FIELD INSPECTION CHECKLIST – 2023 NEC

Retail and Bulk Storage

NEW YORK STATE | NYSERDA
New York State Energy Research and Development Authority

The field inspection resource is used by Retail and Bulk Storage's third-party QA Contractor to evaluate the quality of the Retail and Bulk Storage installation. Retail and Bulk Storage approved builders are encouraged to reference this resource throughout the installation process for each project to ensure compliance with the Retail and Bulk Storage Program rules and requirements.

		Task	Nonconformance Description	Defect Category	Reference
Overall Observations	Program	All material and equipment must be new and undamaged, per NY Sun program requirements.	Material and/ or equipment appear to be damaged or used.	Major	Program requirement
		Program compliant means is present for customer to verify system electricity generation.	Customer is not able to verify system production.	Minor	Program requirement
		Site address must match site address submitted.	Site address does not match the address submitted.	Incidental	Program requirement
		As built system capacity must match the submitted and approved plan.	System capacity does not match Program records.	Incidental	Program requirement
		Installed inverter quantity shall match Program records.	Installed inverter quantity does not match Program records.	Incidental	Program requirement
		Installed inverter manufacturer shall match Program records.	Installed inverter manufacturer does not match Program records.	Incidental	Program requirement
		Installed inverter model number shall match Program records.	Installed inverter model number does not match Program records.	Incidental	Program requirement
		Installed battery quantity shall match Program records.	Installed battery quantity does not match Program records.	Incidental	Program requirement
		Installed battery manufacturer shall match Program records.	Installed battery manufacturer does not match Program records.	Incidental	Program requirement
		Installed battery model number shall match Program records.	Installed battery model does not match Program records.	Incidental	Program requirement
AC Combiner	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		A grounded conductor shall not be connected to normally non-current-carrying metal parts of equipment, to equipment grounding conductor(s), or be reconnected to ground on the load side of the service disconnecting means.	The grounded conductor(s) (neutral) are connected to the ground terminal and/or bonded to the metal frame of the enclosure.	Major	NEC Article 250.24(B)
		Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/ or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)

		Task	Nonconformance Description	Defect Category	Reference
AC Combiner (continued)	Conductors (continued)	In exposed work, conductors are protected from abrasion or any other physical damage.	Conductors are not adequately protected from abrasion or any other physical damage.	Major	NEC Article 110.12
		Conductors are properly sized for rated terminals.	Installed conductor size is not listed for use with this terminal lug.	Minor	NEC Article 110.3(B)
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Single conductor(s) are not connected correctly to the terminal or lug.	Minor	NEC Article 110.3(B) and 110.14(A)
		The length of the free conductors within the enclosure shall meet or exceed 6" requirement.	The length of the free conductors within the enclosure does not meet or exceed 6" requirement.	Minor	NEC Article 300.14
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Grounded (neutral) conductor is properly identified.	Grounded conductor is not properly identified as white or gray.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7
	Conduit	Conduit below grade is installed with provisions for movement.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)
		Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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.	Circuit conduit or raceway lacks adequate support.	Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
		Conduit thermal expansion fitting is properly installed to allow for movement.	Thermal expansion fitting not present on raceways and conduit to compensate for expansion and contraction.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)

		Task	Nonconformance Description	Defect Category	Reference
AC Combiner (continued)	Conduit (continued)	Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	Equipment must be sufficiently rated for expected voltage and/or current.	AC combiner is insufficiently rated for expected voltage and/ or current.	Critical	NEC Article 110.3(B)
		Equipment is suitable for environment.	AC combiner is not suitable for environment or excessive moisture found in enclosure.	Major	NEC Articles 314.15 and 110.3(B)
		Equipment must be installed in accordance with its listing and manufacturer's instructions.	AC combiner is not installed in accordance with its listing and manufacturer instructions. This non-conformance presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard and/ or will result in a measurable shortfall in energy savings.	Major	NEC Article 110.3(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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 its listing and manufacturer's instructions.	AC combiner is not installed in accordance with its listing and manufacturer instructions. This non-conformance requires modifications to address but is not expected to pose a substantial risk of system failure or hazard.	Minor	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Unused openings are not closed or sealed.	Minor	NEC Articles 110.12(A) or 408.7
	Grounding	Equipment is properly grounded.	AC combiner is not properly grounded using a listed grounding method. Enclosure must be grounded with equipment listed for the purpose and that is solidly connected to the enclosure body.	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43
		Grounded conductor(s) terminal lug is properly installed.	Ground hardware is not installed according to its listing.	Major	NEC Articles 110.3(B) and 250.4

		Task	Nonconformance Description	Defect Category	Reference
AC Combiner (continued)	Grounding (continued)	Grounding electrode conductor is sufficiently sized.	Grounding electrode conductor (GEC) is missing or undersized.	Major	NEC Articles 250.66 and 690.47
		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.	Ferrous conduit and enclosures containing the grounding electrode conductor (GEC), when installed, are not electrically continuous or appropriately bonded to GEC.	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
	Labeling	Each PV system disconnecting means shall be permanently marked as to identify it as a photovoltaic system disconnect.	PV disconnect label is missing, incomplete, or unsuitable for the environment. Label: PV SYSYEM DISCONNECT (or equivalent)	Incidental	NEC Articles 110.21(B) and 690.13(B)
		Entrances to rooms or other guarded locations that contain live parts shall be marked with conspicuous warning signs forbidding unqualified persons to enter.	Warning label identifying exposed live parts is missing, incomplete, or not suitable for the environment. Label: WARNING TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL	Incidental	NEC 110.21(B) and 110.27(C), OSHA1910.145(f)(7)
		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.	PV circuit breaker(s) is/ are not identified.	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.	The manufacturer's labels are obscured.	Incidental	NEC Article 110.21
		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.	AC combiner warning label indicating presence of multiple power sources is missing, incomplete, or not suitable for environment. Label: WARNING THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN OVERCURRENT DEVICE, SHALL NOT EXCEED AMPACITY OF BUSBAR	Incidental	NEC Articles 110.21(B) and 705.12(B)(3)

		Task	Nonconformance Description	Defect Category	Reference
AC Combiner (continued)	Labeling (continued)	Where all terminals of the disconnecting means may be energized in the open position, a warning label shall be mounted on or adjacent to the disconnecting means.	Disconnect Switch warning label is missing, incomplete, or not suitable for the environment. Label: WARNING ELECTRIC SHOCK HAZARD. TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.	Incidental	NEC Articles 110.21(B) and 690.13(B)
	OCPD	Equipment overcurrent protection is installed as required and sized in accordance with NEC Article 240.4	AC combiner overcurrent protection is missing or not correctly sized to protect circuit conductors.	Critical	NEC Article 240.4
		Circuit Breaker shall be installed and used in accordance with any instruction included in the listing or labeling.	Circuit Breaker is not installed and used in accordance with any instruction included in the listing or labeling.	Major	NEC Article 110.3(B)
		PV Backfed breaker is properly sized at, or above 125% of inverter output current.	PV Backfed breaker is undersized.	Major	NEC Article 240.4
		The AC OCPD is properly sized for the expected output current of the PV system.	The AC OCPD is not properly sized for the expected output current of the PV system.	Major	NEC Article 240.4
	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.	AC combiner is not mounted/ installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12
		Equipment is installed with the appropriate clearances.	AC combiner box is not properly guarded against accidental contact and/or physical damage or does not have sufficient working clearances.	Minor	NEC Articles 110.26 and 110.27(A)
AC Disconnect	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		A grounded conductor shall not be connected to normally non-current-carrying metal parts of equipment, to equipment grounding conductor(s), or be reconnected to ground on the load side of the service disconnecting means.	The grounded conductor(s) (neutral) are connected to the ground terminal and/or bonded to the metal frame of the enclosure.	Major	NEC Article 250.24(B)
		Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/ or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)

		Task	Nonconformance Description	Defect Category	Reference
AC Disconnect (continued)	Conductors (continued)	If an ac system operating at 1000 volts or less is grounded at any point, the 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. A main bonding jumper shall connect the grounded conductor(s) to each service disconnecting means enclosure. The grounded conductor(s) shall be installed in accordance with 250.24(D)(1) through (D)(4).	Grounded (neutral) conductor is not routed with the ungrounded conductors and/ or properly bonded to PV service disconnect enclosure using a listed grounding bus or terminal, or the grounded conductors are not properly bonded to the Grounding Electrode Conductor (GEC).	Major	NEC Article 250.24(D)
		In exposed work, conductors are protected from abrasion or any other physical damage.	Conductors are not adequately protected from abrasion or any other physical damage.	Major	NEC Article 110.12
		All conductors of the same circuit and, where used, the grounded conductor and all equipment grounding conductors and bonding conductors shall be contained within the same raceway, conduit body, auxiliary gutter, cable tray, cablebus assembly, trench, cable, or cord.	The conductors of the same circuit are not routed in the same raceway.	Minor	NEC Article 300.3(B)
		Conductors are properly sized for rated terminals.	Installed conductor size is not listed for use with this terminal lug.	Minor	NEC Article 110.3(B)
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Single conductor(s) are not connected correctly to the terminal or lug.	Minor	NEC Article 110.3(B) and 110.14(A)
		The length of the free conductors within the enclosure shall meet or exceed 6" requirement.	The length of the free conductors within the enclosure does not meet or exceed 6" requirement.	Minor	NEC Article 300.14
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Grounded (neutral) conductor is properly identified.	Grounded conductor is not properly identified as white or gray.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7

		Task	Nonconformance Description	Defect Category	Reference
AC Disconnect (continued)	Conduit	The conduit is grounded (when required).	The conduit is not grounded.	Major	NEC Articles 250.4(A)(3) and 690.43
		Circuit conduit or raceway is properly supported and secured.	Circuit conduit or raceway lacks adequate support.	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.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)
		Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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 thermal expansion fitting is properly installed to allow for movement.	Thermal expansion fitting not present on raceways and conduit to compensate for expansion and contraction.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		The service entrance Flexible Metal Conduit (FMC) or Liquid tight Flexible Metal Conduit (LFMC) shall not exceed 6 feet.	The service entrance FMC or LFMC conduit exceed 6 feet.	Minor	NEC Article 230.43(15)
		Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	Equipment must be sufficiently rated for expected voltage and/or current.	AC disconnect is insufficiently rated for expected voltage and/or current.	Critical	NEC Article 110.3(B)
		Disconnecting means shall be provided to disconnect ac PV modules, fuses, dc-to-dc converters, inverters, and charge controllers from all conductors that are not solidly grounded.	Required disconnect is not present.	Major	NEC Article 690.15
		Equipment intended to interrupt current at other than fault levels shall have an interrupting rating at nominal circuit voltage at least equal to the current that must be interrupted.	Disconnect is incorrectly rated for service entrance use and/or does not have a minimum current rating of 60A.	Major	NEC Article 230.79(D)
		Equipment is suitable for environment.	AC disconnect is not suitable for environment or excessive moisture found in enclosure.	Major	NEC Articles 314.15 and 110.3(B)

		Task	Nonconformance Description	Defect Category	Reference
AC Disconnect (continued)	Electrical (continued)	Equipment must be installed in accordance with its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard and/ or will result in a measurable shortfall in energy savings.	Major	NEC Article 110.3(B)
		The PV system disconnecting means shall simultaneously disconnect the PV system conductors that are not solidly grounded from all conductors of other wiring systems.	The PV disconnect does not simultaneously disconnect the PV system conductors that are not solidly grounded from all conductors of other wiring systems.	Major	NEC Article 690.13(E)
		AC Disconnect is present and readily accessible.	A PV disconnecting means is not in a readily accessible location.	Minor	NEC Article 690.13(A)
		Disconnect terminals are properly wired.	Disconnect terminals are wired backwards, not in accordance with its listing and manufacturer instructions. Ensure supply and load side of disconnect 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.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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 its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance requires modifications to address but is not expected to pose a substantial risk of system failure or hazard.	Minor	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Unused openings are not closed or sealed.	Minor	NEC Articles 110.12(A) or 408.7
	Grounding	Equipment grounding conductor is properly sized.	Equipment grounding conductor is undersized.	Major	NEC Articles 250.122 and 690.45

		Task	Nonconformance Description	Defect Category	Reference
AC Disconnect (continued)	Grounding (continued)	Equipment is properly grounded.	AC disconnect is not properly grounded using a listed grounding method. Enclosure must be grounded with equipment listed for the purpose and that is solidly connected to the enclosure body.	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43
		Grounded conductor(s) terminal lug is properly installed.	Ground hardware is not installed according to its listing.	Major	NEC Articles 110.3(B) and 250.4
		Grounding electrode conductor is continuous.	"The grounding electrode conductor (GEC) is not continuous or irreversibly spliced. Allowable means of splicing the GEC include compression crimp or exothermic welding processes."	Major	NEC Articles 250.64(C) and 690.47
		Grounding electrode conductor is sufficiently sized.	Grounding electrode conductor (GEC) is missing or undersized.	Major	NEC Articles 250.66 and 690.47
		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.	Ferrous conduit and enclosures containing the grounding electrode conductor (GEC), when installed, are not electrically continuous or appropriately bonded to GEC.	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
	Labeling	Each PV system disconnecting means shall be permanently marked as to identify it as a photovoltaic system disconnect.	PV disconnect label is missing, incomplete, or unsuitable for the environment. Label: PV SYSYEM DISCONNECT (or equivalent)	Incidental	NEC Articles 110.21(B) and 690.13(B)
		Permanent plaques, labels, or directories shall be installed at each service equipment location, or at an approved readily visible location.	Permanent plaque or directory denoting location of all power sources and location of disconnects on premises at each service equipment location is missing, incomplete, or unsuitable for the environment.	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.	The manufacturer's labels are obscured.	Incidental	NEC Article 110.21

		Task	Nonconformance Description	Defect Category	Reference
AC Disconnect (continued)	Labeling (continued)	Where all terminals of the disconnecting means may be energized in the open position, a warning label shall be mounted on or adjacent to the disconnecting means.	Disconnect Switch warning label is missing, incomplete, or not suitable for the environment. Label: WARNING ELECTRIC SHOCK HAZARD. TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.	Incidental	NEC Articles 110.21(B) and 690.13(B)
	OCPD	Equipment overcurrent protection is installed as required and sized in accordance with NEC Article 240.4	AC disconnect overcurrent protection is missing or not correctly sized to protect circuit conductors.	Major	NEC Article 240.4
		Fuses are present and installed in accordance with any instruction included in the listing or labeling.	Fuses are not installed and used in accordance with any instruction included in the listing or labeling.	Major	NEC Article 110.3(B)
		No overcurrent device shall be connected in series with any conductor that is intentionally grounded, unless the overcurrent device opens all conductors of the circuit, including the grounded conductor, and is designed so that no pole can operate independently.	Grounded conductors are fused.	Major	NEC Articles 240.22
		The AC OCPD is properly sized for the expected output current of the PV system.	The AC OCPD is not properly sized for the expected output current of the PV system.	Major	NEC Article 240.4
		The OCPD is properly sized for the rating of the equipment.	The OCPD is not properly sized for the rating of the equipment.	Major	NEC Article 240.3
	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.	AC disconnect is not mounted/ installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12
		Equipment is installed with the appropriate clearances.	AC disconnect box is not properly guarded against accidental contact and/or physical damage or does not have sufficient working clearances.	Minor	NEC Articles 110.26 and 110.27(A)
DC Combiner	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/ or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)

		Task	Nonconformance Description	Defect Category	Reference
DC Combiner (continued)	Conductors (continued)	Splice components are rated for environment.	Splice components (e.g., wire nuts) are not rated for environment. Where raceways are installed in wet locations above grade, the interior of these raceways shall be considered to be a wet location. Insulated conductors and cables installed in raceways in wet locations above grade shall comply with 310.10(C).	Major	NEC Articles 110.3(B), 110.11, and 110.14
		Splices and connections are secure and of high integrity.	Splices/connections are not secure.	Major	NEC Article 110.14
		Conductors are properly sized for rated terminals.	Installed conductor size is not listed for use with this terminal lug.	Minor	NEC Article 110.3(B)
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Single conductor(s) are not connected correctly to the terminal or lug.	Minor	NEC Article 110.3(B) and 110.14(A)
		The length of the free conductors within the enclosure shall meet or exceed 6" requirement.	The length of the free conductors within the enclosure does not meet or exceed 6" requirement.	Minor	NEC Article 300.14
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7
	Conduit	Indoor DC source circuits are contained in metallic conduit or raceway.	DC source circuits are not contained in metallic conduit/ raceway when indoors.	Major	NEC Article 690.31(D)(1)
		The conduit is grounded (when required).	The conduit is not grounded.	Major	NEC Articles 250.4(A)(3) and 690.43
		Circuit conduit or raceway is properly supported and secured.	Circuit conduit or raceway lacks adequate support.	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.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)

		Task	Nonconformance Description	Defect Category	Reference
DC Combiner (continued)	Conduit (continued)	Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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 thermal expansion fitting is properly installed to allow for movement.	Thermal expansion fitting not present on raceways and conduit to compensate for expansion and contraction.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	Equipment must be sufficiently rated for expected voltage and/or current.	DC combiner is insufficiently rated for expected voltage and/ or current.	Critical	NEC Article 110.3(B)
		Equipment is suitable for environment.	DC combiner is not suitable for environment or excessive moisture found in enclosure.	Major	NEC Articles 314.15 and 110.3(B)
		Equipment must be installed in accordance with its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard and/ or will result in a measurable shortfall in energy savings.	Major	NEC Article 110.3(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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 its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance requires modifications to address but is not expected to pose a substantial risk of system failure or hazard.	Minor	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Unused openings are not closed or sealed.	Minor	NEC Articles 110.12(A) or 408.7

		Task	Nonconformance Description	Defect Category	Reference
DC Combiner (continued)	Grounding	Equipment grounding conductor is properly sized.	Equipment grounding conductor is undersized.	Major	NEC Articles 250.122 and 690.45
		Equipment is properly grounded.	DC combiner is not properly grounded using a listed grounding method. Enclosure must be grounded with equipment listed for the purpose and that is solidly connected to the enclosure body.	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43
		Grounded conductor(s) terminal lug is properly installed.	Ground hardware is not installed according to its listing.	Major	NEC Articles 110.3(B) and 250.4
		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.	Ferrous conduit and enclosures containing the grounding electrode conductor (GEC), when installed, are not electrically continuous or appropriately bonded to GEC.	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
		Where not routed with circuit conductors, equipment grounding conductors smaller than 6AWG shall be protected from physical damage.	Exposed equipment grounding conductor is smaller than #6AWG and is not protected from physical damage.	Minor	NEC Articles 250.120(C)
		Equipment grounding conductor is identified as bare, green, or green with continuous yellow stripe(s).	Equipment grounding conductor (EGC) is not properly identified as either bare, green, or green with continuous yellow stripe(s).	Incidental	NEC Article 250.119
	Labeling	A permanent readily visible label indicating the highest maximum dc voltage in a PV system, calculated in accordance with 690.7, shall be provided.	A permanent readily visible label indicating the highest maximum dc voltage in a PV system, calculated in accordance with 690.7 is not present.	Incidental	NEC Articles 690.7(D)
		Interruption circuit - shall be a type that requires the use of a tool to open will be marked "Do Not Disconnect Under Load"	Warning label to not disconnect under load is missing, incomplete, or unsuitable for the environment. Label: WARNING DO NOT DISCONNECT UNDER LOAD or NOT FOR CURRENT INTERRUPTING	Incidental	NEC Articles 110.21(B) and 690.33(D)(2)
		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.	The manufacturer's labels are obscured.	Incidental	NEC Article 110.21

		Task	Nonconformance Description	Defect Category	Reference
DC Combiner (continued)	Labeling (continued)	Where all terminals of the disconnecting means may be energized in the open position, a warning label shall be mounted on or adjacent to the disconnecting means.	Disconnect Switch warning label is missing, incomplete, or not suitable for the environment. Label: WARNING ELECTRIC SHOCK HAZARD. TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.	Incidental	NEC Articles 110.21(B) and 690.13(B)
	OCPD	DC Combiner string fuse holder is DC rated.	DC Combiner string fuse holder is not DC rated.	Critical	NEC Article 110.3(B)
		Inverter string fuses are 600 or 1000 VDC rated as required.	Inverter string fuses are not rated for use in application.	Critical	NEC Articles 110.3(B) and 690.9(B)
		PV source circuit, PV output circuit, inverter output circuit and storage battery circuit conductors and equipment shall be protected with an OCPD.	Ungrounded conductors are NOT protected by an OCPD.	Critical	NEC Article 690.9
		Combiner string fuse is properly sized.	DC Combiner String fuse is undersized for expected current (1.56 x sum of parallel module short circuit currents (Isc)).	Major	NEC Article 690.9
		No overcurrent device shall be connected in series with any conductor that is intentionally grounded, unless the overcurrent device opens all conductors of the circuit, including the grounded conductor, and is designed so that no pole can operate independently.	Grounded conductors are fused.	Major	NEC Articles 240.22
		Overcurrent devices used in any DC portion of the PV system shall have the appropriate voltage, current and interrupt ratings.	The DC OCPD does not have the appropriate voltage, current or interrupt rating.	Major	NEC Article 690.9(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.	DC combiner is not mounted/ installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12
		Equipment is installed with the appropriate clearances.	DC combiner is not properly guarded against accidental contact and/or physical damage or does not have sufficient working clearances.	Minor	NEC Articles 110.26 and 110.27(A)
DC Disconnect	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/ or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)

		Task	Nonconformance Description	Defect Category	Reference
DC Disconnect (continued)	Conductors (continued)	All conductors of the same circuit and, where used, the grounded conductor and all equipment grounding conductors and bonding conductors shall be contained within the same raceway, conduit body, auxiliary gutter, cable tray, cablebus assembly, trench, cable, or cord.	The conductors of the same circuit are not routed in the same raceway.	Minor	NEC Article 300.3(B)
		Conductors are properly sized for rated terminals.	Installed conductor size is not listed for use with this terminal lug.	Minor	NEC Article 110.3(B)
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Single conductor(s) are not connected correctly to the terminal or lug.	Minor	NEC Article 110.3(B) and 110.14(A)
		The length of the free conductors within the enclosure shall meet or exceed 6" requirement.	The length of the free conductors within the enclosure does not meet or exceed 6" requirement.	Minor	NEC Article 300.14
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7
	Conduit	Indoor DC source circuits are contained in metallic conduit or raceway.	DC source circuits are not contained in metallic conduit/ raceway when indoors.	Major	NEC Article 690.31(D)(1)
		The conduit is grounded (when required).	The conduit is not grounded.	Major	NEC Articles 250.4(A)(3) and 690.43
		Circuit conduit or raceway is properly supported and secured.	Circuit conduit or raceway lacks adequate support.	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.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)
		Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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 thermal expansion fitting is properly installed to allow for movement.	Thermal expansion fitting not present on raceways and conduit to compensate for expansion and contraction.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44

		Task	Nonconformance Description	Defect Category	Reference
DC Disconnect (continued)	Conduit (continued)	Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	Disconnect is listed for DC use.	DC Disconnect is not listed for DC use.	Critical	NEC Article 110.3(B) and 690.15
		Equipment must be sufficiently rated for expected voltage and/or current.	DC disconnect is insufficiently rated for expected voltage and/ or current.	Critical	NEC Article 110.3(B)
		Disconnecting means shall be provided to disconnect ac PV modules, fuses, dc-to-dc converters, inverters, and charge controllers from all conductors that are not solidly grounded.	Required disconnect is not present.	Major	NEC Article 690.15
		Equipment is suitable for environment.	DC disconnect is not suitable for environment or excessive moisture found in enclosure.	Major	NEC Articles 314.15 and 110.3(B)
		Equipment must be installed in accordance with its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard and/ or will result in a measurable shortfall in energy savings.	Major	NEC Article 110.3(B)
		The PV system disconnecting means shall simultaneously disconnect the PV system conductors that are not solidly grounded from all conductors of other wiring systems.	The PV disconnect does not simultaneously disconnect the PV system conductors that are not solidly grounded from all conductors of other wiring systems.	Major	NEC Article 690.13(E)
		Disconnect is properly wired to ensure that fuses can be de-energized for service.	Disconnect terminals are wired backwards, not in accordance with its listing and manufacturer instructions. Ensure supply and load side of disconnect are properly wired.	Minor	NEC Article 110.3(B), (and 240.40 if fusible)

		Task	Nonconformance Description	Defect Category	Reference
DC Disconnect (continued)	Electrical (continued)	Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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 its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance requires modifications to address but is not expected to pose a substantial risk of system failure or hazard.	Minor	NEC Article 110.3(B)
		Means shall be provided to disconnect all ungrounded DC conductors of a PV system from all other conductors in a building or other structure.	A PV disconnecting means is not in a readily accessible location.	Minor	NEC Article 690.13(A)
		Unused openings of electrical equipment shall be properly sealed.	Unused openings are not closed or sealed.	Minor	NEC Articles 110.12(A) or 408.7
	Grounding	Equipment grounding conductor is properly sized.	Equipment grounding conductor is undersized.	Major	NEC Articles 250.122 and 690.45
		Equipment is properly grounded.	DC disconnect is not properly grounded using a listed grounding method. Enclosure must be grounded with equipment listed for the purpose and that is solidly connected to the enclosure body.	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43
		Grounded conductor(s) terminal lug is properly installed.	Ground hardware is not installed according to its listing.	Major	NEC Articles 110.3(B) and 250.4
		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.	Ferrous conduit and enclosures containing the grounding electrode conductor (GEC), when installed, are not electrically continuous or appropriately bonded to GEC.	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
		Where not routed with circuit conductors, equipment grounding conductors smaller than 6AWG shall be protected from physical damage.	Exposed equipment grounding conductor is smaller than #6AWG and is not protected from physical damage.	Minor	NEC Articles 250.120(C)
		Equipment grounding conductor is identified as bare, green, or green with continuous yellow stripe(s).	Equipment grounding conductor (EGC) is not properly identified as either bare, green, or green with continuous yellow stripe(s).	Incidental	NEC Article 250.119

		Task	Nonconformance Description	Defect Category	Reference
DC Disconnect (continued)	Labeling	"A permanent readily visible label indicating the highest maximum dc voltage in a PV system, calculated in accordance with 690.7, shall be provided by the installer at one of the following locations: (1) DC PV system disconnecting means (2) PV system electronic power conversion equipment (3) Distribution equipment associated with the PV system"	DC power source information label is missing, incomplete, or unsuitable for the environment. Label: MAXIMUM VOLTAGE_____	Incidental	NEC Articles 110.21(B) and 690.7(D)
		Each PV system disconnecting means shall be permanently marked as to identify it as a photovoltaic system disconnect.	PV disconnect label is missing, incomplete, or unsuitable for the environment. Label: PV SYSYEM DISCONNECT (or equivalent)	Incidental	NEC Articles 110.21(B) and 690.13(B)
		Permanent plaques, labels, or directories shall be installed at each service equipment location, or at an approved readily visible location.	Permanent plaque or directory denoting location of all power sources and location of disconnects on premises at each service equipment location is missing, incomplete, or unsuitable for the environment.	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.	The manufacturer's labels are obscured.	Incidental	NEC Article 110.21
		Where all terminals of the disconnecting means may be energized in the open position, a warning label shall be mounted on or adjacent to the disconnecting means.	Disconnect Switch warning label is missing, incomplete, or not suitable for the environment. Label: WARNING ELECTRIC SHOCK HAZARD. TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.	Incidental	NEC Articles 110.21(B) and 690.13(B)
	OCPD	Disconnect fuses are DC rated and properly sized for system voltage.	Fuses in DC Disconnect are not DC rated and/or not rated for applicable system voltage.	Critical	NEC Articles 110.3(B) and 690.9(B)
		Disconnect is rated for nominal voltage and current.	DC Disconnect is insufficiently rated for expected voltage and current.	Critical	NEC Article 110.3(B) and 690.15(C)
	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.	DC disconnect is not mounted/ installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12

		Task	Nonconformance Description	Defect Category	Reference
DC Disconnect (continued)	Structural (continued)	Equipment is installed with the appropriate clearances.	DC disconnect is not properly guarded against accidental contact and/or physical damage or does not have sufficient working clearances.	Minor	NEC Articles 110.26 and 110.27(A)
Energy Storage Tier 2&3	General	Where required elsewhere in Section 1207, large-scale fire testing shall be conducted on a representative ESS in accordance with UL 9540A. The testing shall be conducted or witnessed and reported by an approved testing laboratory and show that a fire involving one ESS will not propagate to an adjacent ESS, and where installed within buildings, enclosed areas and walk-in units will be contained within the room, enclosed area or walk-in unit for the duration of the test. The test report shall be provided to the fire code official for review and approval. (Material based on NFPA 855 2023 Ed.)	Large-scale fire testing in accordance with UL 9540A or approved equivalent did not pass, was incomplete, or was not provided.	Major	2025 Fire Code of NYS 1207.1.7
	Commission-ing, Decom-missioning, Operation and Maintenance	A report describing the results of the system commissioning, including the results of the initial acceptance testing required in Section 1207.2.1.1, shall be provided to the fire code official prior to final inspection and approval and maintained at an approved on-site location. (Material based on NFPA 855 2023 Ed.)	Evidence of commissioning the energy storage system in accordance with Section 1207.2.1.1, are missing or incomplete.	Major	2025 Fire Code of NYS 1207.2.1.2
		An operation and maintenance manual shall be provided to both the ESS owner or their authorized agent and the ESS operator before the ESS isput into operation and shall include the following:	Operations and maintenance documentation was not provided to the energy storage system owner and their operator before the energy storage system was put into operation. Or, the copy is missing from the approved location or, not accessible to facility personnel, fire code officials, and emergency responders or is not complete.	Minor	2025 Fire Code of NYS 1207.2.2

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	Equipment	ESS shall be listed in accordance with UL 9540. **Exceptions:** **1.** Lead-acid and nickel-cadmium battery systems less than 50 VAC, 60 VDC in telecommunications facilities for installations of communications equipment under the exclusive control of communications utilities located outdoors or in building spaces used exclusively for such installations that are in compliance with NFPA 76. **2.** Lead-acid and nickel-cadmium battery systems that are used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, and located outdoors or in building spaces used exclusively for such installations. **3.** Lead-acid battery systems in uninterruptable power supplies listed and labeled in accordance with UL 1778 and utilized for standby power applications. **4.** Lead-acid and nickel-cadmium battery systems that are used exclusively for fixed guideway transit or passenger rail systems for either the operation of rolling stock or for signaling and communication equipment, and are located outdoors or in building spaces used exclusively for such installations.	ESS is not listed in accordance with UL 9540.	Major	2025 Fire Code of NYS 1207.3.1
	Equipment	Inverters shall be listed and labeled in accordance with UL 1741. Only inverters listed and labeled for utility interactive system use and identified as interactive shall be allowed to operate in parallel with the electric utility power system to supply power to common loads.	Installed inverter is not listed and labeled in accordance with UL 1741.	Major	2025 Fire Code of NYS 1207.3.3
		Where required by the ESS listing, an approved energy storage management system that monitors and balances cell voltages, currents and temperatures within the manufacturer's specifications shall be provided. The system shall disconnect electrical connections to the ESS or otherwise place it in a safe condition if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage are detected. (Material based on NFPA 855 2023 Ed.)	No management system in place; or it does not place the energy storage system in a safe condition.	Major	2025 Fire Code of NYS 1207.3.4
		Enclosures of ESS shall be of noncombustible construction. (Material based on NFPA 855 2023 Ed.)	Enclosures of energy storage systems is constructed with combustible materials.	Major	2025 Fire Code of NYS 1207.3.5
	General installation requirements	Access and working space shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment in accordance with NFPA 70 and the manufacturer's instructions.	Access and working space is not provided and maintained about all electrical equipment to allow ready and safe operation and maintenance.	Minor	2025 Fire Code of NYS 1207.4.2

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	General installation requirements (continued)	Rooms and other indoor areas containing ESS shall be separated from other areas of the building in accordance with Section 1207.7.4. ESS shall be permitted to be in the same room with the equipment they support.	Rooms and indoor areas containing energy storage systems are not separated from other areas of the building, or are in the same room as the equipment that does not supported by them.	Major	2025 Fire Code of NYS 1207.4.3
		Stationary ESS shall comply with the seismic design requirements in Chapter 16 of the Building Code of New York State, and shall not exceed the floor loading limitation of the building.	Stationary energy storage system does not comply with the seismic design requirements in Chapter 16 of the Building Code of New York State, and exceed the floor loading limitation of the building.	Major	2025 Fire Code of NYS 1207.4.4
		Where ESS are subject to impact by a motor vehicle, including forklifts, vehicle impact protection shall be provided in accordance with Section 312.	Vehicle impact protection was not provided where energy storage systems are subject to vehicle impact, including forklifts.	Major	2025 Fire Code of NYS 1207.4.5
		Combustible materials shall not be stored in ESS rooms, areas or walk-in units. Combustible materials in occupied work centers covered by Section 1207.4.10 shall be stored at least 3 feet (914 mm) from ESS cabinets.	Combustible materials are stored in energy storage system rooms, areas, or walk-in units. Combustible materials in occupied work centers are not stored at least 3 feet (914mm) from energy storage system cabinets.	Major	2025 Fire Code of NYS 1207.4.6

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	General installation requirements (continued)	Approved signs shall be provided on or adjacent to all entry doors for ESS rooms or areas and on enclosures of ESS cabinets and walk-in units located outdoors, on rooftops or in open parking garages. Signs designed to meet both the requirements of this section and NFPA 70 shall be permitted. The signage shall include the following or equivalent: **1.** "ENERGY STORAGE SYSTEM," "BATTERY STORAGE SYSTEM," "CAPACITOR ENERGY STORAGE SYSTEM" or the equivalent. **2.** The identification of the electrochemical ESS technology present. **3.** "ENERGIZED ELECTRICAL CIRCUITS." **4.** Where water-reactive electrochemical ESS are present, the signage shall include "APPLY NO WATER." **5.** Current contact information, including phone number, for personnel authorized to service the equipment and for fire mitigation personnel required by Section 1207.1.8.1. **6.** Relevant hazard warnings, maps of the site, ESS enclosures, and associated equipment and isolation distances that response personnel should maintain from ESS involved in fire or where there may be a risk of explosion or deflagration. Exception: Where the electrochemical ESS system is deemed to be "critical infrastructure" in accordance with Federal and State laws, rules, and regulations, all sensitive information shall be placed in a key box, that complies with Section 506, provided that all other information is provided as described above. **7.** Most recent date the sign was produced or updated. **8.** Identification of multiple power sources. **Exception:** Where the electrochemical ESS system is deemed to be "critical infrastructure" in accordance with Federal and State laws, rules, and regulations, all sensitive information shall be placed in a key box that complies with Section 506, provided that all other information is provided as described above.	Signs that are required to be placed on or adjacent to all entry doors for ESS rooms or areas and on enclosures of ESS cabinets and walk-in units located outdoors, on rooftops or in open parking garages are missing, incorrect or incomplete .	Incidental	2025 Fire Code of NYS 1207.4.8

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3	Electrochemical ESS Protection	Where rooms, areas and walk-in units contain different types of electrochemical energy technologies, the total aggregate quantities of the systems shall be determined based on the sum of percentages of each technology-type quantity divided by the maximum allowable quantity of each technology type. The sum of the percentages shall not exceed 100 percent of the maximum allowable quantity.	For rooms, areas, and walk-in units contain different types of electrochemical energy technologies: determine the total aggregate quantitates of the systems by taking the sum of % of each technology type quantity and dividing it by the max allowable quantity of each. The sum of percentages exceeds 100% of the max allowable quantity.	Major	2025 Fire Code of NYS 1207.5.2.1

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	Electrochemical ESS Protection (continued)	Electrochemical ESS shall not be located in the following areas: **1.** Where the floor is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access. **2.** Where the floor is located below the lowest level of exit discharge. **Exceptions:** (Material based on NFPA 855 2023 Ed.) **1.** Lead-acid and nickel-cadmium battery systems less than 50 VAC and 60 VDC installed in facilities under the exclusive control of communications utilities in accordance with NFPA 76. **2.** Lead-acid and nickel-cadmium systems that are used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, and located outdoors or in building spaces used exclusively for such installations. **3.** Lead-acid battery systems in uninterruptable power supplies listed and labeled in accordance with UL 1778, utilized for standby power applications, which is limited to not more than 10 percent of the floor area on the floor on which the ESS is located. **4.** Where approved, installations shall be permitted in underground vaults complying with NFPA 70, Article 450, Part III. **5.** Where approved by the fire code official, installations shall be permitted on higher and lower floors.	Electrochemical energy storage system is located where the floor is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access and/ or where the floor is located below the lowest level of exit discharge and is not permitted by listed exception.	Major	2025 Fire Code of NYS 1207.5.3
		An approved automatic smoke detection system or radiant energy-sensing fire detection system complying with Section 907.2 shall be installed in rooms, indoor areas and walk-in units containing electrochemical ESS. An approved radiant energy-sensing fire detection system shall be installed to protect open parking garage and rooftop installations. Alarm signals from detection systems shall be transmitted to a central station, proprietary or remote station service in accordance with NFPA 72, or where approved to a constantly attended location. **Exception:** Normally unoccupied, remote stand-alone telecommunications structures with a gross floor area of less than 1,500 square feet (139 m2) utilizing lead-acid or nickel-cadmium batteries shall not be required to have a fire detection system installed. (Material based on NFPA 855 2023 Ed.)	Energy storage system does not have an approved automatic smoke detection system or radiant energy-sensing fire detection system installed in rooms, indoor areas, and walk-in units.	Critical	2025 Fire Code of NYS 1207.5.4

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	Electrochemical ESS Protection (continued)	Electrochemical ESS that utilize water-reactive materials shall be protected by an approved alternative automatic fire-extinguishing system in accordance with Section 904, where the installation is approved by the fire code official based on large-scale fire testing complying with Section 1207.1.7.	Electrochemical energy storage system that utilize water reactive materials was not protected by an approved alternative automatic fire extinguishing system.	Critical	2025 Fire Code of NYS 1207.5.5.1
		Outdoor walk-in units housing ESS shall not exceed 53 feet by 8 feet by 9.5 feet high (16 154 mm × 2438 mm × 2896 mm), not including bolt-on HVAC and related equipment, as approved. Outdoor walk-in units exceeding these limitations shall be considered indoor installations and comply with the requirements in Section 1207.7. (Material based on NFPA 855 2023 Ed.)	Outdoor walk-in units housing energy storage system exceeds 53 feet by 8 feet by 9.5 feet high (16 154 mm × 2438 mm × 2896 mm), not including bolt-on HVAC and related equipment, as approved.	Major	2025 Fire Code of NYS 1207.5.6
		Areas within 10 feet (3048 mm) on each side of outdoor ESS shall be cleared of combustible vegetation and other combustible growth. Single specimens of trees, shrubbery or cultivated ground cover such as green grass, ivy, succulents or similar plants used as ground cover shall be permitted to be exempt provided that they do not form a means of readily transmitting fire. (Material based on NFPA 855 2023 Ed.)	Combustible vegetation is within 10 ft (3 m) on each side of the outdoor energy storage system.	Major	2025 Fire Code of NYS 1207.5.7
		ESS located outdoors and in open parking garages shall be separated from any means of egress as required by the fire code official to ensure safe egress under fire conditions, but in no case less than 10 feet (3048 mm). **Exception:** The fire code official is authorized to approve a reduced separation distance if large-scale fire testing complying with Section 1207.1.7 is provided that shows that a fire involving the ESS will not adversely impact occupant egress. (Material based on NFPA 855 2023 Ed.)	No 10 ft (3,048 mm) minimum separation for means of egress is provided for energy storage system located outdoors/in open parking garages.	Major	2025 Fire Code of NYS 1207.5.8
		Where required by Table 1207.6 or elsewhere in this code, exhaust ventilation of rooms, areas and walk-in units containing electrochemical ESS shall be provided in accordance with the Mechanical Code of New York State and Section 1207.6.1.1 or 1207.6.1.2.	Exhaust ventilation of rooms, areas, and walk-in units containing energy storage system is not provided in accordance with the Mechanical Code.	Critical	2025 Fire Code of NYS 1207.6.1
		The exhaust ventilation system shall be designed to limit the maximum concentration of flammable gas to 25 percent 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, in accordance with nationally recognized standards. **Applies to all electrochemical energy storage systems except Lithium-Ion batteries.**	The mechanical ventilation system is missing or not set to remain on until the flammable gas detected is less than 25% of the LFL.	Critical	2025 Fire Code of NYS 1207.6.1.1

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	Electrochemical ESS Technology-Specific Protection	Mechanical exhaust ventilation shall be provided at a rate of not less than 1 ft3/min/ft2 (5.1 L/sec/m2) 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 in accordance with Section 1207.6.1.2.4. **Applies to all electrochemical energy storage systems except Lithium-Ion batteries.**	Mechanical exhaust ventilation is not provided at a rate of no less than 1 ft3/minute/ft2 (5.1 L/sec/m2) of floor area of the room, area, or walk-in unit. The ventilation is not either continuous or activated by a gas detection system.	Critical	2025 Fire Code of NYS 1207.6.1.2
		Mechanical exhaust ventilation shall be provided with a minimum of 2 hours of standby power in accordance with Section 1203.2.5. Applies to all electrochemical energy storage systems except Lithium-Ion batteries.	Mechanical exhaust ventilation is not provided with a minimum of two hours of standby power.	Critical	2025 Fire Code of NYS 1207.6.1.2.1
		Required mechanical exhaust ventilation systems shall be installed in accordance with the manufacturer's installation instructions and the Mechanical Code of New York State.	Mechanical exhaust ventilation is not installed as per the manufacturer's instructions.	Major	2025 Fire Code of NYS 1207.6.1.2.2
		Required mechanical exhaust ventilation systems shall be supervised by an approved central station, proprietary or remote station service in accordance with NFPA 72, or shall initiate an audible and visible signal at an approved constantly attended on-site location. **Applies to all electrochemical energy storage systems except Lithium-Ion batteries.**	Mechanical exhaust ventilation systems is not supervised by an approved central station, proprietary, or remote station service, or does not initiate an audible and visible signal at an approved constantly attended on-site location.	Major	2025 Fire Code of NYS 1207.6.1.2.3
		Where required by Section 1207.6.1.2, rooms, areas and walk-in units containing ESS shall be protected by an approved continuous gas detection system that complies with Section 916 and with the following: **1.** 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 percent of the LFL. **2.** The mechanical ventilation system shall remain on until the flammable gas detected is less than 25 percent of the LFL. **3.** The gas detection system shall be provided with a minimum of 2 hours of standby power in accordance with Section 1203.2.5. **4.** 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. (Material based on NFPA 855 2023 Ed.)	The gas detection system is missing or not sufficient.	Major	2025 Fire Code of NYS 1207.6.1.2.4

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	Electrochemical ESS Technology-Specific Protection (continued)	Where required by Table 1207.6 or elsewhere in this code, areas containing free-flowing liquid electrolyte or hazardous materials shall be provided with spill control and neutralization in accordance with this section. (Material based on NFPA 855 2023 Ed.) **Applies to all electrochemical energy storage systems except Lithium-Ion batteries.**	Areas containing free-flowing liquid electrolyte or hazardous materials is not equipped with spill control and neutralization.	Major	2025 Fire Code of NYS 1207.6.2
		Spill control shall be provided to prevent the flow of liquid electrolyte or hazardous materials to adjoining rooms or areas. The method shall be capable of containing a spill from the single largest battery or vessel. (Material based on NFPA 855 2023 Ed.) **Applies to all electrochemical energy storage systems except Lithium-Ion batteries.**	Spill control is missing or inadequate 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.	Major	2025 Fire Code of NYS 1207.6.2.1
		An approved method that is capable of neutralizing spilled liquid electrolyte from the largest battery or vessel to a pH between 5.0 and 9.0 shall be provided. (Material based on NFPA 855 2023 Ed.) **Applies to all electrochemical energy storage systems except Lithium-Ion batteries.**	An approved method to neutralize spilled liquid electrolyte is missing or inadequate to be capable of neutralizing a spill from the largest battery or vessel to a pH between 5.0 and 9.0.	Major	2025 Fire Code of NYS 1207.6.2.2

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3	Electrochemical ESS Technology-Specific Protection	Where required by Table 1207.6 or elsewhere in this code, explosion control complying with Section 911 shall be provided for rooms, areas, ESS cabinets or ESS walk-in units containing electrochemical ESS technologies. **Exceptions:** (Material based on NFPA 855 2023 Ed.) **1.** Where approved, explosion control is permitted to be waived by the fire code official based on large-scale fire testing complying with Section 1207.1.7 that demonstrates that flammable gases are not liberated from electrochemical ESS cells or modules. **2.** Where approved, explosion control is permitted to be waived by the fire code official based on documentation provided that demonstrates that the electrochemical ESS technology to be used does not have the potential to release flammable gas concentrations in excess of 25 percent of the LFL anywhere in the room, area, walk-in unit or structure under thermal runaway or other fault conditions. **3.** Where approved, ESS cabinets that have no debris, shrapnel or enclosure pieces ejected during large-scale fire testing complying with Section 1207.1.5 shall be permitted in lieu of providing explosion control complying with Section 911. **4.** Explosion control is not required for lead-acid and nickel-cadmium battery systems less than 50 VAC, 60 VDC in telecommunication facilities under the exclusive control of communications utilities located in building spaces or walk-in units used exclusively for such installations. **5.** Explosion control is not required for lead-acid and nickel-cadmium systems used for DC power for control of substations and control or safe shutdown of generating stations under the exclusive control of the electric utility, located in building spaces or walk-in units used exclusively for such installations. **6.** Explosion control is not required for lead-acid battery systems in uninterruptable power supplies listed and labeled in accordance with UL 1778, utilized for standby power applications, and housed in a single cabinet in a single fire area in buildings or walk-in units. **7.** Lead-acid and nickel-cadmium battery systems. that are used exclusively for fixed guideway transit or passenger rail systems for either the operation of rolling stock or for signaling and communication equipment, and are located outdoors or in building spaces used exclusively for such installations.	Explosion control was not provided for rooms, areas, and walk-in units containing electrochemical energy storage system technology (unless waived by Fire Code Official after large scale fire testing demonstrates flammable gases are not liberated from cells or modules).	Critical	2025 Fire Code of NYS 1207.6.3

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	Electrochemical ESS Technology-Specific Protection (continued)	Where required by Table 1207.6 or elsewhere in this code, vented batteries and other ESS shall be provided with flame-arresting safety caps. Applies to all electrochemical energy storage systems except Lithium-Ion and Flow batteries.	Flame-arresting safety caps, are missing or inadequate on vented batteries.	Major	2025 Fire Code of NYS 1207.6.4
		Where required by Table 1207.6 or elsewhere in this code, batteries and other ESS shall be provided with a listed device or other approved method to prevent, detect and minimize the impact of thermal runaway.	Listed device or other approved method to prevent, detect, and minimize the impact of thermal runaway, is missing or inadequate for energy storage systems.	Major	2025 Fire Code of NYS 1207.6.5
	Indoor Installations	ESS shall not be installed in sleeping units or in habitable spaces of dwelling units. (Material based on NFPA 855 2023 Ed.)	The energy storage system is installed in sleeping units or in habitable spaces of dwelling units.	Major	2025 Fire Code of NYS 1207.7.3
		Rooms and areas containing ESS shall include fire-resistance-rated separations as follows: **1.** In dedicated-use buildings, rooms and areas containing ESS shall be separated from areas in which administrative and support personnel are located. **2.** In nondedicated-use buildings, rooms and areas containing ESS shall be separated from other areas in the building. Separation shall be provided by 2-hour fire barriers constructed in accordance with Section 707 of the Building Code of New York State and 2-hour horizontal assemblies constructed in accordance with Section 711 of the Building Code of New York State, as appropriate. (Material based on NFPA 855 2023 Ed.)	Separation are not 2 hour rated fire barriers or not 2 hour rated horizontal assemblies.	Major	2025 Fire Code of NYS 1207.7.4
	Outdoor Installations	For the purpose of Table 1207.8, remote outdoor installations include ESS located more than 100 feet (30 480 mm) from buildings, lot lines, public ways, stored combustible materials, hazardous materials, high-piled stock and other exposure hazards. (Material based on NFPA 855 2023 Ed.)	The remote energy storage system installations is located less than 100 ft (30.5 m) from buildings, lot lines, public ways, stored combustible materials, hazardous materials, high piled stock, and other exposure hazards.	Major	2025 Fire Code of NYS 1207.8.1

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	Outdoor Installations (continued)	ESS located outdoors shall be separated by a minimum of 10 feet (3048 mm) from the following exposures: **1.** Lot lines. **2.** Public ways. **3.** Buildings. **4.** Stored combustible materials. **5.** Hazardous materials. **6.** High-piled stock. **7.** Other exposure hazards. **Exceptions:** (Material based on NFPA 855 2023 Ed.) **1.** Clearances are permitted to be reduced to 3 feet (914 mm) where a 1-hour free-standing fire barrier suitable for exterior use and extending 5 feet (1524 mm) above and 5 feet (1524 mm) beyond the physical boundary of the ESS installation is provided to protect the exposure. **2.** Clearances to buildings are permitted to be reduced to 3 feet (914 mm) where noncombustible exterior walls with no openings or combustible overhangs are provided on the wall adjacent to the ESS and the fire-resistance rating of the exterior wall is a minimum of 2 hours. **3.** Clearances to buildings are permitted to be reduced to 3 feet (914 mm) where a weatherproof enclosure constructed of noncombustible materials is provided over the ESS, 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 complying with Section 1207.1.7.	The energy storage system located outdoors is not 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.	Major	2025 Fire Code of NYS 1207.8.3
		ESS shall be permitted to be installed outdoors on exterior walls of buildings when all of the following conditions are met: **1.** The maximum energy capacity of individual ESS units shall not exceed 20 kWh. **2.** The ESS shall comply with applicable requirements in Section 1207. **3.** The ESS shall be installed in accordance with the manufacturer's instructions and their listing. **4.** Individual ESS units shall be separated from each other by at least 3 feet (914 mm). **5.** The ESS shall be separated from doors, windows, operable openings into buildings or HVAC inlets by at least 5 feet (1524 mm). **Exception:** Where approved, smaller separation distances in Items 4 and 5 shall be permitted based on large-scale fire testing complying with Section 1207.1.7. (Material based on NFPA 855 2023 Ed.)	One or more of the conditions listed in 2025 Fire Code of NYS 1207.8.4 steps 1 thru 5 were not met.	Major	2025 Fire Code of NYS 1207.8.4

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	Special Installations	ESS located in walk-in units on rooftops or in walk-in units in open parking garages shall be provided with automatic fire suppression systems within the ESS enclosure in accordance with Section 1207.5.5. Areas containing ESS other than walk-in units in open parking structures on levels not open above to the sky shall be provided with an automatic fire suppression system complying with Section 1207.5.5. **Exception:** A fire suppression system is not required in open parking garages if large-scale fire testing complying with Section 1207.1.7 is provided that shows that a fire will not impact the exposures in Section 1207.9.3. (Material based on NFPA 855 2023 Ed.)	The energy storage system located in walk-in units on rooftops or in open parking garages is not provided with automatic fire suppression systems within the energy storage system enclosure.	Major	2025 Fire Code of NYS 1207.9.4
		ESS and associated equipment that are located on rooftops and not enclosed by building construction shall comply with the following: **1.** 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. **2.** Service walkways at least 5 feet (1524 mm) in width shall be provided for service and emergency personnel from the point of access to the roof to the system. **3.** ESS 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 feet (1524 mm). **4.** The roofing materials under and within 5 feet (1524 mm) horizontally from an ESS or associated equipment shall be noncombustible or shall have a Class A rating when tested in accordance with ASTM E108 or UL 790. **5.** 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. **6.** The ESS shall be the minimum of 10 feet (3048 mm) from the fire service access point on the rooftop. (Material based on NFPA 855 2023 Ed.)	Rooftop installation not enclosed by buiding construction does not comply with one or more of the requirements listed in 2025 FC of NYS 1207.9.5, 1thru 6.	Major	2025 Fire Code of NYS 1207.9.5
	First Responder Site Familiarization	ESS owners shall provide an annual site visit and review of the pre-incident plan developed in accordance with Section 1207.13 of this code to the local fire department. **Exception:** Where a facility has written documentation from the fire chief that the fire department has forgone their opportunity for training.	Pre-incident plan (emergency response plan) is not present or up to date.	Major	2025 Fire Code of NYS 1207.13.1

		Task	Nonconformance Description	Defect Category	Reference
Energy Storage Tier 2&3 (continued)	ESS third party safety inspection	The ESS third party fire safety inspection shall verify the structural integrity and weather tightness of enclosures.	The ESS unit(s) does not have adequate structural integrity or water tightness and/ or the electrical circuitry is not contained within a weatherproof enclosre(s) marked with a rating suitable for the type of exposure as required by NFPA 70.	Major	2025 Fire Code of NYS 1207.14.1.1 and NFPA 855 4.6.12
Feeder Tap Connection	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/ or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		Conductors are properly spliced.	Service Entrance conductor splices (Taps) are not installed in accordance with its listing.	Major	NEC Articles 110.14(B) and 230.46
		If an ac system operating at 1000 volts or less is grounded at any point, the 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. A main bonding jumper shall connect the grounded conductor(s) to each service disconnecting means enclosure. The grounded conductor(s) shall be installed in accordance with 250.24(D)(1) through (D)(4).	Grounded (neutral) conductor is not routed with the ungrounded conductors and/ or properly bonded to PV service disconnect enclosure using a listed grounding bus or terminal, or the grounded conductors are not properly bonded to the Grounding Electrode Conductor (GEC).	Major	NEC Article 250.24(D)
		In exposed work, conductors are protected from abrasion or any other physical damage.	Conductors are not adequately protected from abrasion or any other physical damage.	Major	NEC Article 110.12
		All conductors of the same circuit and, where used, the grounded conductor and all equipment grounding conductors and bonding conductors shall be contained within the same raceway, conduit body, auxiliary gutter, cable tray, cablebus assembly, trench, cable, or cord.	The conductors of the same circuit are not routed in the same raceway.	Minor	NEC Article 300.3(B)
		Conductors are properly sized for rated terminals.	Installed conductor size is not listed for use with this terminal lug.	Minor	NEC Article 110.3(B)
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Single conductor(s) are not connected correctly to the terminal or lug.	Minor	NEC Article 110.3(B) and 110.14(A)

		Task	Nonconformance Description	Defect Category	Reference
Feeder Tap Connection (continued)	Conductors (continued)	Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Grounded (neutral) conductor is properly identified.	Grounded conductor is not properly identified as white or gray.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7
	Conduit	The conduit is grounded (when required).	The conduit is not grounded.	Major	NEC Articles 250.4(A)(3) and 690.43
		Conduit below grade is installed with provisions for movement.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)
		Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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.	Circuit conduit or raceway lacks adequate support.	Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)
		Conduit thermal expansion fitting is properly installed to allow for movement.	Thermal expansion fitting not present on raceways and conduit to compensate for expansion and contraction.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		The service entrance Flexible Metal Conduit (FMC) or Liquid tight Flexible Metal Conduit (LFMC) shall not exceed 6 feet.	The service entrance FMC or LFMC conduit exceed 6 feet.	Minor	NEC Article 230.43(15)
		Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	Equipment must be sufficiently rated for expected voltage and/or current.	Equipment is insufficiently rated for expected voltage and/or current.	Critical	NEC Article 110.3(B)

		Task	Nonconformance Description	Defect Category	Reference
Feeder Tap Connection (continued)	Electrical (continued)	Feeders and Feeder Taps.Where the power source output connection is made to a feeder, the following shall apply: **(1)** The feeder ampacity is greater than or equal to 125 percent of the power-source output circuit current. **(2)** Where the power-source output connection is made at a location other than the opposite end of the feeder from the primary source overcurrent device, that portion of the feeder on the load side of the power source output connection shall be protected by one of the following: a. The feeder ampacity shall be not less than the sum of the rating of the primary source overcurrent device and 125 percent of the power-source output circuit current. b. An overcurrent device at the load side of the power source connection point shall be rated not greater than the ampacity of the feeder. **(3)** For taps sized in accordance with 240.21(B)(2) or (B)(4), the ampacity of taps conductors shall not be less than one-third of the sum of the rating of the overcurrent device protecting the feeder plus the ratings of any power source overcurrent devices connected to the feeder.	The Feeders and/ or Feeder Taps did not comply with NEC Article 705.12 (1), (2) or (3).	Major	NEC Article 705.12
		Equipment must be installed in accordance with its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard and/ or will result in a measurable shortfall in energy savings.	Major	NEC Article 110.3(B)
		AC Disconnect is present and readily accessible.	A PV disconnecting means is not in a readily accessible location.	Minor	NEC Article 690.13(A)
		Disconnect is properly wired to ensure that fuses can be de-energized for service.	Disconnect terminals are wired backwards, not in accordance with its listing and manufacturer instructions. Ensure supply and load side of disconnect 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.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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

		Task	Nonconformance Description	Defect Category	Reference
Feeder Tap Connection (continued)	Electrical (continued)	Equipment must be installed in accordance with its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance requires modifications to address but is not expected to pose a substantial risk of system failure or hazard.	Minor	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Unused openings are not closed or sealed.	Minor	NEC Articles 110.12(A) or 408.7
	Grounding	A metal underground water pipe shall be supplemented by an additional electrode.	The required supplemental grounding electrode is not present (water pipe primary).	Major	NEC Article 250.53(D)(2)
		Equipment is properly grounded.	Enclosure is not properly grounded using a listed grounding method. Enclosure must be grounded with equipment listed for the purpose and that is solidly connected to the enclosure body.	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43
		Grounded conductor(s) terminal lug is properly installed.	Ground hardware is not installed according to its listing.	Major	NEC Articles 110.3(B) and 250.4
		Grounding electrode conductor is properly bonded to the main premise grounding electrode system.	"The grounding electrode conductor (GEC) is not continuous or irreversibly spliced. Allowable means of splicing the GEC include compression crimp or exothermic welding processes."	Major	NEC Articles 250.64(C) and 690.47
		Grounding electrode conductor is sufficiently sized.	Grounding electrode conductor (GEC) is missing or undersized.	Major	NEC Articles 250.66 and 690.47
		Water pipe electrode supplemented by other electrode.	Water pipe electrode is not supplemented by other electrode.	Major	NEC Article 250.53(D)(2)
		When a metal water pipe is used as a grounding electrode, there must be a ground jumper present across water meter/filter.	No ground jumper is present across water meter/filter.	Major	NEC Article 250.53(D)(1)
		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.	Ferrous conduit and enclosures containing the grounding electrode conductor (GEC), when installed, are not electrically continuous or appropriately bonded to GEC.	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

		Task	Nonconformance Description	Defect Category	Reference
Feeder Tap Connection (continued)	Grounding (continued)	The ground rod (electrode) is protected from physical damage or is below/flush with the ground (8ft in contact with the soil).	The ground rod (electrode) is not protected from physical damage or is not below/flush with the ground (8ft in contact with the soil).	Minor	NEC Article 250.53(A)(4)
	Labeling	Entrances to rooms or other guarded locations that contain live parts shall be marked with conspicuous warning signs forbidding unqualified persons to enter.	Warning label identifying exposed live parts is missing, incomplete, or not suitable for the environment. Label: WARNING TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL	Incidental	NEC 110.21(B) and 110.27(C), OSHA1910.145(f)(7)
		Permanent plaques, labels, or directories shall be installed at each service equipment location, or at an approved readily visible location.	Permanent plaque or directory denoting location of all power sources and location of disconnects on premises at each service equipment location is missing, incomplete, or unsuitable for the environment.	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.	The manufacturer's labels are obscured.	Incidental	NEC Article 110.21
		The sum of the ampere ratings of all overcurrent devices on panelboards, 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.	WARNING: EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE SHALL NOT EXCEED AMPACITY OF BUSBAR.	Incidental	NEC Articles 110.21(B), 690.59 and 705.12(B)(3)
	Structural	Equipment is installed with the appropriate clearances.	Equipment is not mounted in accordance with its listing and manufacturer instructions. Battery manufacturer specifications for mounting must be followed.	Minor	NEC Articles 110.26 and 110.27(A)
Inverter	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/ or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)

		Task	Nonconformance Description	Defect Category	Reference
Inverter (continued)	Conductors (continued)	All conductors of the same circuit and, where used, the grounded conductor and all equipment grounding conductors and bonding conductors shall be contained within the same raceway, conduit body, auxiliary gutter, cable tray, cablebus assembly, trench, cable, or cord.	The conductors of the same circuit are not routed in the same raceway.	Minor	NEC Article 300.3(B)
		Conductors are properly sized for rated terminals.	Installed conductor size is not listed for use with this terminal lug.	Minor	NEC Article 110.3(B)
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Single conductor(s) are not connected correctly to the terminal or lug.	Minor	NEC Article 110.3(B) and 110.14(A)
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Grounded (neutral) conductor is properly identified.	Grounded conductor is not properly identified as white or gray.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7
	Conduit	Indoor DC source circuits are contained in metallic conduit or raceway.	DC source circuits are not contained in metallic conduit/ raceway when indoors.	Major	NEC Article 690.31(D)(1)
		The conduit is grounded (when required).	The conduit is not grounded.	Major	NEC Articles 250.4(A)(3) and 690.43
		Circuit conduit or raceway is properly supported and secured.	Circuit conduit or raceway lacks adequate support.	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.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)
		Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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 thermal expansion fitting is properly installed to allow for movement.	Thermal expansion fitting not present on raceways and conduit to compensate for expansion and contraction.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44

		Task	Nonconformance Description	Defect Category	Reference
Inverter (continued)	Conduit (continued)	Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	PV array maximum DC string voltage complies with inverter maximum input voltage rating.	DC input voltage exceeds inverter maximum input rating.	Critical	NEC Articles 110.3(B) and 690.7
		Equipment is suitable for environment.	Inverter is not suitable for environment or excessive moisture found in enclosure.	Major	NEC Articles 314.15 and 110.3(B)
		Equipment must be installed in accordance with its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard and/ or will result in a measurable shortfall in energy savings.	Major	NEC Article 110.3(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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 its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance requires modifications to address but is not expected to pose a substantial risk of system failure or hazard.	Minor	NEC Article 110.3(B)
		Input string voltage is suitable for inverter rated minimum operating voltage.	Input string voltage is below the manufacturer minimum input voltage rating of the inverter.	Minor	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Unused openings are not closed or sealed.	Minor	NEC Articles 110.12(A) or 408.7
	Grounding	Equipment grounding conductor is properly sized.	Equipment grounding conductor is undersized.	Major	NEC Articles 250.122 and 690.45

		Task	Nonconformance Description	Defect Category	Reference
Inverter (continued)	Grounding (continued)	Equipment is properly grounded.	Inverter is not properly grounded using a listed grounding method. Enclosure must be grounded with equipment listed for the purpose and that is solidly connected to the enclosure body.	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43
		Grounded conductor(s) terminal lug is properly installed.	Ground hardware is not installed according to its listing.	Major	NEC Articles 110.3(B) and 250.4
		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.	Ferrous conduit and enclosures containing the grounding electrode conductor (GEC), when installed, are not electrically continuous or appropriately bonded to GEC.	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
		Where not routed with circuit conductors, equipment grounding conductors smaller than #6 AWG shall be protected from physical damage.	Exposed equipment grounding conductor is smaller than #6AWG and is not protected from physical damage.	Minor	NEC Articles 250.120(C)
		Equipment grounding conductor is identified as bare, green, or green with continuous yellow stripe(s).	Equipment grounding conductor (EGC) is not properly identified as either bare, green, or green with continuous yellow stripe(s).	Incidental	NEC Article 250.119
	Labeling	A permanent readily visible label indicating the highest maximum dc voltage in a PV system, calculated in accordance with 690.7, shall be provided by the installer at one of the following locations: (1) DC PV system disconnecting means (2) PV system electronic power conversion equipment (3) Distribution equipment associated with the PV system.	DC power source information label is missing, incomplete, or unsuitable for the environment. Label: MAXIMUM VOLTAGE_____	Incidental	NEC Articles 110.21(B) and 690.7
		A rapid shutdown switch shall have a label located on or no more than 1 m (3 ft) from the switch that includes the following wording: RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM	"Rapid Shutdown label is missing, incomplete, or unsuitable for the environment. Label: RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM. The label shall be reflective, with all letters capitalized and having a minimum height of 9.5 mm (3⁄8 in.), in white on red background."	Incidental	NEC Article 110.21(B) and 690.12(D)(2)
		Each PV system disconnecting means shall be permanently marked as to identify it as a photovoltaic system disconnect.	PV disconnect label is missing, incomplete, or unsuitable for the environment. Label: PV SYSYEM DISCONNECT (or equivalent)	Incidental	NEC Articles 110.21(B) and 690.13(B)

		Task	Nonconformance Description	Defect Category	Reference
Inverter (continued)	Labeling (continued)	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.	The manufacturer's labels are obscured.	Incidental	NEC Article 110.21
	OCPD	Inverter string fuses are 600 or 1000 VDC rated as required.	Inverter string fuses are not rated for use in application.	Critical	NEC Articles 110.3(B) and 690.9(B)
		Inverter string fuse size matches module string series fuse rating.	Inverter string fuse size exceeds module series fuse rating.	Major	NEC Article 690.9(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.	Inverter is not mounted/ installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12
		Equipment is installed with the appropriate clearances.	Inverter is not properly guarded against accidental contact and/ or physical damage or does not have sufficient working clearances.	Minor	NEC Articles 110.26 and 110.27(A)
Junction Box	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		A grounded conductor shall not be connected to normally non-current-carrying metal parts of equipment, to equipment grounding conductor(s), or be reconnected to ground on the load side of the service disconnecting means.	The grounded conductor(s) (neutral) are connected to the ground terminal and/or bonded to the metal frame of the enclosure.	Major	NEC Article 250.24(B)
		Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/ or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		In exposed work, conductors are protected from abrasion or any other physical damage.	Conductors are not adequately protected from abrasion or any other physical damage.	Major	NEC Article 110.12
		Splice components are rated for environment.	Splice components (e.g., wire nuts) are not rated for environment. Where raceways are installed in wet locations above grade, the interior of these raceways shall be considered to be a wet location. Insulated conductors and cables installed in raceways in wet locations above grade shall comply with 310.10(C).	Major	NEC Articles 110.3(B), 110.11, and 110.14
		Splices and connections are secure and of high integrity.	Splices/connections are not secure.	Major	NEC Article 110.14

		Task	Nonconformance Description	Defect Category	Reference
Junction Box (continued)	Conductors (continued)	Circuit conductors are properly supported and secured.	Circuit conductors are sagging and/or not supported and secured.	Minor	NEC Article 110.12
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		The length of the free conductors within the enclosure shall meet or exceed 6" requirement.	The length of the free conductors within the enclosure does not meet or exceed 6" requirement.	Minor	NEC Article 300.14
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Grounded (neutral) conductor is properly identified.	Grounded conductor is not properly identified as white or gray.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7
	Conduit	Indoor DC source circuits are contained in metallic conduit or raceway.	DC source circuits are not contained in metallic conduit/ raceway when indoors.	Major	NEC Article 690.31(D)(1)
		The conduit is grounded (when required).	The conduit is not grounded.	Major	NEC Articles 250.4(A)(3) and 690.43
		Circuit conduit or raceway is properly supported and secured.	Circuit conduit or raceway lacks adequate support.	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.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)
		Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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 thermal expansion fitting is properly installed to allow for movement.	Thermal expansion fitting not present on raceways and conduit to compensate for expansion and contraction.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)

		Task	Nonconformance Description	Defect Category	Reference
Junction Box (continued)	Conduit (continued)	Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	Equipment is suitable for environment.	Junction box is not suitable for environment or excessive moisture found in enclosure.	Major	NEC Articles 314.15 and 110.3(B)
		Equipment must be installed in accordance with its listing and manufacturer's instructions.	Junction box is not installed in accordance with its listing and manufacturer instructions. This non-conformance presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard and/ or will result in a measurable shortfall in energy savings.	Major	NEC Article 110.3(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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 its listing and manufacturer's instructions.	Junction box is not installed in accordance with its listing and manufacturer instructions. This non-conformance requires modifications to address but is not expected to pose a substantial risk of system failure or hazard.	Minor	NEC Article 110.3(B)
		Junction box must be accessible.	Junction box is not accessible.	Minor	NEC Article 690.34
		Unused openings of electrical equipment shall be properly sealed.	Unused openings are not closed or sealed.	Minor	NEC Articles 110.12(A) or 408.7
	Grounding	Equipment grounding conductor is properly sized.	Equipment grounding conductor is undersized.	Major	NEC Articles 250.122 and 690.45
		Equipment is properly grounded.	Junction box is not properly grounded using a listed grounding method. Enclosure must be grounded with equipment listed for the purpose and that is solidly connected to the enclosure body.	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43

		Task	Nonconformance Description	Defect Category	Reference
Junction Box (continued)	Grounding (continued)	Grounded conductor(s) terminal lug is properly installed.	Ground hardware is not installed according to its listing.	Major	NEC Articles 110.3(B) and 250.4
		Grounding electrode conductor is continuous.	The grounding electrode conductor (GEC) is not continuous or irreversibly spliced. Allowable means of splicing the GEC include compression crimp or exothermic welding processes.	Major	NEC Articles 250.64(C) and 690.47
		Grounding electrode conductor is sufficiently sized.	Grounding electrode conductor (GEC) is missing or undersized.	Major	NEC Articles 250.66 and 690.47
		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.	Ferrous conduit and enclosures containing the grounding electrode conductor (GEC), when installed, are not electrically continuous or appropriately bonded to GEC.	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
		Where not routed with circuit conductors, equipment grounding conductors smaller than #6 AWG shall be protected from physical damage.	Exposed equipment grounding conductor is smaller than #6AWG and is not protected from physical damage.	Minor	NEC Articles 250.120(C)
		Equipment grounding conductor is identified as bare, green, or green with continuous yellow stripe(s).	Equipment grounding conductor (EGC) is not properly identified as either bare, green, or green with continuous yellow stripe(s).	Incidental	NEC Article 250.119
	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.	The manufacturer's labels are obscured.	Incidental	NEC Article 110.21
		Where all terminals of the disconnecting means may be energized in the open position, a warning label shall be mounted on or adjacent to the disconnecting means.	Disconnect Switch warning label is missing, incomplete, or not suitable for the environment. Label: WARNING ELECTRIC SHOCK HAZARD. TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.	Incidental	NEC Articles 110.21(B) and 690.13(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.	Junction box is not mounted/ installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12

		Task	Nonconformance Description	Defect Category	Reference
Junction Box (continued)	Structural (continued)	Roof penetrations are properly sealed and flashed.	Roof penetrations are not properly sealed and flashed to prevent moisture from entering rooftop per roof manufacturer instructions.	Major	IBC Section 1503.2, IPC 903, and NEC Article 110.3(B)
		Equipment is installed with the appropriate clearances.	Junction box is not properly guarded against accidental contact and/or physical damage or does not have sufficient working clearances.	Minor	NEC Articles 110.26 and 110.27(A)
Load Side Connection	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/ or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		If an ac system operating at 1000 volts or less is grounded at any point, the 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. A main bonding jumper shall connect the grounded conductor(s) to each service disconnecting means enclosure. The grounded conductor(s) shall be installed in accordance with 250.24(D)(1) through (D)(4).	Grounded (neutral) conductor is not routed with the ungrounded conductors and/ or properly bonded to PV service disconnect enclosure using a listed grounding bus or terminal, or the grounded conductors are not properly bonded to the Grounding Electrode Conductor (GEC).	Major	NEC Article 250.24(D)
		In exposed work, conductors are protected from abrasion or any other physical damage.	Conductors are not adequately protected from abrasion or any other physical damage.	Major	NEC Article 110.12
		All conductors of the same circuit and, where used, the grounded conductor and all equipment grounding conductors and bonding conductors shall be contained within the same raceway, conduit body, auxiliary gutter, cable tray, cablebus assembly, trench, cable, or cord.	The conductors of the same circuit are not routed in the same raceway.	Minor	NEC Article 300.3(B)
		Conductors are properly sized for rated terminals.	Installed conductor size is not listed for use with this terminal lug.	Minor	NEC Article 110.3(B)
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Single conductor(s) are not connected correctly to the terminal or lug.	Minor	NEC Article 110.3(B) and 110.14(A)

		Task	Nonconformance Description	Defect Category	Reference
Load Side Connection (continued)	Conductors (continued)	Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Grounded (neutral) conductor is properly identified.	Grounded conductor is not properly identified as white or gray.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7
	Conduit	Circuit conduit or raceway is properly supported and secured.	Circuit conduit or raceway lacks adequate support.	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.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)
		Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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 thermal expansion fitting is properly installed to allow for movement.	Thermal expansion fitting not present on raceways and conduit to compensate for expansion and contraction.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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.	Unused openings are not closed or sealed.	Minor	NEC Articles 110.12(A) or 408.7

		Task	Nonconformance Description	Defect Category	Reference
Load Side Connection (continued)	Grounding	A metal underground water pipe shall be supplemented by an additional electrode.	The required supplemental grounding electrode is not present (water pipe primary).	Major	NEC Article 250.53(D)(2)
		Equipment is properly grounded.	Equipment is not bonded to an equipment grounding conductor (EGC).	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43
		Grounded conductor(s) terminal lug is properly installed.	Ground hardware is not installed according to its listing.	Major	NEC Articles 110.3(B) and 250.4
		Water pipe electrode supplemented by other electrode.	Water pipe electrode is not supplemented by other electrode.	Major	NEC Article 250.53(D)(2)
		When a metal water pipe is used as a grounding electrode, there must be a ground jumper present across water meter/filter.	No ground jumper is 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).	The ground rod (electrode) is not protected from physical damage or is not below/flush with the ground (8ft in contact with the soil).	Minor	NEC Article 250.53(A)(4)
	Labeling	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.	PV circuit breaker(s) is/ are not identified.	Incidental	NEC Articles 110.21(B) and 408.4(A)
		Permanent plaques, labels, or directories shall be installed at each service equipment location, or at an approved readily visible location.	Permanent plaque or directory denoting location of all power sources and location of disconnects on premises at each service equipment location is missing, incomplete, or unsuitable for the environment.	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.	The manufacturer's labels are obscured.	Incidental	NEC Article 110.21
		The sum of the ampere ratings of all overcurrent devices on panelboards, 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.	WARNING: EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE SHALL NOT EXCEED AMPACITY OF BUSBAR.	Incidental	NEC Articles 110.21(B), 690.59 and 705.12(B)(3)

		Task	Nonconformance Description	Defect Category	Reference
Load Side Connection (continued)	Labeling (continued)	Where two sources, one a primary power source and the other another power source, are located at opposite ends of a busbar that contains loads, a permanent warning label shall be applied to the distribution equipment adjacent to the back-fed breaker from the inverter.	PV Backfed breaker PV disconnect label is missing, incomplete, or unsuitable for the environment. WARNING POWER SOURCE OUTPUT . DO NOT RELOCATE THIS OVERCURRENT DEVICE.	Incidental	NEC Articles 110.21(B), 408.4(A) and 705.12 (B)(2)
Load Side Connection	OCPD	Inverter-interactive output circuit load side connection overcurrent protective device must be properly sized.	Inverter(s) output exceeds the sum of 125% of the inverter(s) output circuit and the rating of the OCPD exceeds 120% of the busbar ampacity rating.	Critical	NEC Article 705.12(B)(4)
		Main panel overcurrent protection is sufficient.	Overcurrent protection is not correctly sized to protect circuit conductors.	Critical	NEC Article 240.4
		Circuit Breaker shall be installed and used in accordance with any instruction included in the listing or labeling.	Circuit Breaker is not installed and used in accordance with any instruction included in the listing or labeling.	Major	NEC Article 110.3(B)
		Load Side connection of a utility-interactive output circuit must be properly located at the point of connection.	Inverter(s) output is not located on the opposite end of the busbar from the utility feed termination.	Major	NEC Article 705.12(B)(4)
		The AC OCPD is properly sized for the expected output current of the PV system.	The AC OCPD is not properly sized for the expected output current of the PV system.	Major	NEC Article 240.4
		Back-fed plug in devices shall be secured in place by additional fastener.	Back-fed plug in overcurrent protection devices shall be secured in place by additional fastener.	Minor	NEC Article 408.36(D)
	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.	Equipment is not mounted/ installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12
		Equipment is installed with the appropriate clearances.	Equipment is not properly guarded against accidental contact and/or physical damage or does not have sufficient working clearances.	Minor	NEC Articles 110.26 and 110.27(A)
Production Meter	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		A grounded conductor shall not be connected to normally non-current-carrying metal parts of equipment, to equipment grounding conductor(s), or be reconnected to ground on the load side of the service disconnecting means.	The grounded conductor(s) (neutral) are connected to the ground terminal and/or bonded to the metal frame of the enclosure.	Major	NEC Article 250.24(B)

		Task	Nonconformance Description	Defect Category	Reference
Production Meter	Conductors	Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		Conductors are properly sized for rated terminals.	Installed conductor size is not listed for use with this terminal lug.	Minor	NEC Article 110.3(B)
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Single conductor(s) are not connected correctly to the terminal or lug.	Minor	NEC Article 110.3(B) and 110.14(A)
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Grounded (neutral) conductor is properly identified.	Grounded conductor is not properly identified as white or gray.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7
	Conduit	The conduit is grounded (when required).	The conduit is not grounded.	Major	NEC Articles 250.4(A)(3) and 690.43
		Circuit conduit or raceway is properly supported and secured.	Circuit conduit or raceway lacks adequate support.	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.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)
		Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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 thermal expansion fitting is properly installed to allow for movement.	Thermal expansion fitting not present on raceways and conduit to compensate for expansion and contraction.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)

		Task	Nonconformance Description	Defect Category	Reference
Production Meter (continued)	Conduit (continued)	Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	Equipment must be sufficiently rated for expected voltage and/or current.	Meter and/ or the enclosure is insufficiently rated for expected voltage and/or current.	Critical	NEC Article 110.3(B)
		Equipment is suitable for environment.	Meter and/ or the enclosure is not suitable for environment or excessive moisture found in enclosure.	Major	NEC Articles 314.15 and 110.3(B)
		Equipment must be installed in accordance with its listing and manufacturer's instructions.	Meter and/ or the enclosure is not installed in accordance with its listing and manufacturer instructions. This non-conformance presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard and/ or will result in a measurable shortfall in energy savings.	Major	NEC Article 110.3(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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 its listing and manufacturer's instructions.	Meter and/ or the enclosure is not installed in accordance with its listing and manufacturer instructions. This non-conformance requires modifications to address but is not expected to pose a substantial risk of system failure or hazard.	Minor	NEC Article 110.3(B)
	Grounding	Equipment is properly grounded.	Meter enclosure is not bonded to an equipment grounding conductor (EGC).	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43
		Grounding electrode conductor is continuous.	The grounding electrode conductor (GEC) is not continuous or irreversibly spliced. Allowable means of splicing the GEC include compression crimp or exothermic welding processes.	Major	NEC Articles 250.64(C) and 690.47

		Task	Nonconformance Description	Defect Category	Reference
Production Meter (continued)	Grounding (continued)	Grounding electrode conductor is sufficiently sized.	Grounding electrode conductor (GEC) is missing or undersized.	Major	NEC Articles 250.66, and 690.47
		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.	Ferrous conduit and enclosures containing the grounding electrode conductor (GEC), when installed, are not electrically continuous or appropriately bonded to GEC.	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
	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.	Meter enclosure is not mounted/ installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12
		Equipment is installed with the appropriate clearances.	Meter enclosure is not properly guarded against accidental contact and/or physical damage or does not have sufficient working clearances.	Minor	NEC Articles 110.26 and 110.27(A)
Source Connection	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/ or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		If an ac system operating at 1000 volts or less is grounded at any point, the 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. A main bonding jumper shall connect the grounded conductor(s) to each service disconnecting means enclosure. The grounded conductor(s) shall be installed in accordance with 250.24(D)(1) through (D)(4).	Grounded (neutral) conductor is not routed with the ungrounded conductors and/ or properly bonded to PV service disconnect enclosure using a listed grounding bus or terminal, or the grounded conductors are not properly bonded to the Grounding Electrode Conductor (GEC).	Major	NEC Article 250.24(D)
		In exposed work, conductors are protected from abrasion or any other physical damage.	Conductors are not adequately protected from abrasion or any other physical damage.	Major	NEC Article 110.12
		Service entrance conductors are properly spliced.	Service Entrance conductor splices (Taps) are not installed in accordance with its listing.	Major	NEC Articles 110.14(B) and 230.46
		The service conductors connected to the power production source service disconnecting means shall be sized in accordance with 705.28 and not be smaller than 6 AWG copper or 4 AWG aluminum or copper-clad aluminum.	Service entrance conductors not are not sized in accordance with 705.28.	Major	NEC Article 705.11(B)

		Task	Nonconformance Description	Defect Category	Reference
Source Connection (continued)	Conductors (continued)	Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Single conductor(s) are not connected correctly to the terminal or lug.	Minor	NEC Article 110.3(B) and 110.14(A)
		Grounded (neutral) conductor is properly identified.	Grounded conductor is not properly identified as white or gray.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7
	Conduit	The conduit is grounded (when required).	The conduit is not grounded.	Major	NEC Articles 250.4(A)(3) and 690.43
		Circuit conduit or raceway is properly supported and secured.	Circuit conduit or raceway lacks adequate support.	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.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)
		Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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)
		The service entrance Flexible Metal Conduit (FMC) or Liquid tight Flexible Metal Conduit (LFMC) shall not exceed 6 feet.	The service entrance FMC or LFMC conduit exceed 6 feet.	Minor	NEC Article 230.43(15)
		Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	A disconnecting means in accordance with Parts VI through VII of Article 230 shall be provided to disconnect all ungrounded conductors of a power production source from the conductors of other systems.	A Service Disconnect is not present or does not disconnect all ungrounded conductors of a power production source from the conductors of other systems.	Major	NEC Article 705.11(D)

		Task	Nonconformance Description	Defect Category	Reference
Source Connection (continued)	Electrical (continued)	Equipment must be installed in accordance with its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard and/ or will result in a measurable shortfall in energy savings.	Major	NEC Article 110.3(B)
		Service disconnect is properly rated for the application.	Disconnect is incorrectly rated for service entrance use and/or does not have a minimum current rating of 60A.	Major	NEC Article 230.79(D)
		The PV system disconnecting means shall simultaneously disconnect the PV system conductors that are not solidly grounded from all conductors of other wiring systems.	The PV disconnect does not simultaneously disconnect the PV system conductors that are not solidly grounded from all conductors of other wiring systems.	Major	NEC Article 690.13(E)
		AC Disconnect is present and readily accessible.	A PV disconnecting means is not in a readily accessible location.	Minor	NEC Article 690.13(A)
		Disconnect is properly wired to ensure that fuses can be de-energized for service.	Disconnect terminals are wired backwards, not in accordance with its listing and manufacturer instructions. Ensure supply and load side of disconnect 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.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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 its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance requires modifications to address but is not expected to pose a substantial risk of system failure or hazard.	Minor	NEC Article 110.3(B)
		Service Disconnects are properly grouped.	Service Disconnects are not properly grouped together.	Minor	NEC Article 230.72
		Unused openings of electrical equipment shall be properly sealed.	Unused openings are not closed or sealed.	Minor	NEC Articles 110.12(A) or 408.7

		Task	Nonconformance Description	Defect Category	Reference
Source Connection (continued)	Grounding	A metal underground water pipe shall be supplemented by an additional electrode.	The required supplemental grounding electrode is not present (water pipe primary).	Major	NEC Article 250.53(D)(2)
		All metal enclosures, metal wiring methods, and metal parts associated with the service connected to a power production source shall be bonded in accordance with Parts II through V and VIII of Article 250.	Ground hardware is not present or installed according to its listing.	Major	NEC Articles 110.3(B), 705.11(E) and 250.4
		Equipment is properly grounded.	Disconnect is not properly grounded using a listed grounding method. Enclosure must be grounded with equipment listed for the purpose and that is solidly connected to the enclosure body.	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43
		Grounding electrode conductor is properly bonded to the main premise grounding electrode system.	The grounding electrode conductor (GEC) is not continuous or irreversibly spliced. Allowable means of splicing the GEC include compression crimp or exothermic welding processes.	Major	NEC Articles 250.64(C) and 690.47
		Grounding electrode conductor is sufficiently sized.	Grounding electrode conductor (GEC) is missing or undersized.	Major	NEC Articles 250.66, and 690.47
		Water pipe electrode supplemented by other electrode.	Water pipe electrode is not supplemented by other electrode.	Major	NEC Article 250.53(D)(2)
		When a metal water pipe is used as a grounding electrode, there must be a ground jumper present across water meter/filter.	No ground jumper is present across water meter/filter.	Major	NEC Article 250.53(D)(1)
		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.	Ferrous conduit and enclosures containing the grounding electrode conductor (GEC), when installed, are not electrically continuous or appropriately bonded to GEC.	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
		The ground rod (electrode) is protected from physical damage or is below/flush with the ground. (8ft in contact with the soil).	The ground rod (electrode) is not protected from physical damage or is not below/flush with the ground (8ft in contact with the soil).	Minor	NEC Article 250.53(A)(4)
	Labeling	Permanent plaques, labels, or directories shall be installed at each service equipment location, or at an approved readily visible location.	Permanent plaque or directory denoting location of all power sources and location of disconnects on premises at each service equipment location is missing, incomplete, or unsuitable for the environment.	Incidental	NEC Article 110.21(B), and 705.10

		Task	Nonconformance Description	Defect Category	Reference
Source Connection (continued)	Labeling (continued)	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.	The manufacturer's labels are obscured.	Incidental	NEC Article 110.21
	OCPD	The service overcurrent device shall be an integral part of the service disconnecting means or shall be located immediately adjacent thereto.	The OCPD is missing, improperly installed or improperly located.	Critical	NEC Articles 230.91 and/ or 110.3(B)
		Equipment intended to interrupt current at fault levels shall have an interrupting rating at nominal circuit voltage at least equal to the available fault current at the line terminals of the equipment.	The Service Disconnect interrupt current fault level is not equal to or greater than the available fault current at the line terminals of the main service equipment.	Major	NEC Articles 110.9, 110.10 and 230.82(6)
		Fused AC Disconnect shall be installed and used in accordance with any instruction included in the listing or labeling and Fuses are present.	Fused AC Disconnect is not mounted/ installed in accordance with its listing and manufacturer instructions, and/ or fuses are not present.	Major	NEC Article 110.3(B)
		Fuses are present and installed in accordance with any instruction included in the listing or labeling.	Fuses are not installed and used in accordance with any instruction included in the listing or labeling.	Major	NEC Article 110.3(B)
		No overcurrent device shall be connected in series with any conductor that is intentionally grounded, unless the overcurrent device opens all conductors of the circuit, including the grounded conductor, and is designed so that no pole can operate independently.	Grounded conductors are fused.	Major	NEC Articles 240.22
		The AC OCPD is properly sized for the expected output current of the PV system.	The AC OCPD is not properly sized for the expected output current of the PV system.	Major	NEC Article 240.4
	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.	Disconnect is not mounted/ installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12
		Equipment is installed with the appropriate clearances.	Disconnect is not properly guarded against accidental contact and/or physical damage or does not have sufficient working clearances.	Minor	NEC Articles 110.26 and 110.27(A)

		Task	Nonconformance Description	Defect Category	Reference
Subpanel	Conductors	Conductors are appropriately sized for expected current.	Conductors are undersized for expected current.	Critical	NEC Article 310.15 and/ or 690.8(B)
		A grounded conductor shall not be connected to normally non-current-carrying metal parts of equipment, to equipment grounding conductor(s), or be reconnected to ground on the load side of the service disconnecting means.	The grounded conductor(s) (neutral) are connected to the ground terminal and/or bonded to the metal frame of the enclosure.	Major	NEC Article 250.24(B)
		Conductor insulation type is properly rated for temperature and environmental conditions.	Conductor insulation type is not rated for environment (e.g., USE-2, THWN-2, THW-2, RHW-2) and/ or applicable temperatures.	Major	NEC Articles 300.9, 310.10, 310.15(A)(3) and 334.12(B)(4)
		In exposed work, conductors are protected from abrasion or any other physical damage.	Conductors are not adequately protected from abrasion or any other physical damage.	Major	NEC Article 110.12
		All conductors of the same circuit and, where used, the grounded conductor and all equipment grounding conductors and bonding conductors shall be contained within the same raceway, conduit body, auxiliary gutter, cable tray, cablebus assembly, trench, cable, or cord.	The conductors of the same circuit are not routed in the same raceway.	Minor	NEC Article 300.3(B)
		Conductors are properly sized for rated terminals.	Installed conductor size is not listed for use with this terminal lug.	Minor	NEC Article 110.3(B)
		Conductors shall be properly and firmly supported in a safe and permanent manner.	Conductors are not properly and firmly supported in a safe and permanent manner.	Minor	NEC Article 110.12
		Single conductor(s) connected correctly to the terminal or lug in accordance with its listing.	Single conductor(s) are not connected correctly to the terminal or lug.	Minor	NEC Article 110.3(B) and 110.14(A)
		Wire cannot be bent at a tighter radius than 5x the diameter of the conductor.	Conductors are bent too tightly and cannot be installed with a bend radius less than 5 times the conductor diameter.	Minor	NEC Article 334.24, 338.24
		Grounded (neutral) conductor is properly identified.	Grounded conductor is not properly identified as white or gray.	Incidental	NEC Article 200.6(A)&(B)
		Ungrounded conductor(s) are properly identified.	Ungrounded conductor cannot be marked using white, gray, or white striped conductors to avoid confusion with grounded conductor markings.	Incidental	NEC Article 200.7
	Conduit	The conduit is grounded (when required).	The conduit is not grounded.	Major	NEC Articles 250.4(A)(3) and 690.43
		Circuit conduit or raceway is properly supported and secured.	Circuit conduit or raceway lacks adequate support.	Minor	NEC Articles (LFMC-350.30, PVC-352.30, EMT-358.30, Metal Trough-376.30)

		Task	Nonconformance Description	Defect Category	Reference
Subpanel (continued)	Conduit (continued)	Conduit below grade is installed with provisions for movement.	Conduit below grade is not installed with provisions for movement (e.g., frost sleeve) due to settlement and frost heaving.	Minor	NEC Article 300.5(J)
		Conduit fittings and connectors are designed and listed for this use.	Conduit fittings and connectors are not designed or 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 thermal expansion fitting is properly installed to allow for movement.	Thermal expansion fitting not present on raceways and conduit to compensate for expansion and contraction.	Minor	NEC Articles 300.7(B), 352.44 and tables 352.44 and 355.44
		Conduit does not meet the conditions to be used as conductor support.	Conduit was used as conductor support.	Incidental	NEC Article 300.11(C)
		Conduit penetrations internally sealed to prevent condensation between conditioned and unconditioned environment.	Conduit is missing an approved internal sealant at penetrations between conditioned and unconditioned spaces to prevent condensation.	Incidental	NEC Article 300.7(A)
	Electrical	Equipment must be sufficiently rated for expected voltage and/or current.	Subpanel is insufficiently rated for expected voltage and/or current.	Critical	NEC Article 110.3(B)
		Equipment is suitable for environment.	Subpanel is not suitable for environment or excessive moisture found in enclosure.	Major	NEC Articles 314.15 and 110.3(B)
		Equipment must be installed in accordance with its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard and/ or will result in a measurable shortfall in energy savings.	Major	NEC Article 110.3(B)
		A Ground Fault Circuit Interrupting (GFCI) Wet Rated (WR) receptacle is required to be installed in a wet/ damp location.	GFCI-WR is not installed where required.	Minor	NEC Articles 110.3(B), 210.8(A)(3) and 406.9(B)
		Dissimilar metals must not be in contact and prevented from undergoing galvanic reaction.	Electrochemically dissimilar metals are in direct physical contact, which may lead to a 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

		Task	Nonconformance Description	Defect Category	Reference
Subpanel (continued)	Electrical (continued)	Equipment must be installed in accordance with its listing and manufacturer's instructions.	Equipment is not installed in accordance with its listing and manufacturer instructions. This non-conformance requires modifications to address but is not expected to pose a substantial risk of system failure or hazard.	Minor	NEC Article 110.3(B)
		Unused openings of electrical equipment shall be properly sealed.	Unused openings are not closed or sealed.	Minor	NEC Articles 110.12(A) or 408.7
	Grounding	Equipment is properly grounded.	Subpanel is not properly grounded using a listed grounding method. Enclosure must be grounded with equipment listed for the purpose and that is solidly connected to the enclosure body.	Major	NEC Articles 250.4, 250.8, 250.12 and 690.43
		Grounded conductor(s) terminal lug is properly installed.	Ground hardware is not installed according to its listing.	Major	NEC Articles 110.3(B) and 250.4
	Labeling	Each PV system disconnecting means shall be permanently marked as to identify it as a photovoltaic system disconnect.	PV disconnect label is missing, incomplete, or unsuitable for the environment. Label: PV SYSYEM DISCONNECT (or equivalent)	Incidental	NEC Articles 110.21(B) and 690.13(B)
		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.	PV circuit breaker(s) is/ are not identified.	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.	The manufacturer's labels are obscured.	Incidental	NEC Article 110.21
		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.	AC Combiner warning label indicating presence of multiple power sources is missing, incomplete, or not suitable for environment. Label: WARNING THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN OVERCURRENT DEVICE, SHALL NOT EXCEED AMPACITY OF BUSBAR	Incidental	NEC Articles 110.21(B) and 705.12(B)(3)

		Task	Nonconformance Description	Defect Category	Reference
Subpanel (continued)	Labeling (continued)	The sum of the ampere ratings of all overcurrent devices on panelboards, 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.	WARNING: EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE SHALL NOT EXCEED AMPACITY OF BUSBAR.	Incidental	NEC Articles 110.21(B), 690.59 and 705.12(B)(3)
	OCPD	Circuit Breaker shall be installed and used in accordance with any instruction included in the listing or labeling.	Circuit Breaker is not installed and used in accordance with any instruction included in the listing or labeling.	Major	NEC Article 110.3(B)
		The AC OCPD is properly sized for the expected output current of the PV system.	The AC OCPD is not properly sized for the expected output current of the PV system.	Major	NEC Article 240.4
	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.	Subpanel is not mounted/ installed in accordance with its listing and manufacturer instructions.	Major	NEC Articles 110.3(B), 110.12
		Equipment is installed with the appropriate clearances.	Subpanel is not properly guarded against accidental contact and/or physical damage or does not have sufficient working clearances.	Minor	NEC Articles 110.26 and 110.27(A)