WAC 296-403A-230 Electrical requirements for amusement rides and amusement structures. (1) Electrical distribution system. Service equipment, separately derived systems, feeders and circuits for each amusement ride, amusement structure or concession must comply with all applicable requirements of the National Electrical Code and chapter 296-46A WAC, as amended.

(2) Flexible multiconductor cords must be connected to equipment by approved connectors designed for the purpose or by listed cord caps. Individual conductors of multiconductor cords in sizes #2 AWG and larger are permitted to be connected by listed and labeled connection systems in accordance with Article 520-53(k) of the National Electrical Code. Where conductors are connected individually by such connection systems, the outer jacket of multiconductor cord must be secured to the electrical equipment independent from the receptacles and plugs by approved cable grips that are installed in a manner to prevent pressure from being applied to the receptacles and plugs.

(3) Individual, single conductor, insulated, portable power cable, in addition to complying with Section 525-13 of the National Electrical Code, must comply with the following:

(a) All conductors of the feeder or circuit including the equipment grounding conductor must originate in the same electrical equipment and terminate in the same equipment.

(b) All conductors of the feeder or circuit including the ungrounded, grounded, and equipment grounding conductors must run together, except for portions installed within approved cable protection systems.

(c) The cables must be secured to the electrical equipment independent from the cable receptacles and plugs by approved cable grips that prevent pressure from being applied to the connectors.

(d) The cables must be connected to electrical equipment by approved listed and labeled connection systems in compliance with Section 520-53(k) of the National Electrical Code.

(4) Disconnecting means. A separate, enclosed, externally operable fused switch or circuit breaker must be installed on each amusement ride, structure or concession to disconnect all electrical equipment. The disconnecting means must be readily accessible and identified as the disconnecting means. The disconnecting means is not required to be readily accessible when a disconnecting means meeting the requirements of NEC 525-30 is also installed. Where more than one power supply is employed, the disconnecting means must be grouped.

(5) Rotating equipment. Components of amusement rides or structures that rotate more than three hundred sixty degrees and which have electrically operated equipment, must be supplied by approved collector rings that are totally enclosed or located so they are accessible to authorized personnel only. The collector rings must be factory produced with an equipment grounding segment having a voltage and current rating that equals or exceeds the rating of the current carrying segments. Collector rings must have an ampacity not less than one hundred twenty-five percent of the full-load current of the largest device served plus the full-load current of all other devices served. Collector rings for control and signal purposes must have an ampacity not less than one hundred twenty-five percent of the full-load current of the largest device served plus the full-load current of all other devices served.

(6) Equipment grounding. All noncurrent carrying metal parts of amusement rides and structures must be grounded by an equipment grounding conductor routed with the feeder or circuit conductors in

accordance with the National Electrical Code and these rules. The metallic structure must not be used as a current carrying conductor.

EXCEPTION: The metallic structure is permitted to be used as the return path for low voltage systems that do not exceed thirty volts, provided that the ungrounded conductors are protected by an overcurrent device in accordance with the National Electrical Code and the system is factory built for such use.

(7) Existing concessions or games electrical systems must comply with the National Electrical Code and must be maintained in full compliance with codes and standards in effect at the time they were manufactured. When new concessions or games are purchased, manufactured or constructed, or where existing concessions or games have major modification, the electrical system must comply with this chapter and the edition of the National Electrical Code in effect at the time. All concessions and games must be identified in or on the disconnecting means and in records furnished to the department with the edition of the National Electrical Code the electrical system is intended to comply with, or be certified and labeled by the department as a factory assembled structure.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. WSR 02-21-103, § 296-403A-230, filed 10/22/02, effective 11/22/02.]