Article 334.15(B)
		The length of the free conductors within the enclosure shall meet or exceed 6" requirement.	Minor	NEC Article 300.14
		The neutral conductor is connected at its own dedicated terminal insulated from metal enclosure.	Minor	NEC Article 408.41
		Conductors are properly sized for rated terminals.	Minor	NEC Article 110.3(B)
		Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor
	Circuit conduit or raceway is properly supported and secured.		Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
	Conduit below grade is installed with provisions for movement.		Minor	NEC Article 300.5(J)
	Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment		Incidental	NEC Article 300.7(A)
	Conduit thermal expansion fitting is properly installed to allow for movement.		Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
	The conduit is grounded (when required).		Major	NEC Article 250.4(A)(3)
	Conduit does not meet the conditions to be used as conductor support.		Incidental	NEC Article 300.11(C)
The service entrance Flexible Metal Conduit (FMC) or Liquid tight Flexible Metal Conduit (LFMC) shall not exceed 6 feet.	Minor		NEC Article 230.43(15)	

		Requirement	Defect Category	Code Reference
<b>AC Disconnect (continued)</b>	Electrical	AC Disconnect enclosure is suitable for environment.	Major	NEC Articles 314.15 and 110.3(B)
		Disconnect terminals are properly wired.	Minor	NEC Article 110.3(B), (and 240.40 if fusible)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Equipment must be installed in accordance with it's listing and manufacturers instructions.	Minor	NEC Article 110.3(B)
		AC Disconnect is properly rated for expected current load.	Critical	NEC Articles 110.3(B), 705.60 (125% of the inverter output) and 705.65(OCP), 706.7 and 706.21
		Unused openings of electrical equipment shall be properly sealed.	Minor	NEC Articles 110.12(A) or 408.7
		A disconnecting means shall be provided for all ungrounded conductors derived from an Energy Storage System.	Major	NEC Articles 706.7(A)
		Service disconnect is properly rated for the application.	Major	NEC Article 230.79(D)
		Service Disconnects are properly grouped.	Minor	NEC Article 230.72
	Grounding	Where operating voltage is 250V or greater and enclosure knockouts are not listed to carry fault current, metallic conduit is properly bonded to maintain electrical continuity around eccentric and concentric knockouts.	Major	NEC Articles 250.4(A)(5) and 250.64(E). Ground fault path cannot include eccentric or concentric knockouts, per NEC Article 250.97
		Grounded conductor(s) terminal lug is properly installed.	Major	NEC Articles 110.3(B) and 250.4
		Grounding electrode conductor must be continuous.	Major	NEC Article 250.64(C)
		Grounding electrode conductor is properly bonded to the main premises grounding electrode system.	Major	NEC Article 250.64
		Grounding electrode conductor is sufficiently sized.	Major	NEC Articles 250.66, and 250.166
		AC Disconnect is grounded.	Major	NEC Articles 250.4, 250.8 and 250.12
		Equipment grounding conductor is properly sized.	Major	NEC Article 250.122
	Labeling	A permanent plaque or directory denoting all electric power sources on or in the premises shall be installed at each service equipment location and at locations of all electric power production sources capable of being interconnected. Exception: Installations with large numbers of power production sources shall be permitted to be designated by groups. (B) Facilities with Stand-Alone Systems. Any structure or building with an ESS that is not connected to a utility service source and is a stand-alone system shall have a permanent plaque or directory installed on the exterior of the building or structure at a readily visible location acceptable to the authority having jurisdiction. The plaque or directory shall indicate the location of system disconnecting means and that the structure contains a stand-alone electrical power system.	Incidental	NEC Article 110.21(B) and 706.11

		Requirement	Defect Category	Code Reference
<b>AC Disconnect (continued)</b>	OCPD	Conductors shall be protected against overcurrent in accordance with their ampacity.	Critical	NEC Article 240.4 and 706.21(B)
		The AC OCPD is properly sized for the expected output current of the ESS system.	Major	NEC Article 706.21(B)
		Fused AC Disconnect shall be installed and used in accordance with any instruction included in the listing or labeling and Fuses are present.	Major	NEC Article 110.3(B)
		No overcurrent device shall be connected in series with any conductor that is intentionally grounded.	Major	NEC Article 240.22
		Fuses are present and installed in accordance with any instruction included in the listing or labeling.	Major	NEC Article 110.3(B)
		Equipment intended to interrupt current at fault levels shall have an interrupting rating sufficient for the current that is available at the line terminals of the equipment.	Major	NEC Articles 110.9, 110.10 and 230.82
		The service overcurrent device shall be an integral part of the service disconnecting means or shall be located immediately adjacent.	Critical	NEC Articles 230.91 and/ or 110.3(B)
	Structural	AC disconnect is installed in accordance with its listing and installation instructions.	Major	NEC Articles 110.3(B), 110.12 and 110.13(A)
		AC Disconnect is installed with the appropriate clearances and protection measures.	Minor	NEC Articles 110.26 and NEC 110.27(A)

		Requirement	Defect Category	Code Reference
<b>DC Combiner</b>	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		DC Combiner splice components are rated for environment.	Major	NEC Articles 110.3(B), 110.11, and 110.14
		DC Combiner splices and connections are secure and of high integrity.	Major	NEC Article 110.14
		DC conductors are sized properly.	Critical	NEC Article 310.15
		Ungrounded conductor properly identified.	Incidental	NEC Article 200.7
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Minor	NEC Article 110.3(B) and 110.12
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		The length of the free conductors within the enclosure shall meet or exceed 6" requirement.	Minor	NEC Article 300.14
		Conductors are properly sized for rated terminals.	Minor	NEC Article 110.3(B)
	Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor	NEC Articles 110.3(B), 300.15 and (LFMC-350.6, PVC-352.6, LFNC-356.6, EMT-358.6)
		Circuit conduit or raceway is properly supported and secured.	Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
		Conduit below grade is installed with provisions for movement.	Minor	NEC Article 300.5(J)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Incidental	NEC Article 300.7(A)
		Conduit thermal expansion fitting is properly installed to allow for movement.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		The conduit is grounded (when required).	Major	NEC Article 250.4(A)(3)
		Conduit does not meet the conditions to be used as conductor support.	Incidental	NEC Article 300.11(C)
	Electrical	Combiner box is suitable for environment.	Major	NEC Articles 314.15 and 110.3(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Equipment must be installed in accordance with it's listing and manufacturers instructions.	Minor	NEC Article 110.3(B)
		Enclosure rating is sufficient for expected current load in accordance with its listing.	Critical	NEC Article 110.3(B)
		DC Combiner is properly identified and listed.	Major	NEC Articles 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Minor	NEC Articles 110.12(A) or 408.7

		Requirement	Defect Category	Code Reference
<b>DC Combiner (continued)</b>	Grounding	Where not routed with circuit conductors, equipment grounding conductors smaller than 6AWG shall be protected from physical damage.	Minor	NEC Article 250.120(C)
		Equipment grounding conductor is identified as bare, green, or green with continuous yellow stripe(s).	Incidental	NEC Article 250.119
		Where operating voltage is 250V or greater and enclosure knockouts are not listed to carry fault current, metallic conduit is properly bonded to maintain electrical continuity around eccentric and concentric knockouts.	Major	NEC Articles 250.4(A)(5) and 250.64(E). Ground fault path cannot include eccentric or concentric knockouts, per NEC Article 250.97
		Grounded conductor(s) terminal lug is properly installed.	Major	NEC Articles 110.3(B) and 250.4
		DC Combiner box is grounded.	Major	NEC Articles 250.4, 250.8 and 250.12
		Equipment grounding conductor is properly sized.	Major	NEC Article 250.122
	Labeling	The manufacturers name, trademark or other descriptive markings must be visible on all electrical equipment and, where required by the code, markings such as voltage, current, wattage or other ratings must be provided. All markings must have sufficient durability to withstand the environment involved.	Incidental	NEC Article 110.21
	OCPD	Overcurrent devices used in any DC portion of the ESS shall have the appropriate voltage, current and interrupt ratings.	Major	[NEC Article 706.21(C)]
		No overcurrent device shall be connected in series with any conductor that is intentionally grounded.	Major	NEC Article 240.22
		Energy Storage System circuit conductors shall be protected.	Critical	NEC Article 706.21(A)
	Structural	Combiner box is properly secured in place.	Major	NEC Articles 110.3(B), 110.12 and 110.13(A)
		Combiner box is installed with the appropriate clearances.	Minor	NEC Articles 110.26 and NEC 110.27(A)



		Requirement	Defect Category	Code Reference
<b>DC Disconnect</b>	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		DC circuit conductors are properly sized for expected current load.	Critical	NEC Article 310.15
		Ungrounded conductor properly identified.	Incidental	NEC Article 200.7
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Minor	NEC Article 110.3(B) and 110.12
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		All conductors of the same circuit shall be contained within the same raceway.	Minor	NEC Article 300.3(B)
		The length of the free conductors within the enclosure shall meet or exceed 6" requirement.	Minor	NEC Article 300.14
		Conductors are properly sized for rated terminals.	Minor	NEC Article 110.3(B)
	Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor	NEC Articles 110.3(B), 300.15 and (LFMC-350.6, PVC-352.6, LFNC-356.6, EMT-358.6)
		Circuit conduit or raceway is properly supported and secured.	Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
		Conduit below grade is installed with provisions for movement.	Minor	NEC Article 300.5(J)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Incidental	NEC Article 300.7(A)
		Conduit thermal expansion fitting is properly installed to allow for movement.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		The conduit is grounded (when required).	Major	NEC Article 250.4(A)(3)
		Conduit does not meet the conditions to be used as conductor support.	Incidental	NEC Article 300.11(C)
	Electrical	DC Disconnect enclosure is suitable for environment.	Major	NEC Articles 314.15 and 110.3(B)
		Disconnect is properly wired to ensure that fuses can be de-energized for service.	Minor	NEC Article 110.3(B) (and 240.40 if fusible)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Equipment must be installed in accordance with it's listing and manufacturers instructions.	Minor	NEC Article 110.3(B)
		Equipment must be sufficiently rated for expected voltage and/or current.	Critical	NEC Article 110.3(B)
		Disconnect is listed for DC use.	Critical	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Minor	NEC Articles 110.12(A) or 408.7
		A disconnecting means shall be provided for all ungrounded conductors derived from an Energy Storage System.	Major	NEC Articles 706.7(A)

		Requirement	Defect Category	Code Reference
<b>DC Disconnect (continued)</b>	Grounding	Where not routed with circuit conductors, equipment grounding conductors smaller than 6AWG shall be protected from physical damage.	Minor	NEC Article 250.120(C)
		Equipment grounding conductor is identified as bare, green, or green with continuous yellow stripe(s).	Incidental	NEC Article 250.119
		Where operating voltage is 250V or greater and enclosure knockouts are not listed to carry fault current, metallic conduit is properly bonded to maintain electrical continuity around eccentric and concentric knockouts.	Major	NEC Articles 250.4(A)(5) and 250.64(E). Ground fault path cannot include eccentric or concentric knockouts, per NEC Article 250.97
		Grounded conductor(s) terminal lug is properly installed.	Major	NEC Articles 110.3(B) and 250.4
		DC Disconnect is properly grounded.	Major	NEC Articles 250.4, 250.8 and 250.12
		Equipment grounding conductor is properly sized.	Major	NEC Article 250.122
	Labeling	A directory is required at each dc PV system disconnecting means, ac disconnecting means for mini- and micro-inverters, and service disconnecting means showing the location of all dc and ac PV system disconnecting means in the building/ structure.	Incidental	NEC Article 110.21(B) and 705.10
		The manufacturers name, trademark or other descriptive markings must be visible on all electrical equipment and, where required by the code, markings such as voltage, current, wattage or other ratings must be provided. All markings must have sufficient durability to withstand the environment involved.	Incidental	NEC Article 110.21
	OCPD	Disconnect is rated for nominal voltage and current.	Critical	NEC Article 110.3(B)
		Disconnect fuses are DC rated and properly sized for system voltage.	Critical	NEC Article 110.3(B)
	Structural	Disconnect is properly secured in place.	Major	NEC Articles 110.3(B), 110.12 and 110.13(A)
		Disconnect is installed with the appropriate clearances.	Minor	NEC Articles 110.26 and NEC 110.27(A)

		Requirement	Defect Category	Code Reference
<b>Feeder Tap Connection</b>	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		Feeder conductors are properly sized for expected current load.	Critical	NEC Article 310.15
		Grounded (neutral) conductor is properly identified.	Incidental	NEC Article 200.6(A)&(B)
		Conductors are properly spliced.	Major	NEC Articles 110.3(B) and 110.14
		Ungrounded conductor(s) are properly identified.	Incidental	NEC Article 200.7
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Minor	NEC Article 110.3(B) and 110.12
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		All conductors of the same circuit shall be contained within the same raceway.	Minor	NEC Article 300.3(B)
		In exposed work, conductors are protected from physical damage.	Major	NEC Article 334.15(B)
		Conductors are properly sized for rated terminals.	Minor	NEC Article 110.3(B)
	Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor	NEC Articles 110.3(B), 300.15 and (LFMC-350.6, PVC-352.6, LFNC-356.6, EMT-358.6)
		AC conduit is adequately supported.	Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
		Conduit below grade is installed with provisions for movement.	Minor	NEC Article 300.5(J)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Incidental	NEC Article 300.7(A)
		Conduit thermal expansion fitting is properly installed to allow for movement.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		The conduit is grounded (when required).	Major	NEC Article 250.4(A)(3)
		Conduit does not meet the conditions to be used as conductor support.	Incidental	NEC Article 300.11(C)
		The service entrance Flexible Metal Conduit (FMC) or Liquid tight Flexible Metal Conduit (LFMC) shall not exceed 6 feet.	Minor	NEC Article 230.43(15)
	Electrical	Boxes, conduit bodies and fittings installed in wet locations shall be listed for use in wet locations.	Major	NEC Articles 314.15 and 110.3(B)
		Disconnect is properly wired to ensure that fuses can be de-energized for service.	Minor	NEC Article 110.3(B) (and 240.40 if fusible)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Equipment must be installed in accordance with it's listing and manufacturers instructions.	Minor	NEC Article 110.3(B)
		Equipment must be sufficiently rated for expected voltage and/or current.	Critical	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Minor	NEC Articles 110.12(A) or 408.7

		Requirement	Defect Category	Code Reference
<b>Feeder Tap Connection (continued)</b>	Grounding	Grounded conductor(s) terminal lug is properly installed.	Major	NEC Articles 110.3(B) and 250.4
		Grounding electrode conductor is properly bonded to the main premises grounding electrode system.	Major	NEC Article 250.64
		Grounding electrode conductor is present and sufficiently sized.	Major	NEC Articles 250.66, and 250.166
		Enclosure is properly grounded.	Major	NEC Articles 250.4, 250.8 and 250.12
		When a metal water pipe is used as a grounding electrode, there must be a ground jumper present across water meter/filter.	Major	NEC Article 250.53(D)(1)
		The ground rod (electrode) is protected from physical damage or is below/flush with the ground (8ft in contact with the soil).	Minor	NEC Article 250.53(G)
		A metal underground water pipe shall be supplemented by an additional electrode.	Major	NEC Article 250.53(D)(2)
		Water pipe electrode supplemented by other electrode.	Major	NEC Article 250.53(D)(2)
	Labeling	A directory is required at each dc PV system disconnecting means, ac disconnecting means for mini- and micro-inverters, and service disconnecting means showing the location of all dc and ac PV system disconnecting means in the building/ structure.	Incidental	NEC Article 110.21(B) and 705.10
		The manufacturers name, trademark or other descriptive markings must be visible on all electrical equipment and, where required by the code, markings such as voltage, current, wattage or other ratings must be provided. All markings must have sufficient durability to withstand the environment involved.	Incidental	NEC Article 110.21
	Structural	Feeder connection is installed with the appropriate clearances.	Minor	NEC Articles 110.26 and NEC 110.27(A)

		Requirement	Defect Category	Code Reference
<b>Junction Box</b>	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		Junction Box circuit conductors are properly sized for expected current load.	Critical	NEC Article 310.15
		Junction Box splice components are rated for environment.	Major	NEC Articles 110.3(B), 110.11, and 110.14
		Junction Box splices and connections are secure and of high integrity.	Major	NEC Article 110.14
		Grounded (neutral) conductor is properly identified.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor properly identified.	Incidental	NEC Article 200.7
		Grounded conductor(s) are insulated from metal enclosure surfaces and the ground terminal inside Junction Box.	Minor	[NEC Article 250.24(A)(5)]
		Circuit conductors are properly supported and protected.	Minor	NEC Article 334.30
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		In exposed work, conductors are protected from physical damage.	Major	NEC Article 334.15(B)
		The length of the free conductors within the enclosure shall meet or exceed 6" requirement.	Minor	NEC Article 300.14
		Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor
	Conduit is adequately supported.		Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
	Conduit below grade is installed with provisions for movement.		Minor	NEC Article 300.5(J)
	Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.		Incidental	NEC Article 300.7(A)
	Conduit thermal expansion fitting is properly installed to allow for movement.		Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
	The conduit is grounded (when required).		Major	NEC Article 250.4(A)(3)
	Conduit does not meet the conditions to be used as conductor support.		Incidental	NEC Article 300.11(C)
	Electrical	Junction Box is suitable for environment.	Major	NEC Articles 314.15 and 110.3(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Junction Box is properly identified and listed.	Major	NEC Articles 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Minor	NEC Articles 110.12(A) or 408.7

		Requirement	Defect Category	Code Reference
<b>Junction Box (continued)</b>	Grounding	Where not routed with circuit conductors, equipment grounding conductors smaller than #6 AWG shall be protected from physical damage.	Minor	NEC Article 250.120(C)
		Grounded conductor(s) terminal lug is properly installed.	Major	NEC Articles 110.3(B) and 250.4
		Listed means used to ground enclosure.	Major	NEC Articles 250.4, 250.8 and 250.12
		Equipment grounding conductor is properly sized.	Major	NEC Article 250.122
	Labeling	The manufacturers name, trademark or other descriptive markings must be visible on all electrical equipment and, where required by the code, markings such as voltage, current, wattage or other ratings must be provided. All markings must have sufficient durability to withstand the environment involved.	Incidental	NEC Article 110.21
	Structural	Equipment shall be firmly secured to the surface on which it is mounted and used in accordance with any instruction included in the listing or labeling.	Major	NEC Articles 110.3(B), 110.12 and 110.13(A)
		Junction Box is installed with the appropriate clearances.	Minor	NEC Articles 110.26 and NEC 110.27(A)
		Roof penetrations are properly sealed and flashed.	Major	NYS Uniform Building Code and NEC Article 110.3(B)

		Requirement	Defect Category	Code Reference
<b>Load Side Connection</b>	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		Conductors are appropriately sized for expected current load.	Critical	NEC Article 310.15
		Grounded (neutral) conductor is properly identified.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Incidental	NEC Article 200.7
		The Neutral (grounded conductor(s)) shall be routed with the ungrounded conductors to each service disconnecting means and shall be connected to each disconnecting means grounded conductor(s) terminal or bus.	Major	NEC Article 300.20
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Minor	NEC Article 110.3(B) and 110.12
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		All conductors of the same circuit shall be contained within the same raceway.	Minor	NEC Article 300.3(B)
		In exposed work, conductors are protected from physical damage.	Major	NEC Article 334.15(B)
		The neutral conductor is connected at its own dedicated terminal insulated from metal enclosure.	Minor	NEC Article 408.41
		Conductors are properly sized for rated terminals.	Minor	NEC Article 110.3(B)
		Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor
	Circuit conduit or raceway is properly supported and secured.		Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
	Conduit below grade is installed with provisions for movement.		Minor	NEC Article 300.5(J)
	Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.		Incidental	NEC Article 300.7(A)
	Conduit thermal expansion fitting is properly installed to allow for movement.		Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
	The conduit is grounded (when required).		Major	NEC Article 250.4(A)(3)
	Conduit does not meet the conditions to be used as conductor support.		Incidental	NEC Article 300.11(C)
	Electrical	Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Unused openings of electrical equipment shall be properly sealed.	Minor	NEC Articles 110.12(A) or 408.7

		Requirement	Defect Category	Code Reference
Load Side Connection (continued)	Grounding	Grounded conductor(s) terminal lug is properly installed.	Major	NEC Articles 110.3(B) and 250.4
		Enclosure is properly grounded using a listed grounding method.	Major	NEC Articles 250.4, 250.8 and 250.12
		When a metal water pipe is used as a grounding electrode, there must be a ground jumper present across water meter/filter.	Major	NEC Article 250.53(D)(1)
		The ground rod (electrode) is protected from physical damage or is below/flush with the ground (8ft in contact with the soil).	Minor	NEC Article 250.53(G)
		A metal underground water pipe shall be supplemented by an additional electrode.	Major	NEC Article 250.53(D)(2)
		Water pipe electrode supplemented by other electrode.	Major	NEC Article 250.53(D)(2)
	Labeling	A directory is required at each dc PV system disconnecting means, ac disconnecting means for mini- and micro-inverters, and service disconnecting means showing the location of all dc and ac PV system disconnecting means in the building/structure.	Incidental	NEC Article 110.21(B) and 705.10
		Every circuit and circuit modification shall be legibly identified as to it's clear, evident and specific purpose or use. The identification shall include an approved degree of detail that allows each circuit to be distinguished from all others.	Incidental	NEC Articles 110.21(B) and 408.4(A)
		The manufacturers name, trademark or other descriptive markings must be visible on all electrical equipment and, where required by the code, markings such as voltage, current, wattage or other ratings must be provided. All markings must have sufficient durability to withstand the environment involved.	Incidental	NEC Article 110.21
	OCPD	Main panel overcurrent protection is sufficient.	Critical	NEC Article 240.4
		ESS Backfed breaker is properly sized at, or above 125% of inverter output current.	Major	NEC Article 240.4 and 706.21(C)
		Back-fed plug in devices shall be secured in place by additional fastener.	Minor	NEC Article 408.36(D)
		Circuit Breaker shall be installed and used in accordance with any instruction included in the listing or labeling.	Major	NEC Article 110.3(B)
		Where two sources, one a primary source and the other another source are located at opposite ends of a busbar that contains loads, the sum of 125 percent of the power device protecting the busbar shall not exceed 120 percent of the ampacity of the busbar.	Major	NEC Article 705.12(B)(2)(3)(b)
	Structural	Equipment shall be firmly secured to the surface on which it is mounted and used in accordance with any instruction included in the listing or labeling.	Major	NEC Articles 110.3(B), 110.12 and 110.13(A)
		Main Panel is installed with the appropriate clearances.	Minor	NEC Articles 110.26 and NEC 110.27(A)



		Requirement	Defect Category	Code Reference
<b>Production Meter</b>	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		ESS AC output conductors are appropriately sized for expected current load.	Critical	NEC Article 310.15
		Grounded (neutral) conductor is properly identified.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Incidental	NEC Article 200.7
		Grounded conductor(s) are insulated from metal enclosure surface and ground terminal inside meter enclosure.	Minor	[NEC Article 250.24(A)(5)]
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Minor	NEC Article 110.3(B) and 110.12
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		Conductors are properly sized for rated terminals.	Minor	NEC Article 110.3(B)
	Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor	NEC Articles 110.3(B), 300.15 and (LFMC-350.6, PVC-352.6, LFNC-356.6, EMT-358.6)
		Circuit conduit or raceway is properly supported and secured.	Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
		Conduit below grade is installed with provisions for movement.	Minor	NEC Article 300.5(J)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Incidental	NEC Article 300.7(A)
		Conduit thermal expansion fitting is properly installed to allow for movement.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		The conduit is grounded (when required).	Major	NEC Article 250.4(A)(3)
		Conduit does not meet the conditions to be used as conductor support.	Incidental	NEC Article 300.11(C)
	Electrical	Meter enclosure is suitable for environment.	Major	NEC Articles 314.15 and 110.3(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Meter is installed in accordance with its listing and manufacturer instructions.	Minor	NEC Article 110.3(B)
		Meter is rated for expected current load.	Critical	NEC Article 110.3(B)
	Grounding	Grounding means for enclosure installed.	Major	NEC Articles 250.4, 250.8 and 250.12
	Structural	Meter Enclosure is properly suited for conditions and mounted to maintain listing.	Major	NEC Articles 110.3(B), 110.12 and 110.13(A)
		Meter is installed with the appropriate clearances.	Minor	NEC Articles 110.26 and NEC 110.27(A)

		Requirement	Defect Category	Code Reference
Subpanel	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		ESS AC conductors are appropriately sized for expected current load.	Critical	NEC Article 310.15
		Grounded (neutral) conductor is properly identified.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Incidental	NEC Article 200.7
		Grounded conductor(s) are insulated from metal enclosure surface and ground terminal inside meter enclosure.	Minor	NEC Article 250.24(A)(5)
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Minor	NEC Article 110.3(B) and 110.12
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		All conductors of the same circuit shall be contained within the same raceway.	Minor	NEC Article 300.3(B)
		In exposed work, conductors are protected from physical damage.	Major	NEC Article 334.15(B)
		The neutral conductor is connected at its own dedicated terminal insulated from metal enclosure.	Minor	NEC Article 408.41
		Conductors are properly sized for rated terminals.	Minor	NEC Article 110.3(B)
		Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor
	Circuit conduit or raceway is properly supported and secured.		Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
	Conduit below grade is installed with provisions for movement.		Minor	NEC Article 300.5(J)
	Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.		Incidental	NEC Article 300.7(A)
	Conduit thermal expansion fitting is properly installed to allow for movement.		Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
	The conduit is grounded (when required).		Major	NEC Article 250.4(A)(3)
	Conduit does not meet the conditions to be used as conductor support.		Incidental	NEC Article 300.11(C)
	Electrical	Boxes, conduit bodies and fittings installed in wet locations shall be listed for use in wet locations.	Major	NEC Articles 314.15 and 110.3(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Equipment must be sufficiently rated for expected voltage and/or current.	Critical	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Minor	NEC Articles 110.12(A) or 408.7
		A Ground Fault Circuit Interrupting (GFCI) Wet Rated (WR) receptacle is required to be installed in a wet/damp location.	Minor	NEC Articles 110.3(B), 210.8(A)(3) and 406.9(B)

		Requirement	Defect Category	Code Reference
<b>Subpanel (continued)</b>	Grounding	Grounded conductor(s) terminal lug is properly installed.	Major	NEC Articles 110.3(B) and 250.4
		Subpanel is properly grounded.	Major	NEC Articles 250.4, 250.8 and 250.12
	Labeling	The sum of the ampere ratings of all overcurrent devices on panel boards, both load and supply devices, excluding the rating of the overcurrent device protecting the busbar, shall not exceed the ampacity of the busbar. The rating of the main overcurrent device protecting the busbar shall not exceed the rating of the busbar. Permanent warning labels shall be applied to distribution equipment.	Incidental	[NEC Articles 110.21(B) and 705.12(B)(2)(3)(c)]
		Every circuit and circuit modification shall be legibly identified as to its clear, evident and specific purpose or use. The identification shall include an approved degree of detail that allows each circuit to be distinguished from all others.	Incidental	NEC Articles 110.21(B) and 408.4(A)
		The manufacturer's name, trademark or other descriptive markings must be visible on all electrical equipment and, where required by the code, markings such as voltage, current, wattage or other ratings must be provided. All markings must have sufficient durability to withstand the environment involved.	Incidental	NEC Article 110.21
	OCPD	Subpanel Overcurrent protection is sufficient.	Critical	NEC Article 240.4
		ESS Backfed breaker is properly sized at, or above 125% of inverter output current.	Major	NEC Article 240.4 and 706.21(C)
		Back-fed plug in devices shall be secured in place by additional fastener.	Minor	NEC Article 408.36(D)
		Circuit Breaker shall be installed and used in accordance with any instruction included in the listing or labeling.	Major	NEC Article 110.3(B)
	Structural	Equipment shall be firmly secured to the surface on which it is mounted and used in accordance with any instruction included in the listing or labeling.	Major	NEC Articles 110.3(B), 110.12 and 110.13(A)
		Subpanel is installed with the appropriate clearances.	Minor	NEC Articles 110.26 and NEC 110.27(A)

		Requirement	Defect Category	Code Reference
<b>Supply Side Connection</b>	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		ESS AC conductors are appropriately sized for expected current load.	Critical	NEC Article 310.15
		Grounded (neutral) conductor is properly identified.	Incidental	NEC Article 200.6(A)&(B)
		Service entrance conductors are properly spliced.	Major	NEC Articles 110.3(B) and 110.14
		Ungrounded conductor(s) are properly identified.	Incidental	NEC Article 200.7
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Minor	NEC Article 110.3(B) and 110.12
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		In exposed work, conductors are protected from physical damage.	Major	NEC Article 334.15(B)
	Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor	NEC Articles 110.3(B), 300.15 and (LFMC-350.6, PVC-352.6, LFNC-356.6, EMT-358.6)
		Circuit conduit or raceway is properly supported and secured.	Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
		Conduit below grade is installed with provisions for movement.	Minor	NEC Article 300.5(J)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Incidental	NEC Article 300.7(A)
		The conduit is grounded (when required).	Major	NEC Article 250.4(A)(3)
		Conduit does not meet the conditions to be used as conductor support.	Incidental	NEC Article 300.11(C)
		The service entrance Flexible Metal Conduit (FMC) or Liquid tight Flexible Metal Conduit (LFMC) shall not exceed 6 feet.	Minor	NEC Article 230.43(15)
	Electrical	Disconnect is properly wired to ensure that fuses can be de-energized for service.	Minor	NEC Article 110.3(B) (and 240.40 if fusible)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Equipment must be installed in accordance with it's listing and manufacturers instructions.	Minor	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Minor	NEC Articles 110.12(A) or 408.7
		Service disconnect is properly rated for the application.	Major	NEC Article 230.79(D)
		Service Disconnects are properly grouped.	Minor	NEC Article 230.72

		Requirement	Defect Category	Code Reference
<b>Supply Side Connection (continued)</b>	Grounding	Where operating voltage is 250V or greater and enclosure knockouts are not listed to carry fault current, metallic conduit is properly bonded to maintain electrical continuity around eccentric and concentric knockouts.	Major	NEC Articles 250.4(A)(5) and 250.64(E). Ground fault path cannot include eccentric or concentric knockouts, per NEC Article 250.97
		Grounded conductor(s) terminal lug is properly installed.	Major	NEC Articles 110.3(B) and 250.4
		Grounding electrode conductor is properly bonded to the main premise grounding electrode system.	Major	NEC Article 250.64(C)
		Grounding electrode conductor is sufficiently sized.	Major	NEC Articles 250.66, and 250.166
		Disconnect enclosure is properly grounded using a listed grounding method.	Major	NEC Articles 250.4, 250.8 and 250.12
		When a metal water pipe is used as a grounding electrode, there must be a ground jumper present across water meter/filter.	Major	NEC Article 250.53(D)(1)
		The ground rod (electrode) is protected from physical damage or is below/flush with the ground. (8ft in contact with the soil).	Minor	NEC Article 250.53(G)
		A metal underground water pipe shall be supplemented by an additional electrode.	Major	NEC Article 250.53(D)(2)
		Water pipe electrode supplemented by other electrode.	Major	NEC Article 250.53(D)(2)
			Labeling	A directory is required at each dc PV system disconnecting means, ac disconnecting means for mini- and micro-inverters, and service disconnecting means showing the location of all dc and ac PV system disconnecting means in the building/structure.
The manufacturers name, trademark or other descriptive markings must be visible on all electrical equipment and, where required by the code, markings such as voltage, current, wattage or other ratings must be provided. All markings must have sufficient durability to withstand the environment involved.	Incidental			NEC Article 110.21
	OCPD	The AC OCPD is properly sized for the expected output current of the ESS system.	Major	NEC Article 706.21(B)
		Fused AC Disconnect shall be installed and used in accordance with any instruction included in the listing or labeling and Fuses are present.	Major	NEC Article 110.3(B)
		No overcurrent device shall be connected in series with any conductor that is intentionally grounded.	Major	NEC Article 240.22
		Fuses are present and installed in accordance with any instruction included in the listing or labeling.	Major	NEC Article 110.3(B)
		Equipment intended to interrupt current at fault levels shall have an interrupting rating sufficient for the current that is available at the line terminals of the equipment.	Major	NEC Articles 110.9, 110.10 and 230.82
		The service overcurrent device shall be an integral part of the service disconnecting means or shall be located immediately adjacent thereto.	Critical	NEC Articles 230.91 and/ or 110.3(B)
	Structural	Equipment shall be firmly secured to the surface on which it is mounted and used in accordance with any instruction included in the listing or labeling.	Major	NEC Articles 110.3(B), 110.12 and 110.13(A)
		Equipment is installed with the appropriate clearances.	Minor	NEC Articles 110.26 and NEC 110.27(A)

		Requirement	Defect Category	Code Reference
<b>Energy Storage</b>	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		Ungrounded conductor properly identified.	Incidental	NEC Article 200.7
		Energy Storage System conductors are protected from accidental contact.	Major	NEC Articles 110.27 and 706.10(B)
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Minor	NEC Article 338.24
		Conductors entering boxes, conduit bodies, or fittings shall be protected from abrasion.	Minor	NEC Article 314.17
		Correct flexible cables are used for battery interconnections.	Major	NEC Article 706.32
		Battery DC conductors are properly sized for expected current load.	Major	NEC Article 706.32
		Installed DC Battery cables are properly terminated.	Major	NEC Article 706.32
	Conduit	Conduit fittings and connectors are designed and listed for this use.	Minor	NEC Articles 110.3(B), 300.15 and (LFMC-350.6, PVC-352.6, LFNC-356.6, EMT-358.6)
		Conduit is adequately supported.	Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
		The conduit is grounded (when required).	Major	NEC Article 250.4(A)(3)
		Conduit does not meet the conditions to be used as conductor support.	Incidental	NEC Article 300.11(C)
	Electrical	Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Minor	NEC Article 110.14 (for conductors/splice components), NEC Article 344.14 (for RMC) and NEC Article 358.14 (for EMT) for conduit and surrounding materials
		Equipment must be installed in accordance with it's listing and manufacturers instructions.	Minor	NEC Article 110.3(B)
		A disconnecting means shall be provided for all ungrounded conductors derived from an Energy Storage System.	Major	NEC Articles 706.7(A)
		Working clearances around battery bank shall be maintained.	Minor	NEC Articles 110.26 and 480.10(C)
		Batteries are properly ventilated.	Critical	NEC Article 480.10(A)
		Batteries must be installed on non-conductive supports.	Minor	NEC Article 480.9
		Energy Storage System charge controller(s) properly regulate the battery charging process.	Major	NEC Article 706.23
		Where battery connections are mating dissimilar metals, antioxidant material specified by the battery manufacturers installation instructions shall be used to prevent galvanic reaction/corrosion.	Major	NEC Article 110.3(B) and 480.4(A)
Electrical connections do not put mechanical strain on battery.		Major	NEC Articles 706.31(C) and 110.14(A)	
Charge Controller shall be compatible with the Energy Storage manufacturer's electrical ratings and charging specifications.		Major	NEC article 110.3(B) and IFC 2018, 1206.2.4	

		Requirement	Defect Category	Code Reference
<b>Energy Storage (continue)</b>	Grounding	Equipment grounding conductor is identified as bare, green, or green with continuous yellow stripe(s).	Incidental	NEC Article 250.119
		Where operating voltage is 250V or greater and enclosure knockouts are not listed to carry fault current, metallic conduit is properly bonded to maintain electrical continuity around eccentric and concentric knockouts.	Major	NEC Articles 250.4(A)(5) and 250.64(E). Ground fault path cannot include eccentric or concentric knockouts, per NEC Article 250.97
		Grounded conductor(s) terminal lug is properly installed.	Major	NEC Articles 110.3(B) and 250.4
		Battery enclosure is properly grounded.	Major	NEC Articles 250.4, 250.8 and 250.12
	Labeling	The manufacturers name, trademark or other descriptive markings must be visible on all electrical equipment and, where required by the code, markings such as voltage, current, wattage or other ratings must be provided. All markings must have sufficient durability to withstand the environment involved.	Incidental	NEC Article 110.21
		The disconnecting means shall be legibly marked in the field and shall include Nominal Energy Storage System Voltage, Maximum Available Short Circuit Current and The Date The Short-Circuit Calculation Was Performed.	Incidental	NEC Articles 110.21(B) and 480.7(D)
	Structural	Charge controllers and related components mounted/installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12 and 110.13(A)
		Battery Bank is mounted in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.26 and NEC 110.27(A)
		Verify that the attachment of the Energy Storage unit to the wall or floor is per the approved plans. If the wall or floor construction differs from the approved plans a revision is required prior to inspection.	Major	Program requirement
		Rooms or spaces containing Energy Storage Systems shall be separated from other areas of the building by fire barriers with a minimum fire resistance rating of two hours and horizontal assemblies with a minimum fire resistance rating of two hours constructed IAW NY State Uniform Building Code, local laws and ordinances.	Major	IFC 2018 1206.2.8.2, NFP 855 Section 4.3.6

		Requirement	Defect Category	Code Reference
<b>Energy Storage Tier 1</b>	NYS Residential Building Code	Individual BESS units shall have a maximum rating In Accordance With IRC R327.3.3.	Major	IRC R327.3.3
		Individual BESS units shall be separated from each other by a minimum of 3 feet unless smaller separation distances are allowed per manufacturer's instructions.	Major	IRC R327.3.1
		Individual BESS units installed outdoors on exterior walls shall be located a minimum 3 feet from doors and windows.	Major	IRC R327.3.2.3
		Interconnected smoke alarms shall be installed throughout areas where BESS are installed. Where BESS are installed in an area where smoke alarms cannot be installed in accordance with their listing, an interconnected listed heat alarm shall be installed and be connected to the smoke alarm system.	Major	IRC R327.3.8
		Indoor installations of BESS that include batteries that produce hydrogen or other flammable gases during charging shall meet the exhaust ventilation requirements set forth in the applicable fire code.	Major	IRC R327.3.5
		BESS that have the potential to release toxic or highly toxic gas during charging, discharging, and normal use conditions shall be installed outdoors.	Major	IRC R327.4



		Requirement	Defect Category	Code Reference
<b>Energy Storage Tier 2 &amp; 3</b>	Battery Management System	Where required by the BESS listing, an approved energy storage management system shall be provided that monitors and balances cell voltages, current, and temperatures within manufacturers specifications, the system shall disconnect electrical connections to the BESS or otherwise place in a safe condition if potentially hazardous temperatures or other conditions such as short circuits , over voltage, or under voltage are detected.	Incidental	Manufacturers Listing, IFC 2021 1206.3.4
	Clearances	Access and working space shall be provided and maintained about all electrical equipment to allow ready and safe operation and maintenance.	Minor	2021 IFC 1206.4.2; NFPA 70; 2017 NEC 706.33, 706.10(C) and 110.26
	Disconnects	If BESS disconnecting means is not within sight of the main electrical service disconnecting means, placards or directories are installed at the location of the main electrical service disconnect.	Major	NFPA 70; 2017 NEC Article 706.11
	Emergency Operations Plan	An emergency operations plan should be given to the owner and a copy placed in an approved location to be accessible to facility personnel, fire code officials, and emergency responders.	Minor	Program requirement and 2021 IFC 1206.2.2
	Enclosures	Enclosures of BESS are of noncombustible construction	Major	2017 NEC Articles 480.9 and 706
	Fire Resistance Separation	Rooms and indoor areas containing BESS shall be separated from other areas of the building, but can be in the same room as the equipment supported by them.	Major	2021 IFC 1206.4.3
	Indoor Installations >> Dedicated Use	Dedicated use BESS buildings shall only be used for BESS, electrical energy generation, and other electrical grid related operations and require compliance in the following areas:	Major	2021 IFC 1207.1
	Indoor Installations >> Dwelling Units and Sleeping Units	BESS shall not be installed in sleeping units nor in habitable spaces of dwelling units.	Major	2021 IFC 1206.7.3
	Indoor Installations >> Fire-Resistance Rated Separations	In dedicated use buildings; rooms/areas containing BESS shall be separated from areas in which administrative and support personnel are located. In non-dedicated use buildings; rooms/areas containing BESS shall be separated from other areas in the building.	Major	2021 IFC 1206.7.4
	Indoor Installations >> Fire-Resistance Rated Separations	Separation shall be provided by 2-hour rated fire barriers constructed in accordance with Section 707 of the IBC, and 2-hour rated horizontal assemblies constructed in accordance with Section 711, as appropriate.	Major	2021 IFC 1206.7.4; IBC Section 707 and 711
	Occupied Work Centers	Electrochemical BESS located in rooms/areas occupied by personnel (not involved with maintenance, service, or testing) shall be housed in locked noncombustible cabinets or other enclosures.	Minor	2021 IFC 1206.4.10.1
Electrochemical BESS contained in cabinets in occupied work centers, shall be within 10 feet (3,048mm) of the equipment they support.		Minor	2021 IFC 1206.4.10.2	

		Requirement	Defect Category	Code Reference
<b>Energy Storage Tier 2 &amp; 3 (continued)</b>	Operations & Maintenance Plans	Operations and maintenance documentation shall be provided to the BESS owner and their operator before the battery energy storage system is put into operation. A copy is also to be placed in an approved location to be accessible to facility personnel, fire code officials, and emergency responders.	Minor	Program requirement
		Battery energy storage system Operations Plan shall include design, construction, installation, testing, and commissioning information associated with the battery.	Minor	2021 IFC 1206.2.2
		Manufacturer manuals and maintenance manuals for the entire BESS, or for each component of the system requiring maintenance, that clearly identify the required routine maintenance actions.	Minor	2021 IFC 1206.2.2.1
		Name, address, and phone number of a service agency that has been contracted to service the BESS and its associated safety systems.	Minor	2021 IFC 1206.2.2.2
		Maintenance and calibration information, including wiring diagrams, control drawings, schematics, system programming instructions, and control sequence descriptions, for all energy storage control systems.	Minor	2021 IFC 1206.2.2.3
		Desired or field-determined control set points that are permanently recorded on control drawings at control devices or, for digital control systems, in system programming instructions.	Minor	2021 IFC 1206.2.2.4
		A schedule for inspecting and recalibrating the BESS.	Minor	2021 IFC 1206.2.2.5
		A service record log form that lists the schedule for all required servicing and maintenance actions and space for logging such actions that are completed over time.	Minor	2021 IFC 1206.2.2.6
Outdoor Installations >> Clearance to Exposures	BESS located outdoors shall be separated by at least 10 ft (3,048 mm) from the following exposures: lot lines, public ways, buildings, stored combustible materials, hazardous materials, high-piled stock, other exposure hazards. <b>Exceptions:</b> <b>A)</b> Clearance can be reduced to 3 ft where a 1-hour free standing fire barrier extending 5 ft above and 5 ft beyond the physical boundary of the BESS installation is provided to protect the exposure. <b>B)</b> Clearance to buildings can be reduced to 3 ft where noncombustible exterior walls with no openings or combustible overhangs are on the wall adjacent to the BESS (and the fire-resistance rating of the wall is at least 2 hours). <b>C)</b> Clearances to buildings can be reduced to 3 ft where a weatherproof enclosure constructed of noncombustible materials is provided over the BESS, and it has been demonstrated that a fire within the enclosure will not ignite combustible materials outside the enclosure based on large scale fire testing.	Major	2021 IFC 1206.8.3	

		Requirement	Defect Category	Code Reference
<b>Energy Storage Tier 2 &amp; 3 (continued)</b>	Outdoor Installations >> Exterior Wall Installations	BESS shall be permitted to be installed outdoors on exterior walls of buildings when <b>ALL</b> of the following conditions are met: <b>1)</b> The maximum energy capacity of individual BESS units shall not exceed 20 kWh. <b>2)</b> The ESS shall comply with applicable requirements in section 1206. <b>3)</b> The BESS shall be installed in accordance with manufacturer instructions and their listing. <b>4)</b> Individual BESS units shall be separated from each other by at least 3 ft (914 mm). <b>5)</b> The BESS shall be separated from doors, windows, operable openings into buildings, or HVAC inlets by at least 5 ft (1,524 mm) Exception: smaller separation distances permitted with approval of FCO after large scale fire testing.	Major	2021 IFC 1206.8.4 2021 IFC 1206.8.4.1 2021 IFC 1206.8.4.2 2021 IFC 1206.8.4.3 2021 IFC 1206.8.4.4 2021 IFC 1206.8.4.5
	Outdoor Installations >> Near Exposures	Any BESS located within 100 ft (30.5 m) of buildings, lot lines, public ways, stored combustible materials, hazardous materials, high piled stock, and other exposure hazards. Compliance for outdoor installations involves: General Installation Requirements, Size/Separation (n/a for outdoor walk-in units), Smoke and Automatic Fire Detection, Fire Suppression, Enclosure Size, Vegetation Control, Means of Egress, Clearance to Exposures, and Technology Specific Protections.	Major	IFC Table 1206.8 Outdoor ESS Installations
	Outdoor Installations >> Remote Outdoor Installs	Remote installations include BESS located more than 100 ft (30.5 m) from buildings, lot lines, public ways, stored combustible materials, hazardous materials, high piled stock, and other exposure hazards. <b>Remote installations require all compliance as Installations Near Exposure except Size/Separation and Fire Suppression (if omission approved by FCO) requirements.</b>	Major	2021 IFC 1206.8.1
	Protection >> Elevation	Electrochemical BESS cannot be located where the floor is more than 75 feet above the lowest level of fire department access. <b>Exception: lead acid or nickel cadmium under exclusive utility control and operating at less than 50 VAC and 60 VDC.</b>	Major	2021 IFC 1206.5.3.1; NFPA 76
		Electrochemical BESS cannot be located where the floor is located below the lowest level of exit discharge. <b>Exception: lead acid or nickel cadmium under exclusive utility control and operating at less than 50 VAC and 60 VDC.</b>	Major	2021 IFC 1206.5.3.2; NFPA 76
	Protection >> Enclosure Size	Outdoor walk-in units housing BESS shall not exceed 53 ft x 8 ft x 9.5 ft (not including bolt-on HVAC and/or related equipment, as approved). Outdoor walk-in units exceeding these limitations will be considered indoor installations (and comply with applicable indoor requirements).	Major	2021 IFC 1206.5.6

		Requirement	Defect Category	Code Reference
<b>Energy Storage Tier 2 &amp; 3 (continued)</b>	Protection >> Exhaust Ventilation	Exhaust ventilation of rooms, areas, and walk-in units containing BESS shall be provided in accordance with International Mechanical Code. <b>Exhaust ventilation for Lithium-Ion is required for Tier 3 systems only.</b>	Critical	2021 IFC 1206.6.1.1 or 12606.6.1.2; IMC Table 1206.6
		The exhaust ventilation system shall be designed to limit the maximum concentration of flammable gas to 25% of the Lower Flammable Limit (LFL) of the total volume of the room, area, or walk-in unit during the worst-case event of simultaneous charging of batteries at the maximum charge rate. <b>Applies to all Electrochemical BESS except Lithium-Ion.</b>	Critical	2021 IFC 1206.6.1.1
		Mechanical exhaust ventilation shall be provided at a rate of no less than 1 ft <sup>3</sup> /minute/sq. Ft of floor area of the room, area, or walk-in unit. The ventilation shall be either continuous or shall be activated by a gas detection system. <b>Applies to all Electrochemical BESS except Lithium-Ion.</b>	Critical	2021 IFC 1206.6.1.2
		Mechanical exhaust ventilation shall be provided with a minimum of 2 hours of standby power. <b>Applies to all Electrochemical BESS except Lithium-Ion.</b>	Critical	2021 IFC 1203.2.5
	Protection >> Explosion Control	Explosion control shall be provided for rooms, areas, and walk-in units containing electrochemical BESS technology (unless waived by Fire Code Official after large scale fire testing demonstrates flammable gases are not liberated from cells or modules). <b>Applies to all BESS except Lead-Acid and Nickel Cadmium batteries at facilities under exclusive control of communications utilities that comply with NFPA 76 and operate at less than 50 VAC and 60 VDC.</b>	Critical	2021 IFC 1206.6.3.1, Table 1206.6; Section 911, Section 12076.1.5; UL 9540A
	Protection >> Fire Detection	Must have an approved automatic smoke detection system or radiant energy-sensing fire detection system installed in rooms, indoor areas, and walk-in units. Parking garage and rooftop installations should use radiant energy-sensing systems. Alarm signals must be transmitted to a central station, proprietary, or remote station service.	Critical	2021 IFC 1206.5.4 and Section 907.2; NFPA 72

		Requirement	Defect Category	Code Reference
<b>Energy Storage Tier 2 &amp; 3 (continued)</b>	Protection >> Fire Suppression	Rooms/areas in buildings and walk-in units containing electrochemical BESS must be protected by automatic fire suppression systems in accordance with one of the following: <b>1)</b> an automatic sprinkler system designed and installed in accordance with 2021 IFC 903.3.1.1, with a minimum density of 0.3 gpm/sqft, based on the fire area or 2,500 sqft design area (whichever is smaller). <b>2)</b> where approved, an automatic sprinkler system designed and installed in accordance with 903.3.1.1, with a sprinkler hazard classification based on large scale testing. <b>3)</b> These alternate automatic fire extinguishing systems designed and installed in accordance with 2021 IFC 904, provided a fire code official approved based on large scale fire testing: NFPA 12-Standard on Carbon Dioxide Extinguishing Systems; NFPA 15-Standard for Water Spray Fixed Systems for Fire Protection; NFPA 750-Standard on Water Mist Fire Protection Systems; NFPA 2001-Standard on Clean Agent Fire Extinguishing Systems; NFPA 2010-Standard for Fixed Aerosol Fire Extinguishing Systems <b>Exception: lead acid or nickel cadmium under exclusive utility control and operating at less than 50 VAC and 60 VDC.</b>	Critical Critical Critical	2021 IFC 1206.5.5.1, Section 903.3.1.1; 2021 IFC 126.5.5.2, Section 903.3.1.1, Section 1206.1.5; 2021 IFC 1206.5.5.3, Section 904, Section 1206.1.5; NFPA 12, 15, 750, 2001, 2010 and NFPA 76 <b>2021 IFC 1206.5.5 (Exception)</b>
	Protection >> Mixed electrochemical energy systems	For rooms, areas, and walk-in units contain different types of electrochemical energy technologies: determine the total aggregate quantities of the systems by taking the sum of % of each technology type quantity and dividing it by the max allowable quantity of each. <b>The sum of percentages cannot exceed 100% of the max allowable quantity.</b>	Major	2021 IFC 1206.5.2.1 and Table 1206.5
	Protection >> Separation	BESS located outdoors/in open parking garages shall be separated from any means of egress by no less than 10 ft (3,048 mm).	Major	2021 IFC 1206.5.8
	Protection >> Size and Separation	Electrochemical BESS shall be separated into groups not exceeding 50 kWh (180 Megajoules). Each grouping shall be separated by at least 3 feet (914mm) from each other and walls; unless approved by Fire Code Official. <b>Exception: lead acid or nickel cadmium under exclusive utility control and operating at less than 50 VAC and 60 VDC (NFPA 76).</b>	Major	2021 IFC 1206.5.1

		Requirement	Defect Category	Code Reference
Energy Storage Tier 2 & 3 (continued)	Protection >> Technology Specific >> Exhaust Ventilation	Required mechanical exhaust ventilation systems shall be supervised by an approved central station, proprietary, or remote station service, or shall initiate an audible and visible signal at an approved constantly attended on-site location. <b>Applies to all Electrochemical BESS except Lithium-Ion.</b>	Major	2021 IFC 1206.6.1.2.3; NFPA 72
		Electrochemical BESS with mechanical exhaust ventilation require an approved continuous gas detection system. <b>Applies to all Electrochemical BESS except Lithium-Ion.</b>	Major	2021 IFC 1206.6.1.2.4, Section 916
		The gas detection system shall be designed to activate the mechanical ventilation system when the level of flammable gas in the room, area, or walk-in unit exceeds 25% LFL. <b>Applies to all Electrochemical BESS except Lithium-Ion.</b>	Major	2021 IFC 1206.6.1.2.4.1
		The mechanical ventilation system is set to remain on until the flammable gas detected is less than 25% of the LFL. <b>Applies to all Electrochemical BESS except Lithium-Ion.</b>	Major	2021 IFC 1206.6.1.2.4.2
		The gas detection system must be provided with minimum of 2 hours standby power, in accordance with 2021 IFC Section 1203.2.6. <b>Applies to all Electrochemical BESS except Lithium-Ion.</b>	Major	2021 IFC 1206.6.1.2.4.3, Section 1203.2.6
		Failure of the gas detection system shall annunciate a trouble signal at an approved central station, proprietary, or remote station service in accordance with NFPA 72, or shall initiate an audible and visible trouble signal at an approved constantly attended on-site location. <b>Applies to all Electrochemical BESS except Lithium-Ion.</b>	Major	2021 IFC 1206.6.1.2.4.4; NFPA 72
	Protection >> Technology Specific >> Safety Caps	Vented batteries and other BESS shall be provided with flame-arresting safety caps. <b>Applies to all BESS except Lithium-Ion.</b>	Major	2021 IFC 1206.6.4
	Protection >> Technology Specific >> Spill Control and Neutralization	Areas containing free-flowing liquid electrolyte or hazardous materials shall be provided with spill control and neutralization. <b>Applies to all BESS except Lithium-Ion and Lead-Acid or Nickel Cadmium (unless vented/flooded)</b>	Major	2021 IFC 1206.6.2
		Spill control shall be provided to prevent the flow of liquid electrolyte or hazardous materials to adjoining rooms/areas, and capable of containing a spill from the single largest battery or vessel. <b>Applies to all BESS except Lithium-Ion and Lead-Acid or Nickel Cadmium (unless vented/flooded)</b>	Major	2021 IFC 1206.6.2.1
		An approved method to neutralize spilled liquid electrolyte shall be provided that is capable of neutralizing a spill from the largest battery or vessel to a pH between 5.0 and 9.0. <b>Applies to all BESS except Lithium-Ion and Lead-Acid or Nickel Cadmium (unless vented/flooded)</b>	Major	2021 IFC 1206.6.2.2
	Protection >> Technology Specific >> Thermal Runaway	Batteries and other BESS shall be provided with a listed device or other approved method to prevent, detect, and minimize the impact of thermal runaway. <b>Applies to all BESS except Vented Lead-Acid batteries and Lithium-Ion batteries that have been permitted to have thermal runaway protection be part of the battery management system per UL 1973.</b>	Major	2021 IFC 1206.6.5

		Requirement	Defect Category	Code Reference
Energy Storage Tier 2 & 3 (continued)	Protection >> Vegetation Control	Areas within 10 ft (3 m) on each side of the outdoor BESS shall be cleared of combustible vegetation and other combustible growth. <b>Exception: single specimens of trees, shrubbery, or cultivated ground cover such as green grass, ivy, succulents, or similar shall be permitted, provided that they do not form a means of readily transmitting fire.</b>	Major	2021 IFC 1206.5.7
	Protection >> Water Reactive Chemical Systems	Electrochemical BESS that utilize water reactive materials shall be protected by an approved alternative automatic fire extinguishing system.	Critical	2021 IFC 1206.5.5.1, Section 904 and Section 1206.1.5
	Security	Rooms, areas, and walk-in units which contain the BESS shall be secured against unauthorized entry, and safe-guarded.	Minor	2021 IFC 1206.4.9
	Security >> Air Flow	Security barriers, fences, landscaping, and other enclosures shall not inhibit the required air flow to, or exhaust from, the electrochemical BESS and its components.	Major	2021 IFC 1206.4.9
	Seismic and Structural Design	Stationary BESS comply with the seismic design requirements in Chapter 16 of the IBC, and shall not exceed the floor loading limitation of the building.	Major	2021 IFC 1206.4.4 , and IBC Chapter 16
	Signage and Labels	"Energy Storage System," "Battery Storage System," "Capacitor Energy Storage System," or equivalent approved signs shall be provided on, or adjacent to, all entry doors for BESS rooms/areas, enclosures of BESS cabinets, and walk-in units.	Incidental	2021 IFC 1206.4.8.1; NFPA 70
		Signage identifying the electrochemical BESS technology is present shall be provided on, or adjacent to, all entry doors for BESS rooms/areas, enclosures of BESS cabinets, and walk-in units.	Incidental	2021 IFC 1206.4.8.2; NFPA 70
		"Energized Electrical Circuits," or approved equivalent sign shall be provided on, or adjacent to, all entry doors for BESS rooms/areas, enclosures of BESS cabinets, and walk-in units.	Incidental	2021 IFC 1206.4.8.3; NFPA 70
		If water-reactive electrochemical BESS are present, "APPLY NO WATER," signage shall be provided on, or adjacent to, all entry doors for BESS rooms/areas, enclosures of BESS cabinets, and walk-in units.	Incidental	2021 IFC 1206.4.8.4; NFPA 70
		Signage providing current contact information for personnel authorized to service the equipment, and for any fire mitigation personnel, shall be provided on or adjacent to all entry doors for BESS rooms/areas, enclosures of BESS cabinets, and walk-in units.	Incidental	2021 IFC 1206.4.8.5; NFPA 70
	Special Installations >> Parking Garage Specific	BESS shall not be located within 25 ft of exits leading from the attached building where located on a covered level of the parking structure not directly open to the sky above.	Major	2021 IFC 1206.9.6.2
		An approved fence with a locked gate or other approved barrier shall be provided to keep the general public at least 5 ft from the outer enclosure of the BESS.	Major	2021 IFC 1206.9.6.3

		Requirement	Defect Category	Code Reference
Energy Storage Tier 2 & 3 (continued)	Special Installations >> Rooftop and Parking Garages >> Clearances	Rooftops and parking garages have the same clearance compliance as outdoor installations, with additional requirements including: (must be separated by at least 10 ft from) any portion of building which a rooftop system is mounted that is elevated above the rooftop on which it's installed; and any locations where motor vehicles can be parked. <b>Exceptions: same clearance exceptions (fire barriers allowing for under 10 ft separation, etc.) as normal outdoor installations.</b>	Major	2021 IFC 1206.9.1
	Special Installations >> Rooftop and Parking Garages >> Fire Suppression Systems	BESS located in walk-in units on rooftops or in open parking garages shall be provided with automatic fire suppression systems within the BESS enclosure. Automatic fire suppression systems are also required for BESS not in a walk-in unit and located on levels not open (above) to the sky. <b>Exception: fire suppression system is not required in open parking garages if large scale fire testing shows that a fire will not impact the exposures.</b>	Major	2021 IFC 1206.9.4
	Special Installations >> Rooftop Specific	Stairway access to the roof for emergency response and fire department personnel shall be provided, either through a bulkhead from the interior of the building or a stairway on the exterior of the building.	Major	2021 IFC 1206.9.5.1
		Service walkways at least 5 ft (1,524 mm) in width shall be provided for the service and emergency personnel from the point of access to the roof and to the system.	Major	2021 IFC 1206.9.5.2
		BESS and associated equipment shall be located from the edge of the roof a distance equal to at least the height of the system, equipment, or component but not less than 5 ft (1,524 mm).	Major	2021 IFC 1206.9.5.3
		The roofing materials under and within 5 ft (1,524 mm) horizontally from a BESS or associated equipment shall be noncombustible or shall have a Class A rating when tested in accordance with ASTM E108 or UL 790.	Major	2021 IFC 1206.9.5.4; ASTM E108; UL 790
		A Class I standpipe outlet shall be installed at an approved location on the roof level of the building or in the stairway bulkhead at the top level.	Major	2021 IFC 1206.9.5.5
		The BESS shall be the minimum of 10 ft from the fire service access point on the roof top.	Major	2021 IFC 1206.9.5.6
	Toxic Gases	BESS that have the potential to release toxic and highly toxic gas during charging, dis-charging, and normal use conditions must have a hazardous exhaust system provided.	Critical	2021 IFC 1206.4.7 and IMC Section 502.8
	Vehicle Impact Protection	Where BESS are subject to vehicle impact, including fork lifts, vehicle impact protection shall be provided.	Major	2021 IFC 1206.4.5
	Emergency Egress Doors	A personnel door(s) intended for entrance to and egress from rooms designed as BESS rooms shall open in the direction of egress and shall be equipped with listed panic hardware.		NEC 706.10(D)