1. The authority citation for part 393 continues to read as follows:
Authority: Section 1041(b) of Pub. L. 102–240, 105 Stat. 1914; 49 U.S.C. 31136 and 31502; and 49 CFR 1.73.
_ 2. Amend § 393.5 by adding definitions of ‘‘crib-type trailer,’’ and ‘‘metal coil’’ in alphabetical order to read as follows:

§ 393.5 Definitions.
* * * * *
Crib-type log trailer means a trailer equipped with stakes, bunks, a front-end structure, and a rear structure to restrain logs. The stakes prevent movement of the logs from side to side on the vehicle while the front-end and rear structures prevent movement of the logs from front to back on the vehicle.
* * * * *
Longwood means all logs, including utility poles, that are not shortwood, i.e., that are over 4.9 m (16 feet) long. Such logs are usually described as long logs or treelength.

Metal coil means an article of cargo comprised of elements, mixtures, compounds, or alloys commonly known as metal, metal foil, metal leaf, forged metal, stamped metal, metal wire, metal rod, or metal chain that are packaged as a roll, coil, spool, wind, or wrap, including plastic or rubber coated electrical wire and communications cable.
* * * * *
_ 3. Amend § 393.7 by revising paragraph (b)(19) to read as follows:
§ 393.7 Matters Incorporated by reference.
* * * * *
(b) * * *
(19) Welded Steel Chain Specifications, National Association of Chain Manufacturers, September 28, 2005, incorporation by reference approved for § 393.104(e).
* * * * *
_ 4. Revise § 393.102 to read as follows:
§ 393.102 What are the minimum performance criteria for cargo securement devices and systems?
(a) *Performance criteria—*
(1) *Breaking Strength.* Tiedown assemblies (including chains, wire rope, steel strapping, synthetic webbing, and cordage) and other attachment or fastening devices used to secure articles of cargo to, or in, commercial motor vehicles must be designed, installed, and maintained to ensure that the maximum forces acting on the devices or systems do not exceed the manufacturer’s breaking strength rating under the following conditions, applied separately:
(i) 0.8 g deceleration in the forward direction;
(ii) 0.5 g acceleration in the rearward direction; and
(iii) 0.5 g acceleration in a lateral direction.
(2) *Working Load Limit.* Tiedown assemblies (including chains, wire rope, steel strapping, synthetic webbing, and cordage) and other attachment or fastening

devices used to secure articles of cargo to, or in, commercial motor vehicles must be designed, installed, and maintained to ensure that the forces acting on the devices or systems do not exceed the working load limit for the devices under the following conditions, applied separately:
(i) 0.435 g deceleration in the forward direction;
(ii) 0.5 g acceleration in the rearward direction; and
(iii) 0.25 g acceleration in a lateral direction.
(b) *Performance criteria for devices to prevent vertical movement of loads that are not contained within the structure of the vehicle.* Securement systems must provide a downward force equivalent to at least 20 percent of the weight of the article of cargo if the article is not fully contained within the structure of the vehicle. If the article is fully contained within the structure of the vehicle, it may be secured in accordance with Sec. 393.106(b).
(c) *Equivalent means of securement.*
The means of securing articles of cargo are considered to meet the performance requirements of this section if the cargo is '
(1) Immobilized, such so that it cannot shift or tip to the extent that the vehicle's stability or maneuverability is adversely affected; or
(2) Transported in a sided vehicle that has walls of adequate strength, such that each article of cargo within the vehicle is in contact with, or sufficiently close to a wall or other articles, so that it cannot shift or tip to the extent that the vehicle's stability or maneuverability is adversely affected; or
(3) Secured in accordance with the applicable requirements of §§ 393.104 through 393.136.

_ 5. Amend § 393.104 as follows:
_ a. By revising paragraphs (b) and (c);
_ b. By removing the words ''November 15, 1999'' and adding the words ''dated September 28, 2005'' in their place in paragraph (e) (2) table;
_ c. By removing paragraph (f)(4); and _ d. By redesignating paragraph (f)(5) as paragraph (f)(4).
The revisions read as follows:
§ 393.104 What standards must cargo securement devices and systems meet in order to satisfy the requirements of this subpart?
* * * * *
(b) *Prohibition on the use of damaged securement devices.* All tiedowns, cargo securement systems, parts and components used to secure cargo must be in proper working order when used to perform that function with no damaged or weakened components, such as, but not limited to, cracks or cuts that will adversely affect their performance for cargo securement purposes, including reducing the working load limit.

(c) *Vehicle structures and anchor points.* Vehicle structures, floors, walls, decks, tiedown anchor points, headerboards, bulkheads, stakes, posts, and associated mounting pockets used to contain or secure articles of cargo must be strong enough to meet the performance criteria of § 393.102, with

no damaged or weakened components, such as, but not limited to, cracks or cuts that will adversely affect their performance for cargo securement purposes, including reducing the working load limit.
* * * * *

_ 6. Amend § 393.106 by revising paragraphs (a) and (d) to read as follows:

§ 393.106 What are the general requirements for securing articles of cargo?

(a) *Applicability.* The rules in this section are applicable to the transportation of all types of articles of cargo, except commodities in bulk that lack structure or fixed shape (*e.g.*, liquids, gases, grain, liquid concrete, sand, gravel, aggregates) and are transported in a tank, hopper, box, or similar device that forms part of the structure of a commercial motor vehicle. The rules in this section apply to the cargo types covered by the commodity specific rules of § 393.116 through § 393.136. The commodity-specific rules take precedence over the general requirements of this section when additional requirements are given for a commodity listed in those sections.
* * * * *

(d) *Aggregate working load limit for tiedowns.* The aggregate working load limit of tiedowns used to secure an article or group of articles against movement must be at least one-half times the weight of the article or group of articles. The aggregate working load limit is the sum of:
(1) One-half the working load limit of each tiedown that goes from an anchor point on the vehicle to an anchor point on an article of cargo;
(2) One-half the working load limit of each tiedown that is attached to an anchor point on the vehicle, passes through, over, or around the article of cargo, and is then attached to an anchor point on the same side of the vehicle.
(3) The working load limit for each tiedown that goes from an anchor point on the vehicle, through, over, or around the article of cargo, and then attaches to another anchor point on the other side of the vehicle.

_ 7. Revise the heading of § 393.108 to read as follows:

§ 393.108 How is the working load limit of a tiedown, or the load restraining value of a friction mat, determined?
* * * * *

_ 8. Amend § 393.110 by revising paragraphs (a) and (c) to read as follows:

§ 393.110 What else do I have to do to determine the minimum number of tiedowns?

(a) When tiedowns are used as part of a cargo securement system, the minimum number of tiedowns required to secure an article or group of articles against movement depends on the length of the article(s) being secured, and the requirements of paragraphs (b) and (c) of this section. These requirements are in addition to the rules under § 393.106.
* * * * *

(c) If an individual article is blocked, braced, or immobilized to prevent movement in the forward direction by a headerboard, bulkhead, other articles which are adequately secured or by an appropriate blocking or immobilization method, it

must be secured by at least one tiedown for every 3.04 meters (10 feet) of article length, or fraction thereof.
* * * * *

_ 9. Amend § 393.114 by revising paragraph (b)(1) to read as follows:

§ 393.114 What are the requirements for front-end structures used as part of a cargo securement system?

* * * * *

(b) *Height and width.* (1) The front end structure must extend either to a height of 4 feet above the floor of the vehicle or to a height at which it blocks forward movement of any item or article of cargo being carried on the vehicle, whichever is lower.
* * * * *

_ 10. Amend § 393.116 by revising paragraph (b)(3), adding a new paragraph (b)(4) and revising paragraph (e) to read as follows:

§ 393.116 What are the rules for securing logs?

* * * * *

(b) *Components of a securement system.* * * *
(3) Tiedowns must be used in combination with the stabilization provided by bunks, stakes, and bolsters to secure the load unless the logs:
(i) are transported in a crib-type log trailer (as defined in 49 CFR 393.5), and
(ii) are loaded in compliance with paragraphs (b)(2) and (c) of this section.
(4) The aggregate working load limit for tiedowns used to secure a stack of logs on a frame vehicle, or a flatbed vehicle equipped with bunks, bolsters, or stakes must be at least one-sixth the weight of the stack of logs.
* * * * *

(e) *Securement of logs loaded lengthwise on flatbed and frame vehicles—*
(1) *Shortwood.* In addition to meeting the requirements of paragraphs (b) and (c) of this section, each stack of shortwood loaded lengthwise on a frame vehicle or on a flatbed must be cradled in a bunk unit or contained by stakes and

(i) Secured to the vehicle by at least two tiedowns, or
(ii) If all the logs in any stack are blocked in the front by a front-end structure strong enough to restrain the load, or by another stack of logs, and blocked in the rear by another stack of logs or vehicle end structure, the stack may be secured with one tiedown. If one tiedown is used, it must be positioned about midway between the stakes, or
(iii) Be bound by at least two tiedowntype devices such as wire rope, used as wrappers that encircle the entire load at locations along the load that provide effective securement. If wrappers are being used to bundle the logs together, the wrappers are not required to be attached to the vehicle.

(2) *Longwood.* Longwood must be cradled in two or more bunks and must either:

(i) Be secured to the vehicle by at least two tiedowns at locations that provide effective securement, or (ii) Be bound by at least two tiedown type devices, such as wire rope, used as wrappers that encircle the entire load at locations along the load that provide effective securement. If a

wrapper(s) is being used to bundle the logs together, the wrapper is not required to be attached to the vehicle.

_ 11. Amend § 393.118 by revising paragraph (d)(3)(iv)(B), removing the period at the end of paragraph (d)(4) and adding ‘‘; or’’ in its place, and adding paragraph (d)(5) to read as follows:

§ 393.118 What are the rules for securing dressed lumber or similar building products?

* * * * *

(d) Securement of bundles transported using more than one tier. * * *

(3) * * *

(iv) * * *

(B) Secured by tiedowns as follows:

(1) If there are 3 tiers, the middle and top bundles must be secured by tiedowns in accordance with the general provisions of §§ 393.100 through 393.114; or

(2) (i) If there are more than 3 tiers, then one of the middle bundles and the top bundle must be secured by tiedown devices in accordance with the general provision of §§ 393.100 through 393.114, and the maximum height for the middle tier that must be secured may not exceed 6 feet about the deck of the trailer; or *(ii)* Otherwise, the second tier from the bottom must be secured in accordance with the general provisions of §§ 393.100 through 393.114; or

* * * * *

(5) When loaded in a sided vehicle or container of adequate strength, dressed lumber or similar building products may be secured in accordance with the general provisions of §§ 393.100 through 393.114.

_ 12. Amend § 393.122 by revising paragraphs (b)(4) and (d)(4) to read as follows:

§ 393.122 What are the rules for securing paper rolls?

* * * * *

(b) *Securement of paper rolls transported with eyes vertical in a sided vehicle.* * * *

(4)(i) If a paper roll is not prevented from tipping or falling sideways or rearwards by vehicle structure or other cargo, and its width is more than 2 times its diameter, it must be prevented from tipping or falling by banding it to other rolls, bracing, or tiedowns.

(ii) If the forward most roll(s) in a group of paper rolls has a width greater than 1.75 times its diameter and it is not prevented from tipping or falling forwards by vehicle structure or other cargo, then it must be prevented from tipping or falling forwards by banding it to other rolls, bracing, or tiedowns.

(iii) If the forward most roll(s) in a group of paper rolls has a width equal to or less than 1.75 times its diameter, and it is restrained against forward movement by friction mat(s) alone, then banding, bracing, or tiedowns are not required to prevent tipping or falling forwards.

(iv) If a paper roll or the forward most roll in a group of paper rolls has a width greater than 1.25 times its diameter, and it is not prevented from tipping or falling forwards by vehicle structure or other cargo, and it is not restrained against forward movement by friction mat(s) alone, then it must be prevented

from tipping or falling by banding it to other rolls, bracing or tiedowns.
* * * * *

(d) *Securement of stacked loads of paper rolls transported with eyes vertical in a sided vehicle.* * * *

(4) A roll in the rearmost row of any layer raised using dunnage may not be secured by friction mats alone.

13. Amend § 393.126 by revising paragraph (b)(1) to read as follows:

§ 393.126 What are the rules for securing intermodal containers?

* * * * *

(b) *Securement of intermodal containers transported on container chassis vehicle(s)*. (1) All lower corners of the intermodal container must be secured to the container chassis with securement devices or integral locking devices that cannot unintentionally become unfastened while the vehicle is in transit.

* * * * *

_ 14. Amend § 393.132 by revising paragraphs (b), (c)(2)(i), and (c)(5)(i) to read as follows:

§ 393.132 What are the rules securing flattened or crushed vehicles?

* * * * *

(b) *Prohibition on the use of synthetic webbing.* The use of synthetic webbing to secure flattened or crushed vehicles is prohibited except that such webbing may be used to connect wire rope or chain to anchor points on the commercial motor vehicle. However, the webbing (regardless of whether edge protection is used) must not come into contact with the flattened or crushed cars.

(c) * * *

(2)(i) Containment walls or comparable means on three sides which extend to the full height of the load and which block against movement of the cargo in the direction for which there is a containment wall or comparable means, and

* * * * *

(5)(i) Vehicles used to transport flattened or crushed vehicles must be equipped with a means to prevent liquids from leaking from the bottom of the vehicle, and loose parts from falling from the bottom and all four sides of the vehicle extending to the full height of the cargo.

* * * * *

Issued on: June 5, 2006.