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BEFORE THE
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

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Out-of-Service Criteria

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Docket No. FHWA-98-3414-26

SUPPLEMENTAL COMMENTS

On September 18, 1998, National Tank Truck Carriers, Inc. (NTTC) submitted comments in this proceeding in response to the "Advance Notice of Proposed Rulemaking" of the Federal Highway Administration (FHWA) issued July 20, 1998 in Docket FHWA-98-3414. 63 Fed. Reg. 38791-95 (1998) (ANPRM). The ANPRM sought comments on the appropriate scope and effect of the North American Uniform Out-of-Service Criteria (OOS Criteria).

Subsequent to the filing of those comments – in fact, within the past week – NTTC received a copy of a study, dated July 3, 1998, entitled "Risk-based Evaluation of Commercial Motor Vehicle Roadside Violations: Process and Results," prepared by **Cycla** Corporation for FHWA's Office of Motor Carriers (the Study).

NTTC believes that the Study is relevant to this proceeding because it demonstrates that, were the OOS Criteria subject to notice and comment rulemaking, as NTTC has urged, it is likely that certain of those criteria would be found to be inconsistent with the governing statutory requirement. 49 U.S.C. § 521(b)(5)(A) and (B) (1997) require out-of-service orders to be based upon an "imminent hazard" to public safety and define such an "imminent hazard" as a condition of commercial vehicle operation "which is likely to result in serious injury or death if not discontinued immediately."

NTTC requests FHWA to take official notice of the entire Study and submits herewith pages E-1 through E-5 of the Study, containing its Executive Summary and conclusions. The Study, as exemplified by its Executive Summary, suggests strongly that many of the OOS Criteria, which were among the standards examined in the Study, are considered insignificant as potential contributing factors to crashes or not considered potential factors leading to crashes of motor vehicles. The conclusions reached in the study support NTTC's conclusion that the best and most legally appropriate forum for examination of the OOS Criteria is notice and comment rulemaking under the Administrative Procedure Act and the Incorporation by Reference Act, as urged by NTTC in its comments filed on September 18, 1998.

For the foregoing reasons, NTTC urges FHWA to accept this late-filed comment and to take official notice of the Study for the purpose of concluding that notice and comment rulemaking should be employed by FHWA in the establishment of OOS Criteria.

Respectfully submitted,

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Risk-based Evaluation of Commercial Motor Vehicle Roadside Violations: Process and Results

prepared by
Cycla Corporation
July 3, 1998

U.S. Department of Transportation
Federal Highway Administration
Office of Motor **Carriers**

Executive Summary

- The Federal Highway Administration Office of Motor Carriers (OMC) is initiating the use of risk management and risk-based decision making to enhance agency efforts to promote the safe operation of commercial motor vehicles. Among the opportunities for applying risk-based approaches that have been identified is the risk-based differentiation of the vehicle, driver, and hazardous materials violations (found in the *Federal Motor **Carrier Safety** Regulations* and ***Hazardous** Materials Regulations*) that are checked during roadside inspections.

The purpose of this evaluation was to categorize each violation according to the risk posed by the conditions covered by the violation. Risk is defined as the likelihood of a violation leading to a crash or hazardous materials release or exposure. The resulting categorization distinguishes violations that involve conditions posing significant, immediate risks of crashes or **HM** incidents; violations that involve conditions posing less significant risks; and violations involving little or no risk. This categorization provides useful information to support decisions regarding allocation of enforcement resources, changes to the *FMCSRs*, *HMRs*, and out-of-service criteria, as well as the basis for numerical weighting of carrier roadside violation experience in carrier evaluation systems (e.g., **SafeStat**).

Process

The risk-based categorization of roadside violations was accomplished through a synthesis of expert knowledge and judgement regarding the risks associated with different roadside violations. Risk categories were **defined** according to the potential consequences of the conditions associated with driver, vehicle, and **HM** violations, and the likelihood of those consequences occurring. The consequences considered for the evaluation included:

1. Motor Vehicle Crash
2. Injuries and Fatalities given a Crash
3. Release or Spill of Hazardous Materials; or Exposure of the Public or Emergency Response Personnel to Hazardous Materials
4. Motor Vehicle Crash *plus* Release or Spill of Hazardous Materials; or Exposure of the Public or Emergency Response Personnel to Hazardous Materials following a crash
5. No crash or HM spill, release, or exposure

A qualitative likelihood scale was **defined** for the risk categories, representing different orders of magnitude in the likelihood of the defined consequences occurring, given existence of a violation.

Two evaluation groups were convened, representing diverse points of view and expertise in commercial motor vehicle **safety**. The first group included representatives from industry (both freight and passenger carriers), state and local enforcement agencies, and insurance companies. The second group included representatives from research organizations, insurance companies and

insurance industry professional organizations, and public safety advocate groups.

Each group, meeting separately, evaluated the 231 driver and vehicle violations identified in the ASPEN data base. The first group evaluated the 333 hazardous materials violations included in ASPEN. The members of the second group determined that they lacked **sufficient** expertise to evaluate and categorize hazardous materials violations according to risk. **Within** each group, most violations were assigned to risk-based categories by group consensus. In some cases, a consensus was not reached and the categorization was based on the majority judgement within the group. **After** the group evaluation meetings, the evaluations of driver and vehicle violations by the two groups were compared. In those cases in which the evaluations differed, a recommended categorization for the violation was derived consistent with the risk category consequence and likelihood **definitions**.

Results

The results of the group evaluation sessions are summarized in Tables E-1 and E-2. Table E-1 gives the recommended risk-based categorization of vehicle and driver violations based on a synthesis of the two group evaluations; Table E-2 gives the recommended categorization of hazardous materials violations.

The evaluation groups performed the risk-based categorization of violations based on consideration of the worst possible risk imposed by the violation. However, a particular ASPEN violation code may encompass a wide range of driver, vehicle, or hazardous materials conditions that pose a wide range of risks, some low and some high. In these cases, the categorization recommended for the violation overstates the risk of the violation under certain conditions, sometimes significantly. A finer breakdown of violations would yield more violations with a lower risk categorization. Examples of violations that covered some conditions with significant risks along with lower-risk conditions include violations covering missing, inoperative, or inadequate headlights or tail lights, load securement violations, and violations covering tire defects.

Driver and Vehicle Violations

The risk-based categorization of vehicle and driver violations is primarily **defined** according to the significance of the violation as a contributing factor in a crash. A small number of violations were categorized according to the importance of the violation in preventing injuries or fatalities, given occurrence of a crash. The results **summarized** in Table E-1 lead to the following observations regarding the risk significance of driver and vehicle violations:

1. The majority of driver or vehicle violations (**82%**), when defined according to the worst case covered by the ASPEN data base code for each violation, are considered potentially significant primary or contributing factors in crashes.

2. The remainder (18%) of violations, even when **defined** according to worst case, are considered **insignificant** as potential contributing factors to crashes (by themselves or in combination with other factors). Among this group, twenty-one violations (9% of all violations) are considered to have no connection to crashes or preventing injuries or **fatalities** given a crash.
3. The majority of driver or vehicle out-of-service violations (**56%**), **defined** according to the worst case covered by the ASPEN data base code for each violation, are considered potential contributing factors in crashes with no additional failures or occurrences needed. Within this group, most violations (39% of all out-of-service violations) are not considered to impose an imminent risk of leading to a crash.
4. The remainder of driver or vehicle out-of-service violations (**44%**), even when defined according to worst case, are not considered potential factors leading to crashes unless occurring in conjunction with additional failures, deterioration, or occurrences. Each violation of this group was judged to require additional failures, occurrences, or further deterioration before the risk of a crash existed. These violations were judged to pose a lower likelihood of leading to a crash than 3 1% of violations that were not out-of-service violations.

Hazardous Materials Violations

The categorization of hazardous materials violations is defined according to the significance of the violation in potentially contributing to a release of hazardous materials or to an exposure of emergency response personnel or the public to hazardous materials. The release or exposure made more likely by the violation may occur with or without a crash. Some violations are defined to address conditions that can lead to releases or exposures following a crash. Others are defined to address potential releases or exposures that may occur without a crash. Observations on the categorization of hazardous materials violations in Table E-2 include:

1. The majority of hazardous materials violations (58%) are considered potentially significant primary or contributing factors in hazardous materials releases or exposures.
2. The remaining hazardous materials violations (42%) are not considered important contributing factors to releases or exposures (by themselves or in combination with other factors). A significant percentage (26%) of hazardous materials violations are considered to have little or no effect on the potential for a release or exposure.
3. The majority of hazardous materials out-of-service violations (68%) are not considered to be potential contributing factors in releases or exposures unless they occur in conjunction with additional failures, further deterioration, or other events. These violations were considered to pose a lower likelihood of leading to a release or exposure than 2 1% of violations that are *not* out-of-service violations.

4. Three hazardous materials out-of-service violations (16%) are considered to have little or no **effect** on the potential for release or exposure.

Conclusions

The results of the roadside violation evaluation and categorization provide a basis for the following conclusions:

1. The results indicate significant differences in the level of risk associated with different violations, as represented in the different risk-based categories assigned to violations by the evaluation groups. The categorization results provide useful information to augment the knowledge and experience of enforcement personnel to assist them in setting priorities among items to inspect.
2. Violations that were assigned to low-risk categories should be examined to assess if these violations remain important parts of the *Federal Motor Carrier **Safety** Regulations* or ***Hazardous** Materials Regulations*, or if these violations are candidates for redefinition or removal **from** the ***FMCSRs*** or ***HMRs***. In addition, violations that represent a broad range of risk levels should be broken down further and the different portions evaluated separately according to risk. Any portions of these violations that are judged to represent low risk conditions should also be assessed for their importance as part of the ***FMCSRs*** or ***HMRs***.
3. Similarly, out-of-service violations that were judged *not* to involve significant immediate risks should be examined to ensure that these violations remain essential as part of the **out-of-service** criteria. If significant portions of these violations, when evaluated separately, are judged not to present significant immediate risks, then these portions should be examined.
4. The expert judgement represented in the risk-based categorization of violations constitutes a resource for making decisions on changes to the ***FMCSRs***, ***HMRs***, and out-of-service criteria aimed at leading to an efficient use of scarce regulatory and enforcement resources, while **minimizing** the risk of crashes and hazardous materials events. This resource may be effectively used in conjunction with data on vehicle and driver conditions that are most likely to lead to commercial motor vehicle crashes (for example, data from the insurance industry).
5. The risk-based categorization of roadside violations provides a basis for assigning numerical weights to violations as part of carrier evaluation and selection systems such as **SafeStat** and ISS. A sum of weights for each violation cited for a carrier over **different** time periods may be used to calculate the driver and vehicle inspection measures that are part of the carrier's **SafeStat** score.

The assigned weight for each violation should be proportional to the level of risk represented by the category assigned in the evaluation process. The risk categories defined for violations represent decreasing orders of magnitude of risk; hence the numerical weights for each category **differ** by factors of ten. Only relative numerical weights are necessary for **effective** use of these results in carrier evaluation systems.