



U.S. Department  
of Transportation

**Federal Motor Carrier  
Safety Administration**

# Memorandum

**Subject:** Cargo Securement Enforcement Policy

**Date:** DEC 31 2003

**From:** John H. Hill  
Assistant Administrator  
and Chief Safety Officer

*Warren E. Hoemann*  
*per*

**Reply to  
Attn. of:** MC-PSV

**To:** Field Administrators  
Division Administrators

The purpose of this memorandum is to outline interim enforcement policies for certain sections of the new cargo securement regulations to be implemented on January 1, 2004. The Canadian Council of Motor Transport Administrators (CCMTA), Forest Products Association of Canada, Forest Resources Association, Inc., Georgia-Pacific Corporation, the Washington Contract Loggers Association, the Washington Log Truckers Conference, and Weyerhaeuser have identified various sections of the new cargo securement rules in need of clarification. Until FMCSA has the opportunity to address these ambiguities in the regulations, the policies outlined below will remain in effect. Please communicate these policy positions to all safety investigators, safety auditors, inspectors, and State partners involved in cargo securement enforcement. This information should also be incorporated into outreach to the industry and any training on the new cargo securement regulations.

**Issue 1: § 393.102(c) - Prohibition on exceeding breaking strength and working load limit ratings.**

**Agency Policy:** Cargo securement devices and systems 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 conditions listed in paragraphs (a) and (b) of this section. Cargo securement devices and systems must also be designed, installed, and maintained to ensure that the forces acting on the devices or systems under normal operating conditions do not exceed the working load limit for the devices. For the purposes of this enforcement policy, normal operating conditions should be considered to include a deceleration up to 0.4 g in the forward direction, 0.5 g acceleration in the rearward direction, and 0.25 g acceleration in the lateral direction.

**Discussion:** During the Commercial Vehicle Safety Alliance's 2003 Fall Conference, senior technical staff from CCMTA expressed concern that the rule requiring the aggregate working load limit be at least one-half times the weight of the article being secured does not ensure

compliance with the prohibition against exceeding the working load limit when the performance criteria (0.8 g deceleration in the forward direction, 0.5 g in the rearward and lateral directions) are applied. To correct this discrepancy in the current regulatory language, CCMTA staff believes the working load limit formula needs to be adjusted to increase cargo restraint capacity.

FMCSA shares CCMTA's concerns about safety but the agency does not believe, given the limited amount cargo securement-related crash data available, there is a basis for establishing more stringent working load limit requirements than the agency adopted on September 27, 2002. The agency believes cargo securement systems should be designed, installed, and maintained to ensure that the maximum forces acting on the devices and systems do not exceed the working load limit of the tiedowns, but only under normal operating conditions. This is because working load limit is defined in § 393.5 as "the maximum load that may be applied to a component of a cargo securement system during normal service." The performance criteria of § 393.102(a) do not represent normal service or operating conditions. Specifically, 0.8 g deceleration in the forward direction is not a routine force that commercial motor vehicles are subjected to on a regular basis.

**Issue 2: § 393.102(d) - Equivalent means of securement.**

**Agency Policy:** The means of securing articles of cargo are considered to meet the performance requirements under § 393.102(a) if the cargo is:

- 1 Immobilized; or
2. Fills a sided vehicle that has walls of adequate strength, and 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 if those articles are also unable to shift or tip; or
- 3 Secured in accordance with the applicable requirements of §§ 393.104 through 393.136.

**Discussion:** Currently, § 393.102(d) states that loads that are immobilized, or secured in accordance with the applicable requirements of §§ 393.104 through 393.136 are considered to meet the performance requirements. Certain industry groups believe § 393.102(d) should be revised to provide a third option regarding equivalent means of securement that would satisfy the performance criteria. They believe that if the cargo fills a sided vehicle equipped with walls of adequate strength, and each article of cargo is positioned so it does not shift or tip inside the vehicle, the loading arrangement or securement system should be considered to satisfy the performance requirements under § 393.102.

FMCSA intended the term "immobilized" to be construed to include what the industry recommends as a third option. However, the agency acknowledges that the absence of an explicit reference to situations in which the cargo fills a sided vehicle may result in inconsistent enforcement practices. Therefore, enforcement officials should construe the rule to mean that

when cargo fills a sided vehicle with walls of adequate strength, it is considered to meet the performance criteria.

**Issue 3: § 393.104(b) and (c) - Prohibition on the use of damaged securement devices.**

**Agency Policy:** 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. 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.

**Discussion:** Currently, both § 393.104(b) and (c) include reference to vehicle structures. This creates confusion because paragraph (b) pertains to securement devices, such as tiedowns, used to attach cargo to vehicles, while paragraph (c) is intended to cover vehicle structures and anchor points. The reference in paragraph (b) to “vehicle structures” should be disregarded.

Several industry groups have expressed concern that the wording in both paragraphs (b) and (c) could be misconstrued as prohibiting all cracks and cuts, regardless of whether these imperfections will adversely affect the performance of the securement devices, vehicle structures or anchor points. FMCSA agrees the wording appears to set a zero-tolerance standard that could result in unnecessarily tough enforcement practices. The agency believes that the language in this policy, combined with the use of uniform enforcement tolerances such as the Commercial Vehicle Safety Alliance’s “Cargo Securement Tie-Down Guidelines” will ensure consistent and appropriate enforcement actions.

**Issue 4: § 393.106(d) – Determining the aggregate working load limits for tiedowns.**

**Agency Policy:** 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 attachment point on an article of cargo; and
2. The working load limit for each tiedown that goes from an anchor point on the vehicle, through, over or around the cargo and then attaches to another anchor point on the vehicle.

**Discussion:** Based on numerous telephone inquiries from FMCSA field offices, State enforcement agencies, and industry groups, FMCSA has determined that the intent of § 393.106(d) is not easily understood. During the notice-and-comment rulemaking process, the agency proposed certain requirements that would necessitate the distinction between what were referred to as “direct tiedowns” and “indirect tiedowns.” After reviewing the docket comments, the agency attempted to adopt a more straightforward approach for calculating the aggregate working load limit, while preserving the potential safety benefits of making the distinction between the two types of tiedowns. While the language in the Final Rule is easier to understand than the proposed rule, it is still not sufficiently clear. This policy provides an effective approach for adding working load limits for individual tiedowns in a cargo securement system, and yields the same answer as the current regulatory language.

**Issue 5: § 393.110(a) and (c) – Determining the minimum number of tiedowns required.**

**Agency Policy:** Section 393.110(a) is applicable when tiedowns are used as part of a cargo securement system, and should not be construed to be applicable to scenarios in which the cargo securement system does not include the use of tiedowns, as defined in 49 CFR 393.5. Section 393.110(c) is applicable when blocking or bracing are being relied upon to help prevent shifting or falling of articles of cargo, and should not be construed to be applicable to scenarios in which the cargo securement system does not include the use of blocking or bracing.

**Discussion:** Several industry groups and some State enforcement officials believe § 393.110(a) could be interpreted as requiring tiedowns for certain types of cargoes. FMCSA agrees that the wording is not as precise as it should be to avoid this potential misunderstanding. Section 393.110(a) is intended to be applicable in conjunction with the requirements of § 393.106(d), when a motor carrier uses tiedowns to secure articles of cargo, and should not be construed as a requirement to use tiedowns when other securement means are in use. Likewise, § 393.110(c) is intended to be applicable in conjunction with the requirements of § 393.106(d), when a motor carrier uses blocking or bracing.

**Issue 6: § 393.116 – Commodity-specific rules for securing logs.**

**Agency Policy:** Aggregate working load limits for securement of logs. 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. The minimum strength requirements of § 393.106(d) should not be considered applicable under these circumstances.

Securement of logs loaded lengthwise on flatbed and frame vehicles.

Each stack of shortwood loaded lengthwise on a frame vehicle or on a flatbed must be secured to the vehicle by at least two tiedowns. However, if all the logs in any stack are blocked in the front by a front-end structure strong enough to restrain the load, or 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. These requirements are in addition to § 393.116(b) and (c).

Longwood must be cradled in two or more bunks and must either:

- 1 Be secured to the vehicle by at least two tiedowns at locations that provide effective securement, or
- 2 Be bound by 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 is being used to bundle the logs together, it is not required to be attached to the vehicle.

**Discussion:** Industry groups have expressed concerns that certain regulatory language included in FMCSA's December 18, 2000, Notice of Proposed Rulemaking concerning cargo securement standards, was omitted from the September 27, 2002, Final Rule. The proposal would have allowed the aggregate working load limit for tiedowns used to secure a stack of logs to be one-sixth the weight of the logs, and would have provided rules for the transportation of longwood logs, loaded lengthwise. However, these proposed provisions were omitted, without explanation, from the Final Rule. Industry groups have requested that these provisions be restored. Also, industry has requested that § 393.116 be amended to allow one tiedown per bunk, spaced equally between the standards, when transporting short length logs loaded lengthwise between the first two standards and between the last two standards. They believe the current wording requiring the use of two tiedowns is unnecessary given the bunks and standards.

FMCSA believes the industry's requests are reasonable and appropriate. The December 18, 2000, Notice of Proposed Rulemaking included proposed requirements for the transportation of longwood on frame vehicles [§ 393.122(d)(2) of the proposal] and longwood on flatbed vehicles [§ 393.122(f)(4) of the proposal]. Sections 393.122(d)(3) and (f)(5) of the proposal would have provided that the aggregate working load limit for all tiedowns must be no less than one-sixth the weight of the stack of logs, for logs transported lengthwise. However, when the final rule was drafted, paragraphs (d)(2) and (3), and (f)(4) and (5) were inadvertently omitted. FMCSA intends to correct those errors.

With regard to allowing the use of one tiedown per bunk for shortwood logs loaded lengthwise between the first two standards and between the last two standards, FMCSA believes one tiedown is sufficient given the standards used to protect against lateral movement.

#### **Issue 7: § 393.122 – Commodity-specific rules for paper rolls.**

**Agency Policy:** Section 393.122(b)(4), concerning protection against tipping of the paper rolls transported with eyes vertical, should be construed to mean the following:

1. 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.
2. If the forwardmost 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.
3. If the forwardmost roll(s) in a group of paper rolls has a width 1.75 times its diameter, or less, 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.
4. If a paper roll or the forwardmost 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), then it must be prevented from tipping or falling by banding it to other rolls, bracing, or tiedowns.

**Discussion:** The agency has received several telephone inquiries from FMCSA field offices, State enforcement agencies, and industry groups about the intent of § 393.122(b)(4). These inquiries have resulted in a comprehensive review of the minutes of the North American Cargo Securement Model Regulations harmonization group, and draft versions of the model regulations. In addition, the agency reviewed information from individuals responsible for drafting the portion of the model regulations upon which § 393.122 is based. FMCSA has made a preliminary determination that the language in § 393.122(b)(4) is confusing and clarification is needed to ensure the proper use and enforcement of the rules. FMCSA believes the enforcement policy will provide effective guidance in the implementation of § 393.122(b)(4), and will ensure the safe transportation of paper rolls.

#### **Issue 8: § 393.126 – Commodity-specific rules for intermodal containers**

**Agency Policy:** Section 393.126(b), concerning the securement of intermodal containers transported on container chassis vehicle(s), should be construed to mean that 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.

**Discussion:** Section 393.126(b) does not explicitly require that all lower corners of intermodal containers transported on container chassis to be secured. As currently written, the requirements could be misconstrued as allowing an intermodal container to be transported on a chassis with one or more defective or missing integral locking devices. To avoid potential enforcement

problems, FMCSA believes it is necessary to clearly state that all lower corners must be secured to the chassis with securement devices or integral locking devices.

The policies outlined will be addressed through a notice-and-comment rulemaking. Therefore, the agency cannot predict the outcome. For the moment however, this memorandum represents the agency's best judgement on fair and reasonable enforcement policies. Thank you for your professionalism as the agency moves to implement the new cargo securement rules.

cc:

Chief Counsel

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